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MICRO DIVISION

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

February 6, 1968 Volume 847 Number 1

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of December 1967

Examiner affirmed	172
Examiner affirmed in part	25
Examiner reversed	46
Total	243

United States Adopted Names

LIST NO. 18

July 1, 1967 to October 31, 1967

The following nonproprietary names for the drugs described have been adopted by the USAN Council (the nomenclature committee sponsored by the American Medical Association, the American Pharmaceutical Association, and the United States Pharmacopeial Convention) in cooperation with the interested manufacturers. The designation "United States Adopted Names" (USAN) has been coined to distinguish these formally adopted nonproprietary names from other nonproprietary names. Adoption of such names does not imply endorsement of the products involved by the A.M.A. Council on Drugs, the United States Pharmacopeia, or the National Formulary.

Any comments or suggestions should be addressed to Doctor Joseph B. Jerome, Secretary, United States Adopted Names Council, American Medical Association, 535 N. Dearborn St., Chicago, Ill., 60610.

ambuside: diuretic
aprotinin: proteinase inhibitor
benazoline hydrochloride: nasal decongestant
bolenol: anabolic
boxidine: hypocholesteremic; adrenal steroid synthesis blocker
canrenoate potassium: aldosterone antagonist
canrenone: aldosterone antagonist
carbadox: antibacterial
clioxanide: anthelmintic
clomacran phosphate: tranquilizer
difucortolone: glucocorticoid
difucortolone pivalate: glucocorticoid
fenalamide: smooth muscle relaxant
ferric fructose: hematinic
fludorex: anorexic; antiemetic
fonazine mesylate: antihistaminic; antiserotonin; antibradykinin
kitasamycin: antibiotic
lithium carbonate: psychotherapeutic
mefenorex hydrochloride: anorexiant
mefexamide: central nervous system stimulant
melitracen hydrochloride: antidepressant
menoctone: antimalarial
mequidox: antibacterial
mitocromin: antineoplastic
mitomalcin: antineoplastic
monensin: antiparasitic; antibacterial; antifungal
norflurane: general inhalation anesthetic
octodrine: vasoconstrictor; local anesthetic
oxogestone: progestogen
rayon, purified: medicinal grade rayon
tenemycin: antibiotic
triamcinolone diacetate: glucocorticoid

United States Adopted Names (USAN) and United States Adopted Names (Proposed) (USAN)

QUARTERLY CUMULATIVE LIST

January 1, 1967–September 30, 1967

This is a revised alphabetical listing of the nonproprietary names *proposed for adoption* by the USAN Council which were published in the Trademark Bureau Bulletin during the period indicated. The listing also incorporates the revised lists of *adopted* nonproprietary names issued by the USAN Council, but not published in the Bulletin.

The Quarterly Cumulative List is intended to supplement USAN Cumulative List 5, 1961–1966, published annually for the Council by the United States Pharmacopeia; it is distributed with an issue of the Trademark Bureau Bulletin.

An asterisk (*) before a name indicates an *adopted name;* all other names on the list are *proposed for adoption.*

Since Q.C.L. is cumulative, only the latest issue need be consulted. All preceding lists may be discarded.

Any comments or protests regarding proposed names should be brought promptly to the attention of the USAN Council, American Medical Association, 535 N. Dearborn St., Chicago, Ill., 60610.

*aceclidine: parasympathominetic
alamecin: antibacterial
alamethicin: antibiotic
alamicin: antibiotic
*alcuronium chloride: muscle relaxant
alpranol: β-adrenergic receptor antagonist
alpranolol hydrochloride: β-adrenergic receptor antagonist
alprenolol hydrochloride: β-adrenergic receptor antagonist
*ambuside: diuretic
*amfonelic acid: central nervous system stimulant
amquinol: coccidiostat
*aprotinin: proteinase inhibitor
*atolide: anticonvulsant
*azaperone: tranquilizer
azaribine: oral antipsoriatic
*benazoline hydrochloride: nasal decongestant
*bensalan: germicide
*benzoxiquine: antiseptic
betametzoate: topical anti-inflammatory
betsoben: topical anti-inflammatory
bolenol: anabolic
*boxidine: hypochloresteremic; adrenal steroid synthesis blocker

New Applications Received During December 1967

Patents	7654
Designs	396
Plant Patents	12
Reissues	35
Total	8097

Issue—February 6, 1968

Patents	1250	No. 3,366,970 to No.	3,368,219, incl.
Designs	49	No. 210,064 to No.	210,112, incl.
Plant Patents	2	No. 2,794 to No.	2,795, incl.
Reissues	2	No. 26,340 to No.	26,341, incl.
Total	1303		

•buthiazide: diuretic; antihypertensive
•calcitonin: plasma hypocalcemic hormone
•canrenoate potassium: aldosterone antagonist
•canrenone: aldosterone antagonist
•captamine hydrochloride: cutaneous depigmenting activity
•carbadox: antibacterial
carbathione: treatment of anaplasmosis in cattle
carbatone: treatment of anaplasmosis in cattle
carbetone: treatment of anaplasmosis in cattle
carbose: cellulose derivative
carsolate: anthelmintic
•cephalexin: antibiotic
choldexamine: hypocholesteremic
cholosol: choleretic
choriontropin: chorionic gonadotropin
chorotropin: chorionic gonadotropin
•cinnamedrine: uterine antispasmodic
•cinperene: tranquilizer
clincomycin: antibiotic
clinimycin: antibiotic
•clioxanide: anthelmintic
•clofazimine: tuberculostatic; leprostatic
clofluperol: neuroleptic
clomacran phosphate: tranquilizer
clopindol: coccidiostat
•clorexolone: diuretic
coleatran: hypocholesteremic
cosotropin: corticotropin
cosyntropin: corticotropin
cyclazodone: central nervous system agent
•cyclophenaxine hydrochloride: tranquilizer
•cyproximide: tranquilizer; antidepressant
danazol: antipituitary gonadoptrophin
dextracol: hypochloresteremic
•diapamide: diuretic; antihypertensive
•difluanine hydrochloride: central nervous system stimulant
•difluocortolone: glucocorticoid
•difluocortolone pivalate: glucocorticoid
dimazepine: hypnotic
erisomycin: antibiotic
•ethonam nitrate: fungicide
•fenalamide: smooth muscle relaxant
•fenclonine: serotonin biosynthetsis inhibitor; psychotropic
fendilidine: analgesic
•fenestrel: nonsteroid estrogen
fenidine: analgesic
ferric fructose: hematinic
filipin: antibiotic
flofenetate: hypocholesteremic
•fludorex: anorexic; antiemetic
fluvazol: glucocorticoid
•fonazine mesylate: antihistamine; antiserotonin
•fursalan: germicide
gestiosyn acetophenide: conception control
gestosone acetophenide: progestin
gloxazone: treatment of anaplasmosis in cattle
glorizone: treatment of anaplasmosis in cattle
glybenide: oral hypoglycemic
glycamide: oral hypoglycemic
glycuride: oral hypoglycemic
halofenate: hypocholeatteremic
halomycin: antibiotic
•hetacillin potassium: antibiotic
•ibuprofen: anti-inflammatory
indadine: CNS agent
indamine hydochloride: central nervous system agent
indriline: CNS agent
kalacin: antibiotic
kalafungin: antifungal antibiotic
kalamycin: antibiotic
ketimipramine hydrochloride: antidepressant
ketipramine hydrochloride: antidepressant
•kitasamycin: antibiotic
lamycin: antibacterial
lithium carbonate: psychotherapeutic
lomomycin: antibiotic
lydimycin: antibiotic
•mafenide: antibacterial
•mefenorex hydrochloride: anorexiant
•mefexamide: central stimulant
•melitracen hydrochloride: antidepressant
•menoctone: antimalarial
•mequidox: antibacterial
•methallibure: ovulation control in swine
milypertine: tranquilizer
•mitocromin: antineoplastic
•mitomalcin: antineoplastic
•molindone hydrochloride: sedative; tranquilizer
monensin: antibiotic
•nadide: treatment of alcoholism and drug addiction
•nalmexone hydrochloride: analgesic; narcotic antagonist
•nifuradene: antibacterial
•nifurimide: antibacterial
•nifurquinazol: antibacterial
nifursol: histomonocide
•nonoxynol 4: nonionic surfactant
•nonoxynol 9: spermatocide
•nonoxynol 15: nonionic surfactant
•nonoxynol 30: nonionic surfactant
•norflurane: general inhalation anesthetic
•octodrine: vasoconstrictor
olamycin: antibiotic
olandomycin: antibiotic
•oxogestone: progestogen
oxymix: mucolytic
•oxypurinol: xanthine oxidase inhibitor
parbendazole: anthelmintic
penflurane: inhalation anesthetic
•pentagastrin: gastric acid secretion stimulant
•pimozide: tranquilizer
piprozol: choleretic
piprozolin: choleretic
profadol: analgesic
ranimycin: antibiotic
•ribamincol: learning and memory enhancer
riboprine: antineoplastic
rifampicine: antibacterial
rifampin: antibacterial
rifaran: antibacterial
•silandrone: androgen
soterenol hydrochloride: adrenergic bronchodilator
steffomycin: antibiotic
sulfadoxine: bacterial sulfonamide
sulfapyrazole: antibacterial
sulfazomet: bacterial sulfonamide
sulforoxine: bacterial sulfonamide
sulfazamet: antibacterial sulfonamide
tenemycin: antibiotic
•thiosalan: germicide
•tibrofan: germicide
tilidine hydrochloride: analgesic
tofenacin: antiparkinson
tomidine hydrochloride: analgesic
toridine: analgesic
triacetadine: antimitotic
trolamycin: antibiotic
trolandomycin: antibiotic
tylidine: analgesic
verapamil: coronary vasodilator
•volazocine: analgesic

NEW TRADEMARKS ADMITTED TO REGISTRATION

Under the Trademark Bureau regulations all trademarks filed with the Trademark Bureau are automatically registered. No protests may be made to or through the Association. Any discussion regarding tentative or proposed or "in use" trademarks must be made to the firm claiming such trademark.

Applications for the following new marks have been received and registered by the Bureau in pursuance of the regulations (entries appearing in lower case type and enclosed in single quotation marks indicate nonproprietary names):

AMAPAR: Parke, Davis & Company, Detroit, Mich. For analgesic. Not yet in use.

ARMORAL: Armour Pharmaceutical Company, Chicago, Ill. For pharmaceutical preparations containing proteolytic enzymes. Not yet in use.

BETASE: Merck & Co., Inc., Rahway, N.J. For antidiabetic preparation. Not yet in use.

CENTRIN: Parke, Davis & Company, Detroit, Mich. For analgesic. Not yet in use.

CETASOL: Crookes-Barnes Laboratories, Inc., Wayne, N.J. For antibacterial ophthalmic solution. Not yet in use.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF DECEMBER 4, 1967

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action: New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	6-22-64	6-19-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	11-27-64	7-23-62
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Manager. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping and Treating Processes.	2-23-65	5-15-62
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	10-1[illegible]-64	6-28-62
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	5-15-64	9-25-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—E. J. SAX, Manager. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	12-23-64	9-9-63
SECURITY, GROUP 220—S. BOYD, Manager. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	10-5-64	7-30-64
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	5-7-64	5-17-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	4-3-64	3-12-62
PHYSICS, GROUP 280—R. L. EVANS, Manager. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	3-18-65	6-24-63
DESIGNS, GROUP 290—S. BOYD, Manager. Industrial Arts; Household, Personal and Fine Arts.	11-2-66	12-8-65

Total number of pending applications (excluding Designs)	177,245
Total number of Design applications pending	3,740
Total number of applications awaiting action (excluding Designs)	127,040
Total number of Design applications awaiting action	1,746
Date of oldest new application awaiting action	April 3, 1964
Date of oldest amended application awaiting action	March 12, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during February 1968, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1968*.

Patents ..... Numbers 2,540,074 to 2,543,743, inclusive
Plant Patents ..... Numbers 1,003 to 1,006, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager. Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	3-3-66	11-12-64
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders; Woodworking; Tools; Cutlery; Jacks; Fasteners.	9-10-65	3-18-63
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	6-28-65	5-12-64
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	5-16-66	4-22-65
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager. Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	4-20-66	10-21-63
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager. Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	10-23-65	2-13-63

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE JACK K. DALE

No. 7726. Decided May 25, 1967

[54 CCPA —; 377 F.2d 661; 153 USPQ 732]

1. PATENTABILITY—COMPOSITION—OBVIOUSNESS—NEOMYCIN AND STEROID.

"Appellant argues that the prior art in this case does not teach that a class of anti-inflammatory steroids is 'useful with or would potentiate the antibacterial action of neomycin.' This argument is inconsistent with the disclosures in Modern Drugs which show that a combination of the anti-inflammatory steroid cortisone acetate with neomycin sulfate was placed on the market. We find nothing in the record to suggest that it would have been unobvious to Lepri, as a person of ordinary skill in this art, to use hydrocortisone instead of cortisone acetate in the Neosone preparation. The greater potency of the hydrocortisone was recognized by Boland who teaches that hydrocortisone is twice as potent as cortisone acetate. We think it would be obvious to one of ordinary skill in this art to make the proper substitution of the more potent hydrocortisone free alcohol for the cortisone acetate in Neosone."

2. SAME—PARTICULAR SUBJECT MATTER—THERAPEUTIC COMPOSITION COMPRISING HYDROCORTISONE AND NEOMYCIN.

The decision of the Board of Appeals, refusing certain claims to a composition comprising a hydrocortisone and neomycin as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 458,679.

AFFIRMED.

Edward G. Jones, *Joseph K. Andonian* (*Eugene O. Retter*, of counsel) for appellant.

Joseph Schimmel (*Fred W. Sherling*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, SMITH, and ALMOND, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK [1]

SMITH, *J.*, delivered the opinion of the court.

The issue to be decided concerning the rejection of appealed claims 1, 2, 16, and 17, is stated in the Solicitor's brief as follows:

The issue to be decided in this case is whether the differences between the compositions sought to be patented and the prior art are such that the compositions as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said compositions pertain, 35 U.S.C. 103.

The invention in issue is disclosed [2] as a therapeutic composition containing hydrocortisone and neomycin as active ingredients. The four claims on appeal, relating generally to a therapeutic composition, appear to stand or fall together. They are:

1. A therapeutic composition comprising hydrocortisone free alcohol and neomycin.

2. A topical therapeutic composition comprising hydrocortisone free alcohol and neomycin dispersed in a vehicle suitable for topical application.

16. A therapeutic composition comprising hydrocortisone free alcohol and neomycin sulfate.

17. A therapeutic composition comprising sodium hydrocortisone hemisuccinate and neomycin sulfate.

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.
[2] In Ser. No. 458,679, filed September 27, 1954.

The Rejection

The disclosures relied upon to support the rejection are found in the following references:

Reichstein, 2,183,589, Dec. 19, 1939.
Lepri, "Studies on Cortisone in Ophthalmology," 35 Am. J. Ophthalmology, 935–946 (1952).
Modern Drugs 293, (January 1953).
Boland, "Hydrocortisone," 13 J. Am. Ph. Assn., 540–544 (1952).
Gordon, "Status of Corticotropin, Cortisone and Hydrocortisone * * *" Brit. J. Ophthalmology, 85–98 (February 1953).
Merck, "Cortone and Hydrocortone" (April 1953).

The composition covered by the claims contains two active ingredients: (1) "hydrocortisone free alcohol" or "sodium hydrocortisone hemisuccinate," and (2) neomycin. Appellant's specification points out that the word "hydrocortisone" is used to mean 17α-hydroxycorticosterone and its therapeutically active derivatives, such as the 21-esters including the acetate, the cyclopentylpropionate and others, and the 9α-halo derivatives, especially 9α-fluorohydrocortisone and 9α-chlorohydrocortisone, and the therapeutically active derivatives, e.g., esters, thereof. It also includes the water soluble derivatives of these compounds, such as the hemisuccinates, e.g., sodium hydrocortisone hemisuccinate.

The word "neomycin" is also disclosed as meaning the antibiotic more fully described in Waksman, Neomycin (Rutgers University Press, 1953). It includes the various forms of neomycin (such as the B and C forms) and their therapeutically active derivatives (such as the sulfate and hydrochloride salts).

The composition claimed is prepared by mixing the two active ingredients. Generally the mixture is prepared in a vehicle suitable for the particular use to which the composition is to be put. When the composition is to be used topically it is generally prepared in an ointment base. It can also be prepared as a lotion or jelly for topical use. It is generally prepared in a sterile vehicle when the use intended is ophthalmic or requires parenteral injection. It is prepared in an aerosol type vehicle when intended for use as a nasal spray. It can be prepared in the form of a powder or tablet for vaginal and similar uses.

The Solicitor's position, as stated in his brief, is that the prior art references are pertinent to the issue as follows:

(1) The Reichstein et al. patent * * * disclosed suparenal cortical hormones containing at least one group which is convertible to a hydroxyl group and cortisone acetate (claims 7 and 16 * * *). Example 6 of the reference refers to the preparation of cortisone hemisuccinate * * *. Appellant agrees that Reichstein suggests the hemisuccinate of hydrocortisone * * *.

(2) The Lepri article discloses an *in vitro* study to determine whether cortisone (cortisone acetate was actually utilized) interferes with the action of such antibiotics as neomycin, penicillin, terramycin, and three other antibiotics * * *. The conclusion from the *in vitro* study was that "cortisone does not have any influence on the action of antibiotics on microorganisms" * * *. An *in vivo* study was performed to confirm this conclusion * * *. Experiments were performed to find out whether cortisone had any effect on the antibacterial efficacy of the antibiotic penicillin and terramycin * * *. The results of the experiments led to the conclusion that * * *:

> "The simultaneous administration of cortisone with penicillin and terramycin, which by themselves possess a considerable antibacterial activity in the experimental infection of the rabbit, seems to exert a favorable influence on the course of the infection by shortening its duration and causing an attenuation of the inflammatory signs."

Lepri finally concluded from his studies that * * *:

> "The combined cortisone-antibiotic treatment, on the one hand, reduces considerably the symptoms due to the allergic exudative component of the infection and, on the other hand, acts directly on the infecting agent. This, theoretically at least, seems to be the therapy of preference for the infections of the anterior segment of the eye."

(3) The article by Boland * * * reports the effects of hydrocortisone given orally to patients with rheumatoid arthritis * * *. The free alcohol of hydrocortisone was found to have an antirheumatic potency "milligram for milligram, at least 50 percent greater than that of cortisone acetate" * * *. Also, the free alcohol was found to be "approximately twice as effective" as hydrocortisone acetate * * *.

(4) The "Neosone" advertisement * * * is directed to an ophthalmic ointment containing "cortisone for inflammation" and "neomycin for infection." The active ingredients are listed as cortisone acetate and neomycin sulfate. [Published in "Modern Drugs."]

(5) The Gordon article * * * discloses that hydrocortisone has been employed in a series of sixty cases "much in the same manner and in the same dosages as cortisone" * * *. The results with hydrocortisone are reported to be * * *:

> "Systematically it appears to be more effective than cortisone in lesser concentrations (Alpert, 1952). Topically, its analgesic effect is the same or greater than that of cortisone. Administered subconjunctivally, it provokes less local reaction than cortisone."

(6) The Merck article * * * reports that hydrocortisone "appears to be the steroid with the most marked anti-inflammatory action at the tissue level" * * *. Except for the comment regarding hydrocortisone, the article appears to be directed to the use of hydrocortisone acetate.

Such are the facts of record offered by the Patent Office in support of the rejection. Appellant's position does not differ seriously from the Solicitor's summary statement quoted above as to what the prior art discloses. However, appellant disagrees with the conclusion that such disclosures make the claimed invention obvious under 35 U.S.C. 103. In support of this position appellant has submitted factual evidence to which we will now turn. Appellant relies on other teachings in the prior art from which it is concluded:

> It is submitted that not only is the acetate ester of hydrocortisone the logical substitute for the acetate ester of cortisone insofar as structural chemical relationships are concerned, but that the above-quoted teachings of the art in reference to enhanced biological properties clearly say that the hydrocortisone acetate will provide more prolonged and enhanced effects. Surely, then, the principles of investigation in this art point the way for investigators to refrain from using the more soluble free alcohol and sodium hemisuccinate forms. This teaching of the art is clearly at odds with the position of the Examiner expressed throughout the prosecution, in his final rejection and in his answer. He contends that the more soluble forms of hydrocortisone are obvious choices in preparation of combination products, since such forms are the ones most likely to give enhanced beneficial biological properties, whether these properties be antibacterial or anti-inflammatory * * *. His contention is not supported, rather it is negatived by the publications of those skilled in the art. * * *

Appellant also has submitted affidavits as factual evidence which we shall now consider. Basically these affidavits are relied upon to establish what appellant refers to as "evidence of unexpected antibacterial properties." Appellant in his brief refers to the "summary and conclusions" of the affidavit of one Wilkins as support for this position:

Summary and Conclusions

(1) Hydrocortisone free alcohol and an ester, hydrocortisone 21-hemisuccinate sodium salt, significantly increased the antibacterial effectiveness of neomycin.

(2) The combination of hydrocortisone and neomycin was approximately fifteen times more effective than neomycin alone.

(3) The free alcohol and 21-hemisuccinate sodium salt of prednisolone were equally effective as potentiating agents.

(4) The potentiation has been observed in two different media, in either agar or broth.

(5) The potentiation was entirely unexpected in view of the known properties of the individual ingredients.

In addition to the Wilkins affidavit, two Dale affidavits were introduced. The first affidavit of Dale is directed to the preparation of an ointment containing hydrocortisone and neomycin in which the affiant alleges:

That, he is informed and believes that the ointment thus-prepared was sent to responsible and qualified investigators for clinical testing on humans and that he has seen the reports of the clinicians indicating that the ointment thus-prepared was clinically effective in the treatment of various skin disorders.

We will state at this point that the affidavit does not disclose the actual "reports of the clinicians" or allege any unexpected results in the treatment of skin disorders. The conclusion stated therein is what we think would be expected from the teachings of the prior art. For example, the statement is made in Merck that hydrocortisone appears to be the steroid with the most marked anti-inflammatory action at the tissue level.

The second affidavit of Dale shows the combination of hydrocortisone succinate and neomycin to be more effective than neomycin alone in reducing the bacteria count in the kidneys of white mice. The affidavit also reports the results of *in vitro* experiments showing the antibacterial activity of hydrocortisone with neomycin to be greater than the combination of cortisone acetate with neomycin.

After reviewing the affidavits, we find ourselves unable to agree with appellant that this evidence "clearly rebuts" the position of the Patent Office as to obviousness. Both Lepri and Modern Drugs disclose compositions containing neomycin and cortisone acetate. The latter teaches, "cortisone for inflammation, neomycin for infection * * * [a] OPHTHALMIC OINTMENT." Boland, Gordon, Merck and Reichstein disclose the equivalency of use of hydrocortisone and cortisone. And Boland, Gordon and Merck indicate the advantages of hydrocortisone over cortisone, including cortisone acetate. The fact which the references establish is that hydrocortisone is more potent than cortisone acetate.

[1] Appellant argues that the prior art in this case does not teach that a class of anti-inflammatory steroids is "useful with or would potentiate the antibacterial action of neomycin." This argument is inconsistent with the disclosures in Modern Drugs which show that a combination of the anti-inflammatory steroid cortisone acetate with neomycin sulfate was placed on the market. We find nothing in the record to suggest that it would have been unobvious to Lepri, as a person of ordinary skill in this art, to use hydrocortisone instead of cortisone acetate in the Neosone preparation. The greater potency of the hydrocortisone was recognized by Boland who teaches that hydrocortisone is twice as potent as cortisone acetate. We think it would be obvious to one of ordinary skill in this art to make the proper substitution of the more potent hydrocortisone free alcohol for the cortisone acetate in Neosone.

We conclude, therefore, that it would have been obvious under the conditions stated in 35 U.S.C. 103 for one of ordinary skill in this art to substitute hydrocortisone for cortisone in the Neosone preparation. We do not think the present record establishes an unexpected "potentiation effect" flowing from the use of hydrocortisone.

Since affirmance of this ground of rejection is dispositive of this appeal, we do not find it necessary to consider an additional ground of rejection based on the claims of two copending applications of appellant.

[2] AFFIRMED.

WORLEY, *Chief Judge*, did not participate.

U.S. Court of Customs and Patent Appeals

IN RE CHRISTOPHER L. WILSON AND CALVIN J. BENNING

No. 7764. Decided May 25, 1967

[54 CCPA —; 377 F.2d 1014; 153 USPQ 740]

1. PATENTABILITY—PROCESS—OMISSION OF COMPONENT AND ITS FUNCTION—35 U.S.C. 103.

"With respect to claims 16 and 21, appellants contend that it was not obvious at the time of their invention to omit the use of water in the condensation reaction between the polycarbonate and the diisocyanate. They point out that the water reacts with the diisocyanate to form urea groups which contribute to the stiffness of the final product whereas in the absence of water, the two reactants produce only urethane linkages which are more stable and less stiff. We note, however, that Newton employs water *only* as a foam-inducing agent and that his disclosure shows that relatively small amounts of water are used. We therefore agree with the factually-based conclusion of the Board and the Examiner that it was obvious to one of ordinary skill in this art to omit water from the Newton reaction when its function as a foaming agent was not desired. In the absence of a showing by appellants of an unexpected result flowing from such omission, the subject matter is not patentable. 35 U.S.C. 103."

2. SAME—PARTICULAR SUBJECT MATTER—"POLYCARBONATE COMPOSITIONS."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Polycarbonate Compositions," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 541,066.

AFFIRMED.

Kenyon & Kenyon, Richard K. Parsell, Solon B. Kemon, Robert I. Dennison, Morris Kirschstein (*Kemon, Palmer, Stewart & Estabrook*, of counsel) for appellants.

Joseph Schimmel (*Jack E. Armore*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, SMITH, and ALMOND, *Associate Judges*

SMITH, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Board of Appeals[1] affirming the Examiner's rejection of claims 16–17, 20–22, 24, 26, 36,

[1] Composed of Magil, Examiner-in-Chief, and Behrens and Vertiz, Acting Examiners-in-Chief. We note that the composition of the board is such that more than one acting examiner-in-chief participated in this decision. Appellants have not questioned the authority of this board. For the position of the court concerning the decisions of such boards under these circumstances, as well as the views of Almond, *J.*, and myself, see *In re Wiechert*, 54 CCPA 957, 3700 F.2d 927, 152 USPQ 247.

38, 40 and 42[2] in appellants' application[3] for "Polycarbonate Compositions," filed October 17, 1955. No claims were allowed.

The invention described in the application relates to a method of making an elastomeric resinous material by condensing a polycarbonate, obtained from the reaction of a glycol and phosgene or glycol and a dialkyl carbonate, with an organic diisocyanate. The appellants argue that their claims are patentable because of two features: (1) The absence of water in the reaction between the polycarbonate and the diisocyanate, and (2) the presence of an aliphatic polyhydroxy compound having at least three hydroxyl groups as a third ingredient in the polycarbonate condensation reaction. These features are recited in claims 16 and 26, the two broadest claims on appeal:

> 16. The process of forming an elastomeric polymeric resinous material comprising reacting a glycol selected from the group consisting of polyethylene glycol, polypropylene glycol, mixed polyethylene-polypropylene glycols, tetramethylene glycol and pentamethylene glycol with a compound selected from the group consisting of phosgene and a dialkyl carbonate to form a polycarbonate having a hydroxyl number of from 15 to about 200, and condensing 100 parts of said polycarbonate by weight in the absence of water with from about 24 to 50 parts of an organic diisocyanate by weight at a temperature of from about 20° to about 150° C.
>
> 26. The process of making a resilient foam comprising forming a polycarbonate having a hydroxyl number of from about 15 to 200 by reacting a glycol selected from the group consisting of polyethylene glycol, polypropylene glycol, mixed polyethylene-polypropylene glycol, tetramethylene glycol and pentamethylene glycol with a compound selected from the group consisting of phosgene and a dialkyl carbonate and from about 2 to 50% of an aliphatic polyhydroxy compound having at least three hydroxyl groups based on the weight of said glycol and reacting 100 parts by weight of the resulting polycarbonate with from about 24 to 50 parts by weight of an organic diisocyanate and about 2 parts by weight of water at a temperature of from 20° to 80° C.

The remaining claims are either claims to the process which cover more specific aspects of the invention or claims to the product in which the only asserted novelty resides in the process recited therein.

The references[4] relied on to support the rejection are:

The count of Interference No. 89,329.
Newton, 3,110,686, November 12, 1963 (filed Dec. 16, 1954).
Wilson et al., 2,970,118, January 31, 1961 (filed July 8, 1954).
Marrian (British), 650,002, February 7, 1951.

The appealed claims fall into two categories: (1) claims 16 and 21 which were rejected as being "unpatentable over" the count of Interference No. 89,329 as well as being "unpatentable over" Newton; and (2) the remaining claims which were rejected as being "unpatentable over" Newton in combination with Marrian and Wilson. Despite the generality of the language used in stating the rejection, its statutory basis appears to be obviousness of the claimed invention in view of the art under the conditions stated in 35 U.S.C. 103.

Newton discloses the preparation of resilient cellular foamed elastomeric material by the reaction of a linear polycarbonate and an organic diisocyanate in the presence of a foam-inducing agent such as water. The polycarbonate disclosed by Newton may be prepared by reacting an acyclic diol such as diethylene glycol with a carbonate

[2] Claims 35, 37, 39 and 41 were also rejected below but the appellants' brief states that "the appeal with respect to them is hereby withdrawn."
[3] Serial No. 541,066.
[4] The Examiner relied on another reference: Golding, Polymers and Resins (1959). However, the Board indicated that this reference could not be relied on because its date is later than the filing date of the application on appeal.

diester such as diethyl carbonate. The water reacts with isocyanate groups to liberate carbon dioxide to produce the desired foam. In addition, Newton states:

> For the most part, the resilient and elastic property of the contemplated foams are achieved by effecting the desired reaction between the linear polycarbonate and the organic diisocyanate in the presence of a foam inducing agent in the substantial absence of agents or radicals such as cyclic or polycyclic structures which tend to provide rigidity. • • • Compounds which possess three or more reactive hydrogen such as the trihydric alcohols typified by *glycerol* and the tribasic acid esters such as citric acid esters should be excluded.
>
> Of course, at the expense of resiliency, elasticity, and softness it is possible to incorporate minor quantities of these materials. However, usually not more than about 3 percent by weight of the polycarbonate and diisocyanate is employed in any event. [Emphasis added.]

Claim 5 of the Newton patent was the count of Interference No. 89,329 in which the present appellants were the losing party. We agree with the appellants' contention that the rejection of claims 16 and 21 on the count is redundant of the rejection made on the basis of the Newton patent. There is, therefore, no need to here discuss the count separately.

The Wilson patent shows a method of making foamed polyester resins by reacting a polyester with a toluene diisocyanate in the presence of a tertiary amine catalyst and a small amount of water. The polyester reactant is obtained by the reaction of a saturated aliphatic dicarboxylic acid, a polyethylene glycol and an aliphatic polyhydroxy compound containing 3–6 hydroxyl groups.

The British patent to Marrian discloses a method for the production of resinous polyesters by reacting a dialkyl carbonate with a pentaerythritol in the presence of an alkaline ester interchange catalyst. The resinous polyesters so produced may contain unesterified primary alcoholic hydroxyl groups which may be reacted with a diisocyanate to form cross-linked products.

The Examiner rejected claims 16 and 21 as "unpatentable over" Newton. The difference between the disclosures in the Newton patent and the appealed claims resides in the absence of water in the reaction between the polycarbonate and the diisocyanate. It is the Examiner's position that the omission of water and its function from the Newton reaction would be obvious to one of ordinary skill in this art. The remaining claims were rejected by the Examiner as unpatentable over Newton in combination with Marrian and Wilson. The Examiner stated that the difference between claims 16 and 21 and the remaining claims resides in the use of the aliphatic polyhydroxy compound in the preparation of the polycarbonate. The present specification shows that with increased additions of the polyhydroxy compound, the final products tend toward hardness and rigidity. Pointing to the above quoted passage from the Newton patent, the Examiner contended that it was obvious to incorporate glycerol in the step of preparing the polycarbonate and thereby reduce the resiliency (increase the rigidity) of the final product.

The Board generally affirmed the decision of the Examiner but, in addition, pointed out: (1) Newton refers to an abandoned application, Serial No. 441,927, filed July 7, 1954, for disclosure on how the linear polycarbonates may be prepared and this abandoned application disclosed that the polycarbonates can be made by reaction of glycols with polychloroformates which are made by phosgenating

diols; (2) the disclosure of Wilson pertaining to the polycarboxylate-diisocyanate reaction is clearly in an art analogous to appellants' polycarbonate-diisocyanate reaction; and (3) appellants have not shown that the final product is substantially different when the polyol is added during the preparation of the polycarbonate rather than during the polycarbonate-diisocyanate reaction.

[1] With respect to claims 16 and 21, appellants contend that it was not obvious at the time of their invention to omit the use of water in the condensation reaction between the polycarbonate and the diisocyanate. They point out that the water reacts with the diisocyanate to form urea groups which contribute to the stiffness of the final product whereas in the absence of water, the two reactants produce only urethane linkages which are more stable and less stiff. We note, however, that Newton employs water *only* as a foam-inducing agent and that his disclosure shows that relatively small amounts of water are used. We therefore agree with the factually-based conclusion of the Board and the Examiner that it was obvious to one of ordinary skill in this art to omit water from the Newton reaction when its function as a foaming agent was not desired. In the absence of a showing by appellants of an unexpected result flowing from such omission, the subject matter is not patentable. 35 U.S.C. 103.

The Board found that the use of an aliphatic polyhydroxy compound in the reaction, as claimed in appealed claim 26, was obvious in view of Newton, Marrian and Wilson. The above quoted passage from Newton discloses to one of ordinary skill in this art that glycerol may be used in the polycarbonate-diisocyanate reaction at the expense of resiliency, elasticity and softness. In other words, Newton teaches the making of a relatively rigid product by the use of glycerol in the reaction. Newton's disclosure implies that glycerol, if used at all, is introduced during the polycarbonate-diisocyanate reaction. However, Marrian discloses the preparation of polyesters by the reaction of a dialkyl carbonate with a polyhydroxy compound having three or more hydroxyl groups. Wilson discloses a method for making a polyester from a dicarboxylic acid, a glycol and glycerol. These disclosures provide a proper factual basis for the determination of obviousness of the claimed invention under the conditions stated in 35 U.S.C. 103.

[2] The decision of the Board is affirmed.

AFFIRMED.

WORLEY, *Chief Judge*, did not participate.

REISSUES

FEBRUARY 6, 1968

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,340

SPORT SHOES, ESPECIALLY FOR RUNNERS

Adolf Dassler, Am Bahnhof, Herzogenaurach, near Nuremberg, Germany

Original No. 3,224,117, dated Dec. 21, 1965, Ser. No. 396,555, Sept. 15, 1964. Application for reissue Apr. 28, 1966, Ser. No. 552,666

9 Claims. (Cl. 36—2.5)



1. A [sport] *track* shoe having an upper consisting of a leather of less than 1 mm. thickness having a grain side and a flesh side, the flesh side of the leather of [said] *the entire* upper facing outwardly, and at least one coating on said flesh side, said coating forming a waterproofing impregnation.

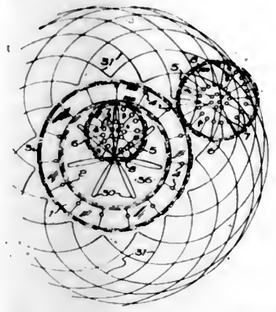
26,341

INSTRUMENTS OR APPARATUS

Denys Fisher, Scholes, Leeds, England, assignor, by mesne assignments, to Kenner Products Company, Cincinnati, Ohio, a corporation of Delaware

Original No. 3,230,624, dated Jan. 25, 1966, Ser. No. 384,968, July 24, 1964. Application for reissue Jan. 5, 1967, Ser. No. 612,753

7 Claims. (Cl. 33—27)



A design drawing device comprising a toothed primary ring, an externally toothed secondary disk with apertures for a drawing instrument, the secondary member adapted to be manipulated relative to the primary member and vice versa, with the drawing instrument serving as the means for driving the secondary member relative to the primary member.

PLANT PATENTS

GRANTED FEBRUARY 6, 1968

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,794

NECTARINE TREE

Frederic W. Anderson, Merced, Calif., assignor, by mesne assignments, to Reedley Nursery, Inc., Reedley, Calif.

Filed Sept. 23, 1966, Ser. No. 581,664

1 Claim. (Cl. Plt.—41)

1. A new and distinct variety of nectarine tree, substantially as illustrated and described, characterized by large, globose to oblong, early ripening, freestone fruit having yellow flesh, and yellow skin substantially completely overspread with red; the fruit ripening approximately ten days earlier than the Grand River and Sunrise nectarines, and almost three weeks earlier than the John Rivers nectarine.

2,795

HACKBERRY TREE

William Flemer III, Princeton, N.J., assignor to Treesearch, Kingston, N.J., a partnership composed of William Flemer III, John W. Flemer, and Richard J. Henkel

Filed Nov. 3, 1966, Ser. No. 591,935

1 Claim. (Cl. Plt.—51)

1. A new and distinct variety of hackberry tree (Celtis), substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a very vigorous and rapid habit of growth, equal to 3 to 4 times more rapid than *Celtis occidentalis* seedlings grown in the same rows under identical conditions, large dark green foliage which is resistant to defoliation and leaf scorch under summer heat conditions, with the leaves being retained unblemished when *Celtis occidentalis* seedlings in the same rows become almost completely defoliated under the same conditions and good resistance to "Witches Broom" twig disease.

PATENTS

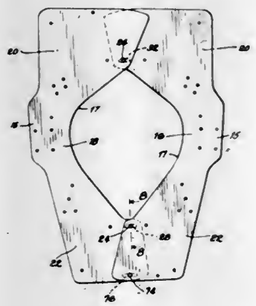
GRANTED FEBRUARY 6, 1968

GENERAL AND MECHANICAL

3,366,970
SHOULDER PAD APPARATUS

Gerard E. Morgan, Glenview, Ill., assignor to John T. Riddell, Inc., Chicago, Ill., a corporation of Illinois

Filed May 10, 1965, Ser. No. 454,504
13 Claims. (Cl. 2—2)

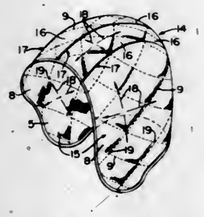


A shoulder pad construction including a pair of U-shaped body members defining an opening at the top for insertion of the head of the wearer. The downwardly extending chest and back portions of the body members overlap to eliminate any gap in the central area covering the chest and back. A swivel connection is provided between the overlapping sections so that freedom for arm movements is provided without disturbing the overlapping relationship.

3,366,971
LINER LAMINATE AND HELMET LINER FORMED THEREFROM

Louis Scherz, 184 Charles St., Wilkes-Barre, Pa. 18702; Celia Scherz, executrix of said Louis Scherz, deceased

Filed Oct. 24, 1965, Ser. No. 504,381
3 Claims. (Cl. 2—3)

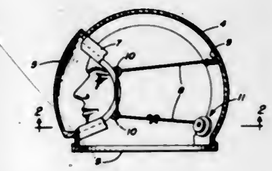


A liner for helmets or the like which is readily stretchable in substantially universal manner, thereby to conform perfectly to head forms in a large range of head sizes, the liner being formed of a laminate comprising an inner layer of knitted cotton, an intermediate layer of plastic foam, and an outer layer of woven nylon, each layer being universally stretchable and the layers being stitched together in the general form of square quilted areas.

3,366,972
EXTERNALLY OPERATED HELMET HARNESS ADJUSTMENT REEL ASSEMBLY

Robert C. Wise, Stow, Ohio, and Melvin C. Case, Dover, Del., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Jan. 29, 1965, Ser. No. 429,184
4 Claims. (Cl. 2—6)



1. In a helmet assembly comprising:

a rigid shell adapted to receive the head of an individual and having a transparent portion on the one side thereof, means securing said face seal means to the interior of the shell adjacent the transparent portion and including a part engageable about the periphery of the individual's face; and flexible inextensible tension means interconnecting said face seal means and portions of said helmet shell remote from said face seal means;

the improvement comprising adjusting means adapted for mounting on said helmet shell at a location remote from said face seal means, said adjusting means including positive locking means for positively locking said adjusting means in any position; said adjusting means further including

a hand knob;

a shaft driven by said hand knob;

a sun gear driven by said shaft and mounted thereon;

a plurality of planet gears adjacent to, interacting with, and driven by said sun gear, each of said planet gears having a planet gear shaft fixedly attached thereto;

a ring gear fixedly attached to said helmet shell and disposed about said planet gears to interacting communication therewith; and

a reel mounted for free rotation on said drive shaft, said tension means being wound upon and adjusted by the action of said reel, said reel being in driving communication with said planet gear shafts and being driven in rotation thereby, whereby manual action of the hand knob results in rotation of the reel through the gear drive train and thus adjustment of the position of the face seal.

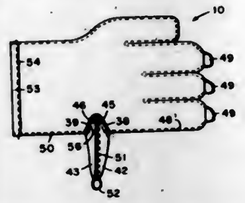
3,366,973
GLOVE CONSTRUCTION

Milton W. Israel, University City, Mo., assignor to Angelica Uniform Company, St. Louis, Mo., a corporation of Missouri

Filed Aug. 18, 1965, Ser. No. 480,556
5 Claims. (Cl. 2—169)

1. A glove construction comprising a body portion and a thumb cot, the body portion being formed from a unitary blank having similar first and second sections,

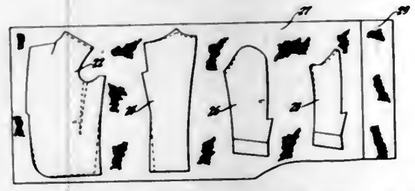
said body portion having at least two finger sheaths of equal length formed with unseamed end folds, said thumb cot being formed from a unitary blank and having opposed side seams and an unseamed end fold, and said thumb cot being set into an opening in said body portion at the margin to locate said side seams laterally of the ball of the thumb of a wearer, said side seams of said thumb cot being disposed in a plane transverse of the plane of the side seams of said finger sheaths whereby said glove construction is adapted for use on either the right or left hand.



3,366,974
METHOD OF MAKING A FINISHED GARMENT

Robert D. Gwynn, 32320 Bellvine Trail, Birmingham, Mich. 48010

Filed Jan. 20, 1966, Ser. No. 521,764
3 Claims. (Cl. 2—243)

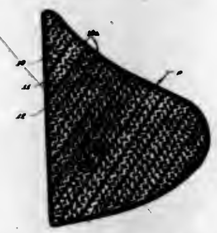


A method of making a garment which, when first made, precisely fits a selected figure and, more specifically, to a method of making a finished garment wherein a model garment is fitted to a figure and deviations in the fit are marked on patterns which are the same size as the patterns utilized to make the model garment, and thereafter cutting material in accordance with the markings on the patterns and fabricating the finished garment from the cut material.

3,366,975
COMPOUND PROSTHESIS

William J. Pangman, 865 Comstock Ave. W., Los Angeles, Calif. 90024

Filed June 4, 1965, Ser. No. 461,326
9 Claims. (Cl. 3—36)

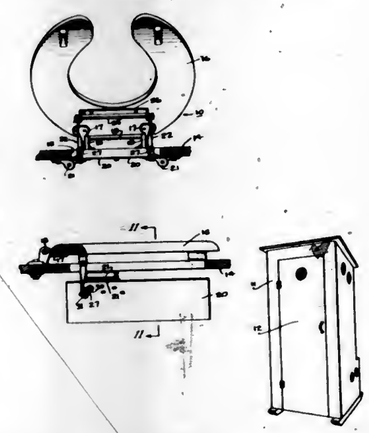


A compound prosthesis for implanting in the human body has a core of a plastic foam, surrounded by a membrane impervious to fluids and in turn covered by a porous layer to which human tissue can adhere. The core enables the device to retain a given shape, yet can approximate human tissue in density and rigidity to restore the body to its initial shape and appearance.

3,366,976
PORTABLE TOILET UNIT

Charles W. Swanson, Philadelphia, Pa., assignor to Carmic Manufacturing Co., Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 18, 1965, Ser. No. 496,884
3 Claims. (Cl. 4—144)

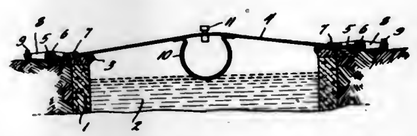


A sanitary portable toilet unit having an apertured panel upon which is hingedly mounted a toilet seat for registry of its opening with the panel aperture, the panel having also mounted upon its underside a pair of members which are normally spring-pressed into position for closure of the panel aperture and simultaneous raising of the toilet seat. Upon depressing the seat the closure panels are forced open against the closing bias of the closure panels. Special linkage means is provided for interconection of the toilet seat and the panel aperture closure members which are well outside the confines of the toilet seat opening to minimize any likelihood of the unit being soiled during use of the toilet.

3,366,977
SWIMMING POOL COVER

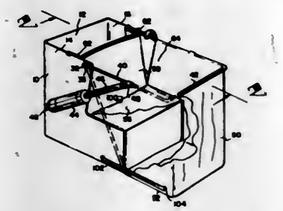
Carl A. Koehler, Fulton, Md. (3564 Bladensburg Road, Brentwood, Md. 20722)

Filed Mar. 23, 1967, Ser. No. 625,525
7 Claims. (Cl. 4—172)



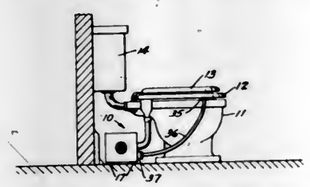
The invention relates to a cover for a swimming pool for use while the pool is full. A floatable member is secured to the underside of a liquid impervious sheet material which itself is stretched over the pool and anchored at its periphery. The floatable member rests on the surface of the water and is of sufficient size to raise the central part of the cover to form an arch such that rain water, leaves, etc., do not accumulate on it. The floatable member ideally is inflatable for compact storage when the cover is not in use.

3,366,978
CHAIR HEIGHTH COLLAPSIBLE BATHTUB
Ruth V. Jones, 45 W. Moreland, Phoenix, Ariz. 85003
Filed June 1, 1965, Ser. No. 460,052
6 Claims. (Cl. 4—177)



A collapsible bathtub having a frame supporting a chair provided with relatively pivoted leg rests and back portions, and also having a tub frame which is generally U-shaped and provided with a collapsible tub portion at the front of the chair, such that the collapsible tube portion may be raised or lowered so as to contain water around the chair, when raised and to be collapsed to floor level in front of the chair so that a disabled patient may enter the tub by sitting in the chair, and may leave the tub by walking away from the tub, when the frontal portion of the tub is collapsed downwardly to floor level.

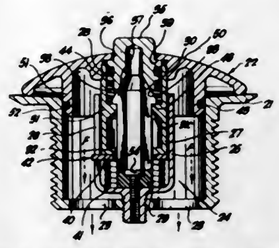
3,366,979
DEODORIZING APPARATUS
Melvin I. Johnston, 124 N. Lexington Parkway, St. Paul, Minn. 55104
Filed May 6, 1965, Ser. No. 453,594
1 Claim. (Cl. 4—213)



A portable deodorizing apparatus for use with commodes comprising a housing having an inlet opening and outlet opening therein, and having an exhaust fan mechanism within the housing. A charcoal filter structure in the housing positioned adjacent the outlet and an elongate conduit having one end connected to the housing and having the other end connected to a nozzle, which is adapted to be positioned between the commode seat and bowl. And a pressure responsive bulb interposed between the commode bowl and commode seat and being operable when compressed to actuate the control switch for energizing the fan mechanism.

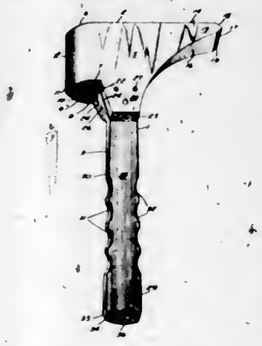
3,366,980
POP-UP WASTE OR DRAIN
Sigurdur G. Petursson, 781 Selkirk St., Wallaceburg, Ontario, Canada, and James L. Forgie, 190 Thames St., Chatham, Ontario, Canada
Filed Apr. 16, 1965, Ser. No. 448,819
Claims priority, application Canada, Feb. 19, 1965, 923,792
7 Claims. (Cl. 4—295)

A push-button waste-plug assembly for installation in a waste outlet. A stopper is mounted on an axially movable portion of a supporting structure having a further portion adapted to be fixedly mounted in a waste outlet. The stopper is adapted to be pushed closed and is held there by catch means in the supporting structure. A push-button release means mounted in the stopper releases the catch means when actuated, thereby allowing the stopper to move to a fully-open position.



3,366,981
FROZEN FOOD CLEAVER
John W. Bernard, Spring Valley, Minn. 55975
Filed Dec. 31, 1964, Ser. No. 422,679
2 Claims. (Cl. 7—1)

1. A kitchen tool comprising:



a percussion head and a grip handle affixed thereto, said percussion head having a forward and a rearward section formed integrally therewith, said forward section having a first wedge-like projection and a primary action edge disposed longitudinally thereon,

said first wedge-like projection being defined by outwardly curved tapered surfaces and terminating in said primary action edge,

said rearward section having a second wedge-like projection and a secondary action edge disposed perpendicular to said primary action edge,

said second wedge-like projection being defined by a plane surface and an inwardly curved surface and terminating in said secondary action edge,

whereby said primary action edge and said secondary action edge are combined to be readily employable as a single household utensil.

3,366,982
OFFSHORE FLOATING TERMINAL
Charles D. Sutton, Los Angeles, Calif., assignor to Imodco International Limited, Nassau, Bahamas, a corporation of the Bahamas
Filed Apr. 19, 1965, Ser. No. 448,958
5 Claims. (Cl. 9—8)

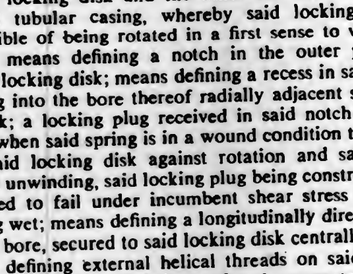
1. An offshore floating terminal for transferring fluids between a source of fluids and one or more tankers moored thereto offshore comprising:

a floating platform including a multichamber structure;

means for anchoring said platform to the bottom of a body of water off shore for preventing said platform from rotating;

means for transferring fluids between each of said chambers and said source of liquids;

a pier-like barge rotatably mounted about said platform said barge being dimensioned and including means for mooring tankers on either side thereof;



an outer structure rotatably mounted on said platform about said multichamber structure, said outer structure having openings in communication with said chambers; and

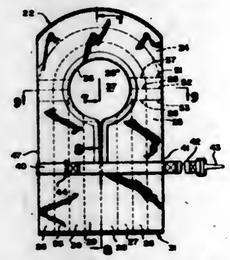
means having ends connectable to said tankers and other ends connected to said openings of said outer structure for transferring fluids between said tankers and said chambers.

3,366,983
BUOY FOR RECOVERY OF ITEMS SUBMERGED IN WATER
Albert L. Adams, Springfield, Nebr. 68059
Filed July 14, 1966, Ser. No. 565,275
7 Claims. (Cl. 9—9)



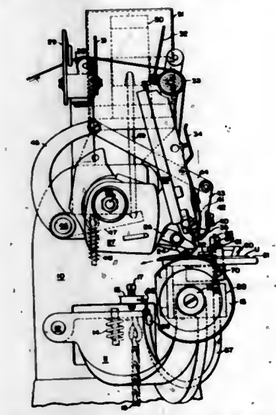
1. A buoy device for facilitating recovery of an article susceptible of being lost in a body of water, said buoy device comprising: a generally tubular casing, the bore of said tubular casing being exteriorly accessible through at least one end thereof; locking disk means received in said bore; means journalling said locking disk within said bore for rotative motion generally about the longitudinal axis of the tubular casing; a convolute spring having an inner end and an outer end, said convolute spring being received in said bore and having one end thereof secured to said locking disk and the other end thereof secured to said tubular casing, whereby said locking disk is susceptible of being rotated in a first sense to wind said spring; means defining a notch in the outer periphery of said locking disk; means defining a recess in said casing opening into the bore thereof radially adjacent said locking disk; a locking plug received in said notch and said recess when said spring is in a wound condition to thereby lock said locking disk against rotation and said spring against unwinding, said locking plug being constructed and arranged to fail under incumbent shear stress upon becoming wet; means defining a longitudinally directed shaft in said bore, secured to said locking disk centrally thereof; means defining external helical threads on said shaft; a spool having means defining a closed compartment filled with lighter-than-water material whereby said spool is buoyant; an elongated flexible element having two ends, one end being secured to said spool and the other end being secured to said casing, the elongated flexible element between said ends being wound on said spool; said spool having a hollow central shaft, said central shaft having means defining internal helical threads therein complementary to the external helical threads on said shaft secured to said locking disk; said spool being at least partly received in said bore and threadably received on the last-mentioned shaft via said complementary threads; cooperative means on said spool and said casing preventing rotation of said spool with respect to said casing; and means on said casing for securing said buoy device to an article susceptible of being lost in a body of water; whereby when the article is so lost, said plug fails, said spring rotates said locking disk and the shaft thereon axially expels the buoyant spool from the casing and the spool pays out said elongated flexible element as said spool bobs to the surface of the body of water.

3,366,984
LIFE VEST
Joseph H. Le Blanc, Jr., New Orleans, La., assignor, by mesne assignments, to Tapatco, Inc., Fairfield, Calif., a corporation of Nevada
Filed Apr. 30, 1965, Ser. No. 452,060
16 Claims. (Cl. 9—333)



A life vest is provided, constructed of a plurality of longitudinal slabs of buoyant plastic foam material disposed within a cover member, the slabs being adapted to slide relative to one another, to conform to the body contours of a wearer. A generally keyhole-shaped head opening is provided, with the slabs extending around the head opening, and being partially severed at predetermined places to facilitate bending thereof. Means are provided for securing the vest to the body of a wearer.

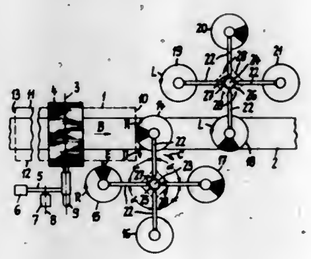
3,366,985
STAY STRIP APPLYING MACHINE
Joseph C. Antell, Lynn, Mass., assignor to Prime Manufacturing Company, Lynn, Mass., a corporation of Massachusetts
Filed Oct. 22, 1965, Ser. No. 501,401
11 Claims. (Cl. 12—59.5)



Stay strip applying machine having a work supporting roll and adjacent table upon which the work is engaged

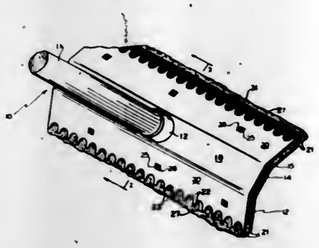
under yielding pressure by a feeler arranged, when it passes off the work, to bring into action a severing knife.

3,366,986
AUTOMATIC WASHPLANT FOR CONTINUOUS WASHING OF VEHICLES
Gebhard Weigele, Holzweg 75, Augsburg, Bavaria, Germany, and Johann Sulzberger, Mozartstr. 17, Steppach, near Augsburg, Bavaria, Germany
Filed Apr. 21, 1966, Ser. No. 544,272
Claims priority, application Germany, Dec. 18, 1965, W 40,535
8 Claims. (Cl. 15—21)



1. In an automatic washing plant for the continuous washing of vehicles, a brush assembly comprising:
at least three vertical rotary brushes;
arms mounting said brushes respectively thereon and mounted for revolution about a common vertical axis;
means for mounting each of said arms for pivotal movement in a horizontal plane individually with respect to each other; and
resilient means flexibly interconnecting each of said arms with the adjacent pivoted arms of the same brush assembly in such a manner that the brush assembly, in the rest position, forms a symmetrical rotating star, the pivoted arms of which enclose equal angles.

3,366,987
GRILL AND OVEN SCRAPER AND CLEANER
John Giustino, 7685 Gifford Road, Rome, N.Y. 13440
Filed Jan. 25, 1966, Ser. No. 522,881
3 Claims. (Cl. 15—105)



The scraper has two rectangular blades with scraping edges angled away from the handle. A pad of steel wool is compressed between the blades by the handle attachment screw, the blades having cooperating tongues and holes to secure the pad in place. A steel brush may also be adjustably secured between a pair of scraping edges with the tongues passing through cooperating holes in the brush. At least one spaced pair of scraping edges are scalloped for scraping the sides of the grill rods.

3,366,988
BRUSH HAVING A DISPOSABLE PART
David B. Menkin, 727 S. 9th Ave., City of Industry, Calif. 91744, and James C. Ginter, 1134 Linda Vista Ave., Pasadena, Calif. 91103
Filed Apr. 19, 1966, Ser. No. 543,673
8 Claims. (Cl. 15—244)



The invention is a paint brush with a disposable paint applying part. The paint applying part is formed of soft spongy material. The material is attached to, that is, around, an internal flexible support member which includes a part that is detachably securable to the handle. The handle includes an end part formed as a socket to receive the disposable part of the brush. The socket comprises an extending skirt. The end part of the member to which the spongy material is attached is configurated to be received in the socket and skirt and removably held therein. The spongy material is secured to the internal resilient member adjacent the part of it that is received in the socket so that the point of attachment of the spongy material to the resilient member is within the skirt when the parts are assembled.

3,366,989
WINDSHIELD WIPER ARMS
Arthur L. Ludwig, Hastings, Mich., assignor to Hastings Manufacturing Company, Hastings, Mich., a corporation of Michigan
Filed Oct. 22, 1965, Ser. No. 501,665
9 Claims. (Cl. 15—250.2)

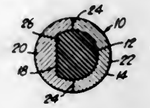


1. In a windshield wiper arm, the combination of an arm head adapted to be mounted on a driver, a composite arm body comprising an elongated channel-shaped hood and an elongated filler disposed within said hood, said filler extending the full length of the hood and projecting outwardly therefrom at one end of the hood, pivot means connecting the projecting portion of said filler to said arm head, a tension spring disposed in said filler and having one end thereof anchored to said arm head at a point offset from said pivot means, tension adjusting means carried by said filler and connected to the other end of said spring, and a base arm secured in and projecting outwardly from said arm body.

3,366,990
ERASER
Edmund A. Cyrol, 1444 Sequoia, Glenview, Ill. 60025
Continuation-in-part of application Ser. No. 387,015, Aug. 3, 1964. This application June 13, 1966, Ser. No. 557,026
3 Claims. (Cl. 15—425)

1. A pencil type eraser of the type having an end adapted to be sharpened in a pencil sharpener, said eraser

comprising an elongated tubular support member having a central longitudinal axis, and an elongated flexible erasing element disposed within said support member, said erasing element being materially eccentric with respect to the support member so that a greater portion of the erasing element is disposed to one side and a lesser but substantial portion is disposed at the opposite side of said longitudinal axis, said support member being spaced approximately from 1/32 to 1/16 of an inch from said axis at



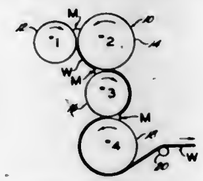
said one side, and more than approximately 3/32 of an inch at the opposite side, said eraser when sharpened in a pencil sharpener being characterized by a substantially conical end constituted of the relatively pointed projecting tip of the erasing element and of a tapered tongue-like extension of said support member at said one side of the axis, said tongue-like extension extending toward but terminating short of the tip and supporting the tip when it is used for erasing.

3,366,991
FURNITURE GLIDE
Robert F. Le Vasseur, Woodbury, Conn., assignor to The Ferrule Manufacturing Corporation, Waterbury, Conn., a corporation of Connecticut
Continuation of application Ser. No. 468,414, June 30, 1965. This application Apr. 28, 1967, Ser. No. 634,779
14 Claims. (Cl. 16—42)



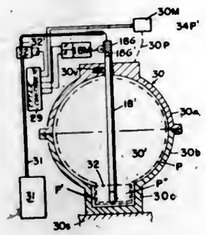
In an adjustable furniture glide an enlarged head of a shank member has a rough surface contour and surface irregularities which tend to produce complementary deformations in the material of a resilient shoe receiving it so that the shoe resists rotation relative to the shank and tends to remain in angular adjustment relative thereto. A cap overlying the shoe prevents separation of the shank member and the shoe.

3,366,992
CALENDER WITH DIFFERENT ROLL SIZES
Rex C. Seanor, Akron, Ohio, and S Everett Perlberg, Fairlawn, N.J., assignors to Adamson United Company, Akron, Ohio, a corporation of Ohio
Filed Oct. 22, 1965, Ser. No. 502,031
3 Claims. (Cl. 18—2)



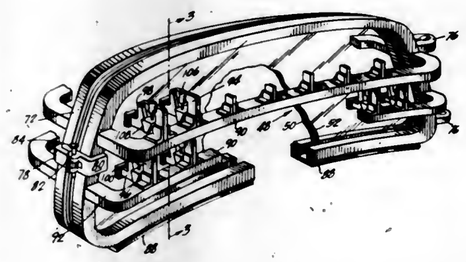
An inverted L calender characterized by the middle roll of the calender having a reduced diameter in relation to the top and bottom rolls.

3,366,993
APPARATUS FOR MOLDING
Jerome H. Lemelson, 85 Rector St., Metuchen, N.J. 08840
Continuation-in-part of application Ser. No. 734,340, May 9, 1958. This application Mar. 15, 1965, Ser. No. 439,548
2 Claims. (Cl. 18—26)



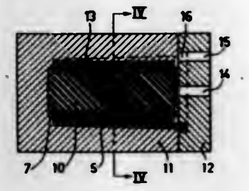
1. Molding apparatus comprising a mold having a cavity for receiving molding material to be molded to shape against the walls of said cavity, an opening in said mold defining a passageway communicating with said cavity, valve means including movable means for maintaining said passageway closed during molding, an injection means for fluent molding material including an elongated nozzle operative to eject molding material therefrom, means for advancing said nozzle into said opening upon the alignment of said nozzle and said opening, said valve means being operative to receive said nozzle, said movable means being displaced by said nozzle upon movement of said nozzle against said valve means to open said valve permitting injection of said molding material into said mold from said nozzle.

3,366,994
APPARATUS FOR PRODUCING A LAMINATED GLASS PANEL
Vern E. Hamilton, Palos Verdes Estates, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed June 22, 1966, Ser. No. 559,561
11 Claims. (Cl. 18—26)



Apparatus to laminate panels includes pair of open frames to grip two sheets of glass at their margins and press them together against marginal spacers to produce desired gap which is filled by viscous cementing fluid under pressure. Individually operated backup members contact all external areas of both sheets with very light initial pressure to avoid distortion. Separate rigid stop locks each backup member against outward movement to prevent outward bulging of sheets under high fluid pressure. Servo units release all backup members when filling operation is completed.

3,366,995
APPARATUS FOR MANUFACTURING RINGS OR CYLINDERS OF FERROMAGNETIC MATERIAL
Reinder Hendrik Dijken, Jolle Jager, and Minne Krikke, Drachten, and Johan Kraus, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 20, 1965, Ser. No. 449,576
Claims priority, application Netherlands, Apr. 24, 1964, 64—4,520
4 Claims. (Cl. 18—36)



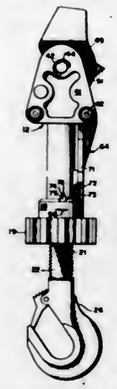
1. A mould for injection moulding a rotor having a ring of sintered, oxidic, ferromagnetic material immovably supported on a body of synthetic polymeric material comprising means defining a closed mould cavity, said cavity having said ring disposed therein, said cavity having a cross sectional dimension greater than the diameter of said ring, means projecting into said cavity for engaging said ring spaced from the walls of said mould defining said cavity, a first inlet duct in said mould communicating with the portion of said cavity surrounding the exterior surface of said ring and a second inlet duct in said mould communicating with the portion of said cavity within the interior of said ring.

3,366,996
SAFETY BELT-FASTENING DEVICES
Raymond L. Springer, Anderson Township, Hamilton County, Ohio, assignor to Kangol Helmets Limited, London, England
Filed Sept. 24, 1965, Ser. No. 489,976
10 Claims. (Cl. 24—68)



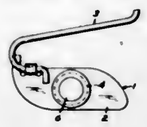
A belt fastening assembly which includes a member attached to a belt end and a member attached to a vehicle, one member having a hook, the other member having a crank provided with a portion engageable by the hook to connect the members, swinging of the crank causing engagement of a portion of the crank with the hook to cause release of the members from each other, a magnet normally holding the members against inadvertent release.

3,366,997
ADJUSTABLE TIE DOWN DEVICE
Hubert G. Lesley, % The Aid Corp., Clayton, Ga. 30525
Continuation of application Ser. No. 518,185, Jan. 3, 1966. This application May 11, 1967, Ser. No. 637,854
5 Claims. (Cl. 24—68)



An adjustable tie down device for releasably securing cargo on a supporting surface comprising a tubular block having a hook adjustably threaded into one of its ends and a chain gripping member connected to the other of its ends and moveable in an axial direction with respect to the tubular block. A lever is pivotally connected to the tubular block and is pivotal to a position adjacent the tubular block to restrain the adjustment of the hook with respect to the tubular block and to retain the chain gripping member adjacent the tubular block.

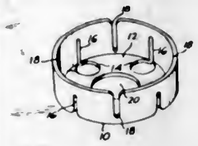
3,366,998
MOLDING FASTENER
Arnold O. Jansson, Troy, Mich., assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed June 23, 1966, Ser. No. 559,919
3 Claims. (Cl. 24—73)



A molding fastener. A cross plate adapted to be inserted between the inturned flanges of a molding and rotated into recesses formed by the flanges has a resilient molding engaging stand off adapted to engage the inner surface of the molding to bias the cross plate against the flanges. The stand off extends generally normally from the cross plate and is compressible in the direction of its longitudinal axis thereby decreasing its over-all length. The stand off is also deflectable in any lateral direction from its normal attitude with respect to the cross plate.

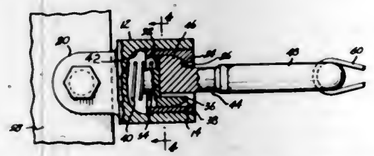
3,366,999
BALLOON HOLDER AND SEAL
John R. Darby, 5815 SE. Laurel St., Portland, Oreg. 97222
Filed Sept. 22, 1965, Ser. No. 489,303
5 Claims. (Cl. 24—81)

An annular plastic body forms a peripheral wall, and a transverse wall is joined thereto. the peripheral wall has a plurality of spaced slots each communicating with an opening in the transverse wall. The peripheral wall also has a pluraltiy of additional slots associated with the first named slots to form pairs of slots extending from opposite ends of the peripheral wall. Each pair of slots



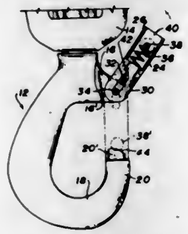
serves to secure the deflated portion of a balloon, and the inflated portion thereof projects radially outward from the peripheral wall.

3,367,000
DETACHABLE FASTENING DEVICE
Frank M. Schluter, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,359
12 Claims. (Cl. 24—221)



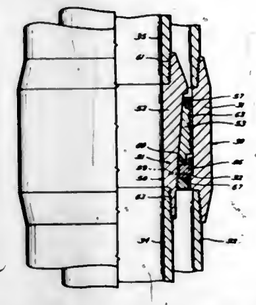
A fastening device characterized by its ability to detachably secure two members to one another quickly and easily. The device comprises a generally cup-shaped socket member secured to one of the two members to be joined, and an attachment member secured to the other member to be joined and adapted to fit in the socket. The socket member includes a plurality of inwardly-extending, circumferentially-spaced lugs adjacent its open end, and the attachment member includes a plurality of outwardly-extending, circumferentially-spaced lugs which pass between the socket lugs and fit behind them when the attachment member is inserted into the socket and rotated. A keeper element having a plurality of upstanding, circumferentially-spaced lugs is disposed in the socket member behind the socket lugs for preventing inadvertent removal of the attachment member from the socket.

3,367,001
CLOSABLE PULLING HOOK
Herbert A. Raschke, Greenbrae, Calif., assignor to E. D. Bullard Company, Sausalito, Calif.
Filed Dec. 27, 1965, Ser. No. 516,404
5 Claims. (Cl. 24—241)



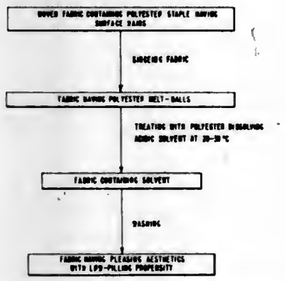
A safety gate for a pulling hook including a single rigid elongated hollow member slidably spring-biased across the throat of the pulling hook for pivotal movement between a throat spanning position and a throat clearing position. The tip of the hook is provided with a portion of reduced cross section for mating with the outer end of the gate when the gate is in the throat spanning position

3,367,002
AUTOMATIC SLIP SETTING DRILL PIPE SUSPENSION APPARATUS
Charles F. Johnson, Houston, Tex., assignor to Rockwell Manufacturing Company, Houston, Tex., a corporation of Pennsylvania
Filed Aug. 9, 1966, Ser. No. 571,205
22 Claims. (Cl. 24—263)



Pipe suspension apparatus for use in oil and gas wells. Included is a full opening wellhead support means with only a small shoulder or groove on its interior wall. In a preferred embodiment, its interior is cylindrical. In another embodiment the interior is the frustum of a right inverted cone with a very small taper. A pipe holding means with a downwardly tapered mandrel on its exterior is suspended in the support means by wedge means which includes slips with downwardly converging inner faces for cooperating with the tapered mandrel. The outer faces of the slips have teeth thereon to engage the interior of the support means. Initially these slips are held in a cage inwardly free of engagement by an attachment means. As the pipe holding means and wedge means are lowered into place within the support means, a portion of the attachment means engages the small shoulder or groove on the interior of the support means releasing the cage and the slips therein for moving upwardly and the slips outwardly relative to the mandrel causing the slips to engage the support means for anchoring the pipe holding means thereto.

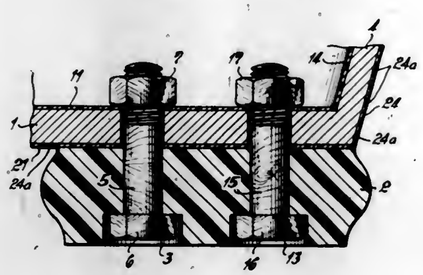
3,367,003
PROCESS FOR REMOVING FUZZ FROM POLYESTER FABRICS
Paul T. Scott, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 20, 1966, Ser. No. 521,829
7 Claims. (Cl. 26—3)



In the finishing of textile fabrics woven from staple spun yarns containing polyester fibers, the process of singeing the fabric to remove hairs with resultant formation of polyester melt balls, subsequently treating the singed fabric with a polyester dissolving acidic solvent at

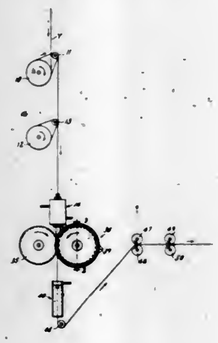
20°–30° C. to selectively dissolve the melt balls with negligible effect on the polyester fibers in the fabric, and washing the fabric to terminate the solvent treatment after dissolving the melt balls and before damaging the fibers.

3,367,004
LAMINATED CONTAINER, ESPECIALLY COFFIN
Erich Schneider, 4 Gruner Weg, 5248 Wissen (Sieg), Germany
Filed July 1, 1964, Ser. No. 379,544
Claims priority, application Germany, Oct. 4, 1963, Sch 33,556
8 Claims. (Cl. 27—3)



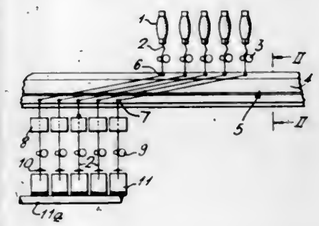
1. A container, especially a coffin, having a bottom wall, side walls, and a top wall, in which each of said walls comprises two spaced layers of moisture resistant synthetic material, and a filling substance of paper material permeated with sodium chloride and arranged between said two layers, at least a portion of at least one of said layers having means adapted to permit the access of moisture to the respective adjacent filling substance.

3,367,005
APPARATUS FOR CRIMPING AND TEXTURIZING YARN
Robert J. Clarkson, Winnsboro, S.C., assignor to Uniroyal, Inc., a corporation of New Jersey
Filed Mar. 31, 1966, Ser. No. 539,215
4 Claims. (Cl. 28—1)



1. In a yarn texturing apparatus in which yarn is textured by propelling the same with a fluid medium into a nip formed by two rolls, the improvement which comprises a first roll having axially spaced flanges adapted to receive a second roll therebetween when said first and second rolls are in nip relation, at least one of said flanges having a manifold groove at its axially inner face positioned to be in substantially free communication with the space into which the yarn is propelled, said flange also having a plurality of vent holes opening into said manifold groove, and a screen covering said groove at said axially inner face, whereby the fluid medium, at least in part, may pass through said screen into said manifold groove and be vented through said holes.

3,367,006
HEATING APPARATUS
Denis Albert Edward Mattingly, London, England, assignor to The Klinger Manufacturing Company Limited, London, England, a British company
Filed Mar. 17, 1965, Ser. No. 440,376
Claims priority, application Great Britain, May 27, 1964, 21,932/64
12 Claims. (Cl. 28—52)



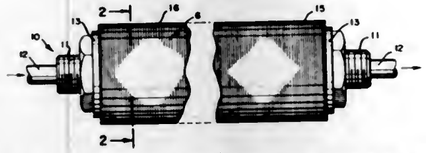
The length of travelling yarn contacts a heating member that is in the form of a closed loop. Liquid is heated in the loop by internal means and a turbulent circulating liquid flow at high velocities is created. The apparatus provides for false twisting a plurality of synthetic yarns. Temperature control means may also be included.

3,367,007
CUTTING TOOL HOLDER
Karl Ziegler, Balwyn, Victoria, Australia, assignor to Zenford Proprietary Limited, Preston, Victoria, Australia
Filed Nov. 22, 1965, Ser. No. 508,995
Claims priority, application Great Britain, May 27, 1964, 52,319/64
5 Claims. (Cl. 29—105)



A cutting tool holder having a recess formed in the outer cylindrical surface thereof and a pair of slots formed therethrough, one of said slots terminating at said recess, and a jaw member disposed between the slots and defining together with a corresponding opposed surface of said recess a pair of clamping surfaces for the tool. Means are provided for adjusting the position of the jaw member relative to the body member and a fulcrum member projects into the other of said slots so as to engage the adjacent side surface of the jaw member to move same into clamping engagement with the tool upon actuation of the adjusting means.

3,367,008
FILLED CALENDER ROLL
William H. Hoge, Flemington, N.J., assignor to Riegel Paper Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 13, 1966, Ser. No. 542,381
8 Claims. (Cl. 29—125)



1. In a calender roll of the type comprising a supporting core element and a plurality of paper disks supported thereupon under compression by a pair of axial elements, the improvement wherein a film of metal condensed from its vapor state is applied to said paper disks on at least one of the sides thereof.

3,367,009
METHOD OF FORMING AN ELONGATED CHANNEL MEMBER
Gerald J. Kuchera, Birmingham, Mich., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Sept. 7, 1965, Ser. No. 485,520
3 Claims. (Cl. 29—155)



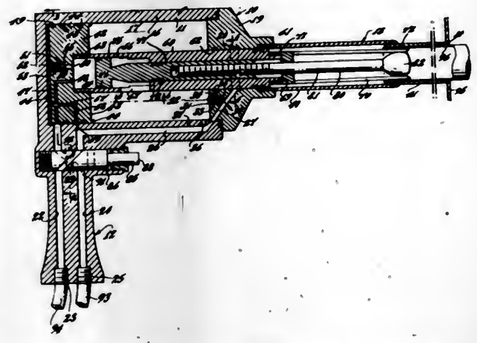
An elongated channel member having a straight top edge and flange and a bottom contoured edge and flange is formed from a rectangular metal blank in the following method. The metal blank has the two ends and an intermediate portion. The two ends of the metal blank are edge bent without offsetting of the blank from its flatwise plane in accordance with the contoured edge of the web of the completed channel member and also the desired depth of the respective flanges. After edge bending of the opposite ends the opposed edge portions are bent to form the channel with the bend adjacent the convex formed edge of the blank bent on a substantially straight line to define the flat top edge and flange and the opposite edge portion being bent to provide the contoured bottom edge and flange.

3,367,010
JIG FOR ASSEMBLING ROOF TRUSSES
Robert J. Lytle, Birmingham, and Robert T. Girvin, Southfield, Mich., assignors to The Panel-Clip Company, Farmington, Mich., a corporation of Michigan
Filed Sept. 27, 1965, Ser. No. 490,610
6 Claims. (Cl. 29—200)



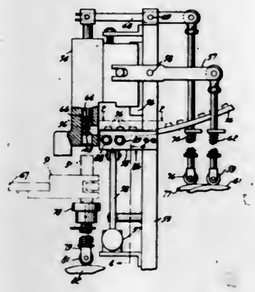
A jig for positioning and holding truss members during assembly of a roof truss comprising a series of rails mounted on a support table and on which the truss members are placed, some of the rails being adjustable relative to others and carrying adjustable stops and cam means to locate the truss members in a desired pattern and clamp the truss members together prior to the application of gusset plates to permanently join the truss members. A removable table section, also carrying a series of rails, permits expansion of the jig to accommodate larger trusses.

3,367,011
TUBE-PULLING DEVICE
Dean S. Sipher, Pitman, N.J. (P.O. Box 696, Forked River, N.J. 08731)
Filed Mar. 7, 1966, Ser. No. 532,341
6 Claims. (Cl. 29—202)



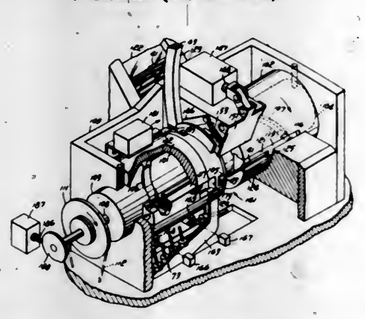
1. A tube-pulling device comprising an outer cylinder having an opening at its forward end, the rear end of said outer cylinder being closed, abutment means fixed to said outer cylinder extending forwardly from said forward cylinder end, an outer piston reciprocable in said outer cylinder, an inner cylinder having its rear end fixed to said outer piston and having its forward end extending slidably through said forward end opening of said outer cylinder, said inner cylinder having an opening through its forward end, jaw means carried by said inner cylinder at said forward end thereof for extension and retraction relative to said abutment means, an inner piston reciprocable in said inner cylinder, a jaw operator extending from said inner piston slidably through said forward inner-cylinder opening for spreading and contracting said jaw means upon rearward and forward inner-piston movement, a rear fluid passageway communicating with a rear internal region of said outer cylinder and substantially closed by said outer piston in its rearward position, a transverse fluid passageway through said outer cylinder having one end communicating with the internal rearward region of said inner cylinder and having its other end communicating with said rear fluid passageway when said outer piston is in its rearward position, a first longitudinal fluid passageway extending through said outer piston communicating between the rearward regions of said inner and outer cylinders, a first one-way delay valve in said first longitudinal passageway, a forward fluid passageway communicating with the forward interior region of said inner cylinder when the latter is moved forward with said outer piston, a second longitudinal passageway communicating between said forward passageway and the forward interior region of said outer cylinder, a second one-way delay valve in said second longitudinal passageway, and a selector valve for conducting pressurized fluid to a selected one of said forward and rear fluid passageways, whereby fluid conducted to said rear passageway passes through said transverse passageway into said inner cylinder to initially shift said inner piston forward and then through said first longitudinal passageway to subsequently shift said outer cylinder forward, and fluid conducted to said forward passageway passes into the inner cylinder to shift the inner piston rearward and then through said second longitudinal passageway to shift the outer piston rearward.

3,367,012
ASSEMBLY APPARATUS
Nicholas J. Mandonas, Medford, Mass., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 27, 1965, Ser. No. 490,618
1 Claim. (Cl. 29—203)



An apparatus for assembling a terminal cap and a hollow cylindrical body wherein a cap is advanced to a pair of spring-biased fingers which hold the cap above a cylindrical body fed to a position below the cap and a tube moves downwardly to release the cap from the fingers and press it into an interior shoulder near the top of the cylindrical body.

3,367,013
ASSEMBLY APPARATUS
Nicholas J. Mandonas, Medford, and Edward T. Stocker, Groveland, Mass., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 27, 1965, Ser. No. 490,619
7 Claims. (Cl. 29—203)

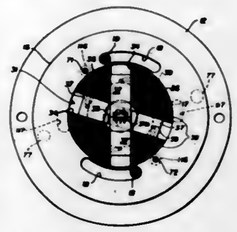


Apparatus for assembling parts of a coaxial connector, wherein an insulating disc is mounted in a prescribed longitudinal position on an elongated contact after which the subassembly so formed is inserted within a hollow cylindrical body with the contact oriented to a predetermined rotary position with respect to the hollow body.

3,367,014
DEVICE FOR LOADING ELECTRONIC PACKAGES ON PLUGS
Claus P. J. Suverkropp, Sunnyvale, Calif., assignor to Signetics Corporation, Sunnyvale, Calif., a corporation of California
Filed Oct. 23, 1965, Ser. No. 503,045
17 Claims. (Cl. 29—206)

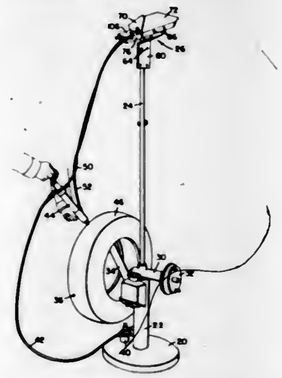
Device for loading electronic packages on plugs for later removal having means for spacing the leads on the electronic packages before they are placed on the plug.

This invention relates to a device for loading electronic packages on plugs and more particularly to a device for



loading electronic packages such as the TO–5 package on plugs.

3,367,015
STUD FEEDING MECHANISM
William G. Brosene, Jr., Wyoming, Ohio, assignor, by mesne assignments, to Studebaker Corporation, a corporation of Michigan
Filed Oct. 22, 1965, Ser. No. 500,899
4 Claims. (Cl. 29—212)



Stud feeding mechanism for a stud applicator gun including a hopper for studs, means for automatically aligning studs in the hopper, guide means for receiving aligned studs from the hopper, and means for feeding studs from the guide means into a flexible conduit in end-to-end contacting relationship. The flexible conduit is disposed at one end adjacent to the hopper for receiving studs and at the other end the conduit is connected to a stud receiving portion of the stud applicator gun. The stud applicator gun includes a double-acting, air-operated piston and air from the stud applicator gun is used for moving the studs from the hopper into the flexible conduit.

3,367,016
VANE PUMP ASSEMBLY TOOL
Michael A. Sainz, 245 Lake Drive, San Bruno, Calif. 94066
Filed May 16, 1966, Ser. No. 550,489
3 Claims. (Cl. 29—270)

1. A vane pump assembly tool for inserting a pump rotor with spring pressed and spaced vane forming members in an eccentric rotor accommodating cylinder, comprising a main cylinder having an extending semi-circular portion with an open quadrant corresponding substantially with the spacing of the vane forming elements of the pump, said quadrant having featured edges at each side thereof, whereby said rotor with the vane members will be held in cylindrical form for insertion into an

eccentric pump cylinder when the tool is in use, and a secondary cylinder, movable in telescoping relation within said main cylinder for holding the vane forming members



of the rotor within the eccentric cylinder of the pump as said main cylinder is withdrawn from the pump assembly.

3,367,017
CORE PLUG REPLACEMENT TOOL
William J. Evdokimoff, 152 13th St., Seal Beach, Calif. 90740
Filed May 13, 1966, Ser. No. 549,846
1 Claim. (Cl. 29—270)



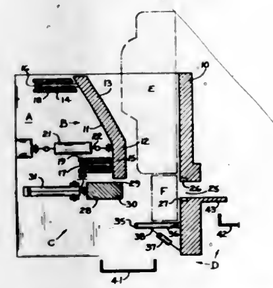
A tool for radially expanding a core hole replacement plug of the type including a convex-concave circular member to seal a core hole in an engine block.

3,367,018
METHOD FOR STRAIGHTENING CAKE DECORATING TUBES
Dean E. Bell, 51 Curtice Road, Irondequoit, N.Y. 14617
Filed Oct. 22, 1965, Ser. No. 501,834
3 Claims. (Cl. 29—401)



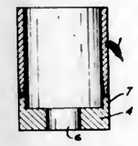
The inwardly bent teeth on the serrated end of a hollow, conical cake decorating tube are straightened by inserting the pointed end of a solid, conical member successively through the larger and smaller ends, respectively, of the tube, and by applying sufficient axial pressure to the base of the solid member to cause its conical surface to force the bent teeth radially outwardly. A second, hollow, conical member, such as a second decorating tube, may be placed over the serrated end of the first tube to force its outwardly bent teeth radially inwardly, when pressure is applied to the base of the solid member.

3,367,019
METHOD AND APPARATUS FOR MAKING SCRAP BUNDLES
Calvin C. Williamson, San Francisco, Calif., assignor to Soule Steel Company, San Francisco, Calif.
Substituted for abandoned application Ser. No. 252,666, Jan. 21, 1963. This application Nov. 17, 1965, Ser. No. 518,501
8 Claims. (Cl. 29—403)



1. Apparatus for crushing large substantially hollow objects into compact scrap pieces of generally uniform cross-section comprising: a mounting structure; a stationary crusher wall supported on said mounting structure; a movable crusher wall slidably mounted on said mounting structure; and hydraulic means mounted on said mounting structure for forcibly moving said movable crusher wall toward said stationary crusher wall with all portions of said movable crusher wall moving through the same distance to crush objects positioned between said crusher walls, one of said crusher walls provided with an outwardly and upwardly tapered portion which tapers in a direction away from the opposite crusher wall.

3,367,020
METHOD OF PREPARING TUBES OF CERTAIN METALS FOR SUBSEQUENT JOINING BY WELDING
Robert D. Watson, Box 86, 9 Cabot Place, Deep River, Ontario, Canada
Filed May 19, 1965, Ser. No. 457,019
4 Claims. (Cl. 29—475)

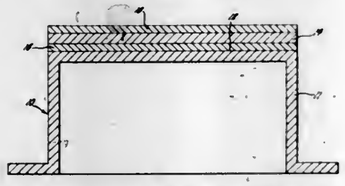


A method of preparing metal tubes of stainless steel, zirconium, or zirconium alloy for subsequent joining by welding wherein a taper having a slightly flat leading edge is formed at the end of the tube, heating the tube in air above 400° C. for a time sufficient to form a thin oxide layer on its surface, pressing the tapered end of the tube into a block of aluminum heated to 500° C. to bond the tube to the block, and cutting away unwanted portions of the aluminum to leave an aluminum end on the tube that can be readily welded to other tubes similarly equipped.

3,367,021
PROCESS FOR WELDING COMPOSITE METAL-OXIDE MATERIALS SUCH AS SINTERED ALUMINUM POWDER (S.A.P.)
Giorgio Beghi, Gavirate, Varese, and Giuseppe Musso, Cadrezzate, Varese, Italy, assignors to European Atomic Energy Community—Euratom, Brussels, Belgium
No Drawing. Filed July 2, 1965, Ser. No. 469,327
Claims priority, application Great Britain, July 31, 1964, 30,352/64
5 Claims. (Cl. 29—472.9)

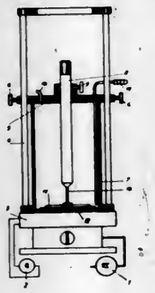
1. A method of fusing a sintered aluminum powder (S.A.P.) member to a second member selected from the group consisting of a cermet, metal and metal alloy; comprising carefully heating said sintered aluminum powder member to a temperature slightly above its melting point and slowly immersing said second member into said fused sintered aluminum powder member and slowly cooling the resultant junction.

3,367,022
METHOD OF FORMING A URANIUM FILM ON TANTALUM
Robert F. Hill, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 20, 1964, Ser. No. 412,685
5 Claims. (Cl. 29—527)



A method of providing a thin fissionable layer of U-235 enriched uranium-nickel alloy on a tantalum base for use in devices such as thermionic converters for nuclear reactors which involves positioning a nickel foil between a tantalum base and a uranium foil, and then heating the composite structure in an inert environment for a time and temperature sufficient for the nickel and uranium foils to melt and form a U-235 enriched nickel-uranium alloy layer which wets and adheres to the tantalum base.

3,367,023
MANUFACTURING OF A POROUS METALLIC ELECTRODE
Robert Petermann, Zurich, Switzerland, assignor to Gesellschaft zur Forderung der Forschung an der Eidgenossischen Technischen Hochschule, Zurich, Switzerland
Filed May 24, 1965, Ser. No. 458,187
Claims priority, application Switzerland, May 26, 1964, 6,930/64
11 Claims. (Cl. 29—527)



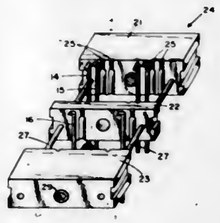
A porous metallic electrode is formed by alloying an electrode-forming metal with a second metal which boils or sublimes at a lower temperature than does the electrode-forming metal, melting the alloy, casting a homogeneous melt from the alloy into a mold having the shape of the desired electrode, solidifying the melt in the mold, and removing the second metal from the cast electrode by evaporation thereof. The melt is cooled in the mold, by cooling one side of the mold, at a rate sufficient to cause segregation of the alloy components into a first continuous network of the high boiling point metal and a second continuous network of the low boiling point metal.

3,367,024
METHOD FOR PRODUCING A SELENIUM RECTIFIER HAVING A HIGH BLOCKING VOLTAGE
Heinz Eggert, Reinhard Schatz, and Ekkehard Schillmann, Berlin, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Aug. 2, 1965, Ser. No. 476,639
Claims priority, application Germany, Aug. 5, 1964, S 92,463
13 Claims. (Cl. 29—585)



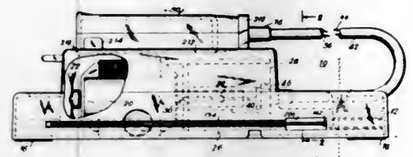
1. A method for producing a selenium rectifier having a high blocking capacity, comprising the steps of
providing a carrier plate with a selenium layer;
adding to said selenium layer a halide in a maximum amount of about 30 m. percent atomic ratio to selenium;
providing an insulation layer around the edge of said selenium layer;
covering said selenium layer and said insulation layer with a cover electrode;
adding thallium to said cover electrode; and
electrically forming said rectifier with direct current.

3,367,025
METHOD FOR FABRICATING AND PLASTIC ENCAPSULATING A SEMICONDUCTOR DEVICE
George A. Doyle, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Continuation of application Ser. No. 337,849, Jan. 15, 1964. This application Nov. 4, 1966, Ser. No. 592,236
8 Claims. (Cl. 29—588)



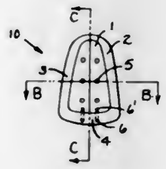
A semiconductor device employing a semiconductor member, metal leads, and wire connections between such member and the respective leads is fabricated, and is encapsulated in plastic by a one-step transfer molding operation with a portion of each of the leads extending from the encapsulated portion.

3,367,026
POWER OPERATED KNIFE WITH RECIPROCATING SLICING BLADE AND ELECTRIC MOTOR LOCATED REMOTELY OF THE BLADE
Sol Levine, 35 Park Ave., New York, N.Y. 10016
Filed July 22, 1965, Ser. No. 474,042
4 Claims. (Cl. 30—272)



A power operated knife in which a motor is secured on a stationary base and has extending therefrom a flexible drive shaft which is joined to a handle. A device in the handle converts the rotary motion of the drive shaft to a reciprocating motion. A pair of slicing blades are detachably connected to the handle and are reversely operated by the converting mechanism.

3,367,027
PORCELAIN TEETH HAVING A NEW HOLDING STRUCTURE AND METHOD FOR MANUFACTURING SAME
Kazuo Kato, 35 RC. Komuinakukusha, 35 Mukodai-machi, Nakano-ku, Tokyo, Japan
Filed Apr. 22, 1965, Ser. No. 449,956
Claims priority, application Japan, Apr. 24, 1964, 39/22,862
15 Claims. (Cl. 32—10)

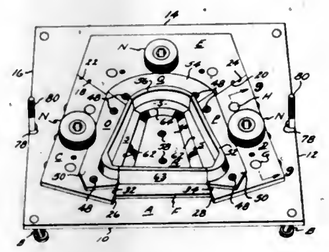


7. An artificial tooth construction comprising:
a rigid nonmetallic body hollowed on the back side thereof;
at least one layer of fused material on at least a portion of said back side;
a plurality of holding bodies attached on said back side by said fused material;
at least one hole through said body between the hollowed portion and the rest of said back side;
whereby the combination of said holding bodies and said holes establish a holding structure in said tooth.

3,367,028
APPARATUS AND METHOD FOR MAKING SET-UPS OF TEETH FOR DENTURES
Harland W. Apfel, 1622 Sunnyside Terrace, San Pedro, Calif. 90732
Filed July 27, 1964, Ser. No. 385,320
6 Claims. (Cl. 32—11)

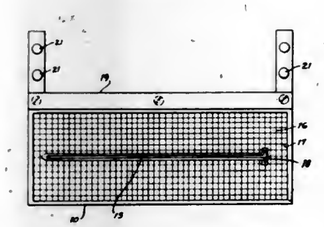
An apparatus and method of using same for forming set-ups of matched artificial teeth in the sequence and spacing they will occupy in a denture after a master set of replicas of said teeth has been prepared that are in said sequence and relative spacing.

An apparatus for making a set-up of teeth for artificial dentures including a stationary plate and a plurality of movable plates mounted on a flat base with a plurality of flanged bodies removably affixed to the plates to define a U-shaped space in which a matrix can be placed.



Impressions of a master set of matched artificial teeth arranged in a predetermined arcuate configuration are formed in the matrix, matched teeth are positioned in the impressions and a low melting point solidifiable material is poured over the upper surfaces of the matrix and of the teeth to form a set-up.

3,367,029
GRADING TOOL DEVICES, ESPECIALLY ADAPTABLE FOR USE IN THE GARMENT INDUSTRY
Bob Nakayama Lee, 1616 78th St., Brooklyn, N.Y. 11236
Filed June 22, 1965, Ser. No. 465,997
2 Claims. (Cl. 33—17)

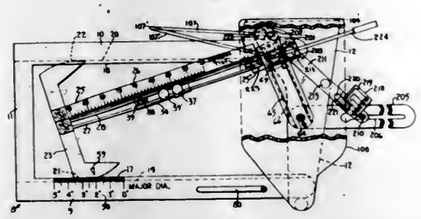


1. A grading tool adapted for use in the garment industry and comprising a scale, the latter being of transparent material, substantially rigid, two sets of perpendicularly disposed parallel lines arranged upon said scale, a longitudinal slit formed therein, and a second slit disposed at one end of the longitudinal slit and perpendicular to the latter, whereby to obtain a base as a starting point in making calculations, bifurcated arms extending from said scale and adapted to receive the material or pattern subject to the calculations, and means disposed in said arms whereby to retain the material or pattern in position during operation.

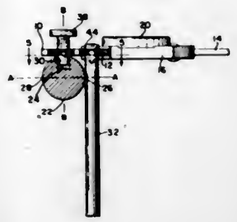
3,367,030
COMPENSATED ELLIPSOGRAPH
Alexander F. Komorowski and Henry A. Komorowski, both of 69 E. 4th St., Bayonne, N.J. 07002
Filed Feb. 17, 1967, Ser. No. 616,937
3 Claims. (Cl. 33—30)

In order to correct the imperfect ellipses made by ellipsographs, such as those described in Patent 3,167,863,

this invention provides a series of linkages connected to the pivoted end of the minor diameter scale arm, and comparing the diametric distances between opposite sides of a shaft or the like and a keyway, bore, etc.



whereby the offset relationship produced thereby corrects the movement of the scale arm carrying the scriber, so that a true ellipse is inscribed.



specified to be centrally located between said sides and to have a prescribed width.

3,367,031
DEVICE FOR ESTABLISHING REFERENCE LEVELS
Hubert L. Ward, 2326 "C" Court, Enid, Okla. 73108
Filed Mar. 4, 1966, Ser. No. 531,727
10 Claims. (Cl. 33—74)



A device for establishing reference levels in construction work and including a rigid, elongated rod having scale indicia thereon and a target slidably mounted on the rod. A tubular member is pivotally connected to the rod near one of its ends, and is provided with threads at its end not connected ot the rod to permit either of two types of grade leveling devices to be detachably connected to the tubular member. Each of these grade leveling devices include threaded bars which threadedly engage the tubular member and extend in axial alignment therewith, and also carry other threads to which two different structures may be secured. One of these is a hollow tube and spacing nuts which space the hollow tube from the tubular member. The other are a pair of rectangular plates, and spacing nuts which space one of these plates from the tubular member.

3,367,032
KEYWAY AND LIKE GAGE
Victor C. Johnson, 1019 Brady St., Davenport, Iowa 52803
Filed Apr. 24, 1967, Ser. No. 633,237
6 Claims. (Cl. 33—143)

A gage or measuring tool, preferably of the vernier caliper type, having specially designed elements fixed respectively to the jaws thereof for use in determining

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3,367,033
PROTECTED RETRACTIBLE FEELER BORE CONCENTRICITY GAUGE
Andrew Eisele, 20460 Brookwood, Dearborn Heights, Mich. 48127
Filed Apr. 20, 1966, Ser. No. 543,937
10 Claims. (Cl. 33—174)



1. The combination with a dial indicator holder including a stationary handle structure having a dial indicator thereon and a rotary handle structure rotatably connected to said stationary handle structure, of

an elongated hollow stem connected in coaxial relationship to said rotary handle structure for rotation thereby and having an external reference surface thereon adapted to fit a concentricity reference bore,

said stem having a longitudinal bore therein coaxial with the axis of rotation of said handle structure and a first transverse bore disposed remote from said handle structure in communication with said logitudinal bore,

a transversely-reciprocable measuring member reciprocably mounted in said first transverse bore and having a workpiece bore-contacting feeler portion operatively connected thereto,

motion-transmitting mechanism extending from said measuring member through said stem and handle structures to the dial indicator and responsive to the transverse shifting of said measuring member by the engagement of said feeler portion,

and a dial indicator zero-setting gauge having a zero-setting surface thereon of a radius from the axis of said stem equal to the zero position radius on the dial of the dial indicator and movably connected to said stem for travel selectively into and out of engagement with said measuring member feeler portion.

5. The combination with a dial indicator holder including a stationary handle structure having a dial indicator thereon and a rotary handle structure rotatably connected to said stationary handle structure of

an elongated hollow stem connected in coaxial relationship to said rotary handle structure for rotation thereby and having an external reference surface thereon adapted to fit a concentricity reference bore,

said stem having a longitudinal bore therein coaxial with the axis of rotation of said handle structure and a first transverse bore disposed remote from said handle structure in communication with said longitudinal bore,

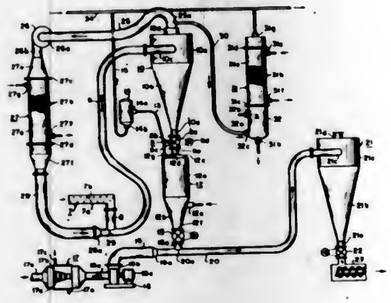
a transversely-reciprocable measuring member reciprocably mounted in said first transverse bore and having a workpiece bore-contacting feeler portion operatively connected thereto,

motion-transmitting mechanism extending from said measuring member through said stem and handle structures to the dial indicator and responsive to the transverse shifting of said measuring member by the engagement of said feeler portion,

said measuring member having a retraction portion thereon inclined relatively to the axis of said stem and said motion-transmitting mechanism including a reciprocable member having a retraction-effecting portion thereon operatively connected to said reciprocable member and engageable with said retraction portion,

and means for selectively moving said reciprocable member in a retraction-effecting direction.

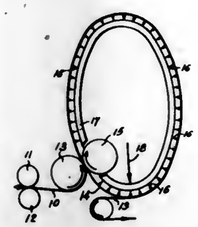
3,367,034
MEAL DESOLVENTIZING AND DEODORIZING SYSTEM AND PROCESS
Robert D. Good, Pittsburgh, Pa., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,813
8 Claims. (Cl. 34—10)



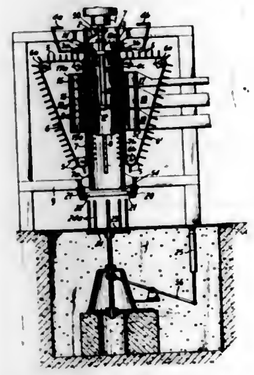
This invention is apparatus and process for continuous separation of solvents from finely-composed or powdery particles such as pulverized meal wherein the material is contacted with super heated continuously recycled solvent vapor, flash separating solvent from said material, then contacting said material with an inert gas, then contacting said material with a flow of cool air.

3,367,035
DRYING ON AIR SUPPORTED BELT
George Herbert Tomlinson, Ile Perrot, Quebec, Canada, assignor to Domtar Limited, Montreal, Quebec, Canada, a Canadian company
Filed May 31, 1966, Ser. No. 553,803
Claims priority, application Great Britain, June 3, 1965, 23,663/65
8 Claims. (Cl. 34—10)

1. A method of drying a web comprising; pressing a wet web against a surface of a traveling belt, adhering said wet web to said surface, passing said belt through at least one loop while supporting said belt on fluid bearings, heating said web to dry same by means of a supporting fluid which supports said belt on said fluid bearings and removing said web from said belt.

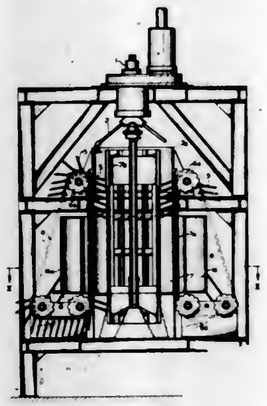


3,367,036
APPARATUS AND METHOD FOR TREATING METAL WIRES
Ludwig Wegmann, Duisburg, and Erich Reth, Duisburg-Buchholz, Germany, assignors to Demag Aktiengesellschaft, Duisburg, Germany
Filed Dec. 7, 1965, Ser. No. 512,105
Claims priority, application Germany, Dec. 14, 1964, D 46,049
17 Claims. (Cl. 34—20)



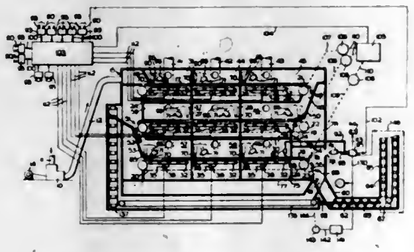
An apparatus for forming and treating metal wires includes means for laying wires downwardly in the form of turns or coils around a central winding shaft in a manner so as to form loose coils which are picked up by spaced conveyor elements and advanced in a separated condition downwardly through the shaft. The conveyor moves the coils through the shaft at a controlled rate as the wire coils are treated with a cooling fluid for the purpose of forming the metal into a desirable constituency. The wire coils are advanced at a rate in accordance with the cross sectional size of the wire and in accordance with the requirements for treating the wire over definite periods of time. The treatment in accordance with the method of the invention takes the form of directing cooling air in the shaft against the coils of wire as the wire coils are being conducted in a separated coil arrangement which permits the air to penetrate over substantially the entire periphery of each coil. After the wire coils are cooled by conducting them through the cooling shaft or treatment shaft, they are collected in coil stacks below the shaft.

3,367,037
METHOD AND APPARATUS FOR FORMING AND TREATING METAL WIRES
Ludwig Wegmann, Duisburg, Erich Reth, Duisburg-Buchholz, and Hans Weber and Karl Rebuschat, Duisburg, Germany, assignors to Demag Aktiengesellschaft, Duisburg, Germany
Filed May 17, 1966, Ser. No. 550,763
Claims priority, application Germany, June 19, 1965, D 47,556
13 Claims. (Cl. 34—21)



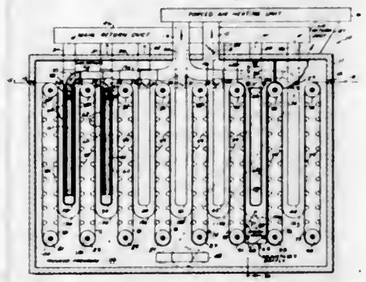
A method and apparatus for forming and treating metal wires is disclosed wherein the wires to be treated are first formed into a coil and individual coils or separated groups of coils are conveyed through a treatment shaft wherein treatment fluid is directed over the wires for the purpose of forming the metallic structure of the wires into a desired structural consistency. Of particular importance in respect to the present inventive disclosure is the directing of the treatment fluid which comprises cooling air in a plurality of individual flow paths which extend tangentially and obliquely upward against the coiled wire. The apparatus includes a rotatable element for forming the wire into successive convolutions or coils which are picked up either one at a time or in groups such that a major portion of the periphery of each coil is exposed for flow of the treatment air thereover so that the formation of the metal surface will become uniform during the cooling process.

3,367,038
METHOD AND APPARATUS FOR MOISTURE DETECTION, MONITORING AND CONTROL IN DRYING MATERIALS
William A. Bishop, Sr., Baton Rouge, La., assignor to Copolymer Rubber and Chemical Corporation, a corporation of Louisiana
Filed Mar. 18, 1965, Ser. No. 440,902
21 Claims. (Cl. 34—31)



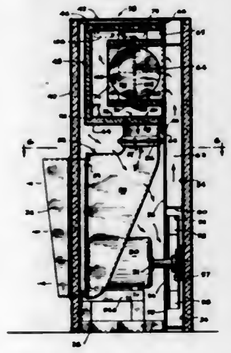
Wet synthetic rubber is dried with a heated gaseous medium using a novel method and improved apparatus wherein the rubber and gaseous medium are contacted, the temperature is measured, and the temperature of the rubber and preferably the temperature differential between the rubber and the gaseous medium contacted therewith is used for detecting, monitoring and controlling the moisture content.

3,367,039
TENSIONING AND REVERSAL OF WEB WITHOUT ROLLERS
Paul W. Jacobsen, Kiel, Wis., assignor to H. G. Weber and Company, Inc., Kiel, Wis., a corporation of Wisconsin
Filed May 19, 1965, Ser. No. 457,038
12 Claims. (Cl. 34—52)



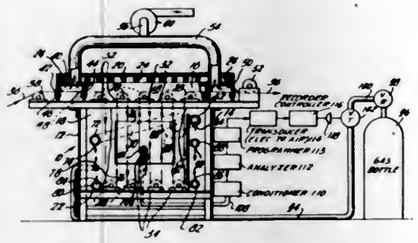
Drying apparatus for webs in which the web passes through a drying chamber in the form of festoons along opposite sides of forced air drying and return elements. The web is trained over and downwardly along parallel spaced endless mesh belts and the drying chamber is maintained at a higher pressure at its top portion than its bottom portion to maintain the web in engagement with the belts by the differential in pressure between the top and bottom of the chamber. The lowering or elevating of the bights or the festoons which may be caused by differences in speeds of the endless belts is compensated for by sensing devices sensing the position of the loop and changing the speeds of the required belts to maintain the bights uniform throughout the drying chamber.

3,367,040
AUTOMOBILE DRIER UNIT WITH MUFFLER MEANS AND SELECTIVELY OPERABLE AIR DIVERTING MEANS
James Vani, Midlothian, Ill., assignor to A. J. Industries, Inc., Los Angeles, Calif., a corporation of West Virginia
Filed June 5, 1964, Ser. No. 372,879
4 Claims. (Cl. 34—54)



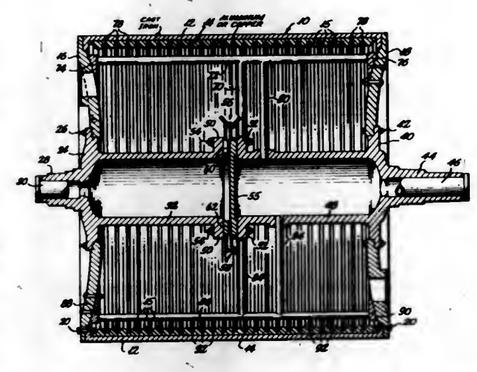
1. Dryer apparatus for installation in an automobile car washing unit to sweep air across each side of a vehicle and across the top of a vehicle moving through said washing unit, said dryer apparatus comprising a first blower unit disposed on one side of the path of movement of the vehicle and adapted to produce a stream of air under pressure through a first outlet in fluid communication with the first blower unit for drying the vehicle, a first side nozzle means in fluid communication with and receiving air from the outlet of said first blower unit to apply air to the first side of the vehicle, a second blower unit disposed on the other side of said path of movement of said vehicle and adapted to produce air under pressure through a second outlet in fluid communication therewith for drying said vehicle, a second side nozzle means in fluid communication with the outlet of said second blower unit and adapted to apply air to the other side of said vehicle, a duct means extending above the path of movement of said vehicle and in fluid communication with the outlet of each blower unit, a top nozzle means in said duct means adapted to receive air from the outlet of each of said first and second blower units to sweep air across the top of a vehicle, means for operating the blower units in unison at times of heavy traffic and for disabling one of the blower units at times of light traffic, and selectively operable control means for diverting air from the operative one of said blower units through the outlet of the opposite blower unit and the corresponding side and top nozzle means associated therewith when said opposite blower unit is disabled for periods of light traffic, said selectively operable control means including damper means for blocking a portion of the outlet leading to communication with the disabled blower unit.

3,367,041
APPARATUS FOR ABRASION RESISTANCE
Walter S. Troope, Latham, and Robert S. Cramer, Troy, N.Y., assignors to Cluett Peabody & Co., Inc., Troy, N.Y., a corporation of New York
Filed Sept. 29, 1966, Ser. No. 583,047
8 Claims. (Cl. 34—54)



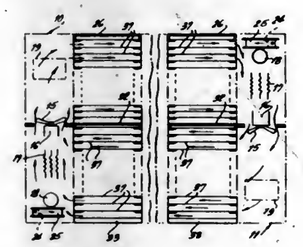
6. Apparatus for the processing of web of fabric including a closed chamber provided with entrance and exit openings for a web of fabric, a plurality of guide means positioned in upper and lower regions within said chamber over which said fabric is progressively guided, means in said chamber for supplying an atmosphere in a direction extending generally upwardly of the entire width of said chamber to come into contact with said fabric, said atmosphere-supplying means including a treating-gas-distributing device extending into said chamber, said gas device having means including a pipe arranged to distribute gas to blend with the remaining constituents of said atmosphere, and means for supplying a fabric-treating gas at a predetermined flow rate to said gas-distributing device, said last-named means including a source of treating gas at a gaseous pressure greater than the gaseous pressure of said atmosphere within said chamber, and means for regulating the rate of flow of gas from said supply to said gas device to establish said predetermined flow rate.

3,367,042
ROTARY HEAT EXCHANGER WITH RIBBED INNER LINER OF HIGHER THERMAL CONDUCTIVITY THAN OUTER SHELL
Julian F. Cox, Jr., Newport News, Va., assignor to Newport News Shipbuilding and Dry Dock Company, Newport News, Va., a corporation of Virginia
Filed Aug. 1, 1966, Ser. No. 569,221
10 Claims. (Cl. 34—124)



A Yankee drier for drying a web of paper comprises a generally cylindrical shell closed at opposite ends thereof and journalled for rotation about its longitudinal axis. Means is provided for introducing steam into the drier and exhausting same therefrom. The shell includes an outer shell portion and a liner disposed inwardly thereof and in contact therewith, the liner being formed of a material having higher thermal conductivity than the outer shell portion. A plurality of spaced radially inwardly extending ribs extend continuously about the inner periphery of the liner in a circumferential direction.

3,367,043
MODULAR CONTROL DRYER
Puzant C. Torigian, Douglaston, N.Y., assignor to Tobaccoless Smokes, Inc., New York, N.Y., a corporation of New York
Filed Apr. 21, 1965, Ser. No. 449,764
7 Claims. (Cl. 34—193)

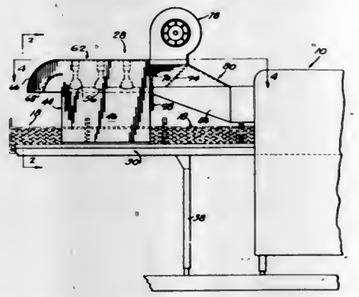


1. Modular equipment for the treatment of fresh vegetable leaves and other moisture-containing materials which comprises a pair of like end units facing each other and a series of intervening vertical stacks of trays disposed between said end units, each such vertical stack being provided with a solid surface top tray and a solid surface bottom tray and at least one solid surface intermediate tray and said end units containing control components capable of providing humidity and temperature regulated air currents circulating through said trays and end units in a closed path.

3,367,044
DISH AND DISH TRAY DRIER AND STERILIZER

Nicholas L. Fitch, Mesa, Ariz., assignor, by direct and mesne assignments, to F & M Enterprises, Inc., Mesa, Ariz., a corporation of Arizona

Filed Jan. 4, 1966, Ser. No. 518,639
3 Claims. (Cl. 34—197)

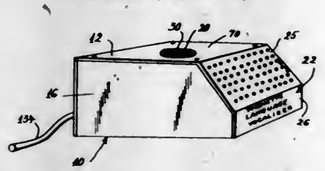


A dish dryer comprising a water stripping chamber followed by a heating chamber followed by a cooling area; and means for splitting an air blast between said stripping chamber and said cooling area.

3,367,045
KEY OPERATED PHONETIC SOUND AND REPRODUCING DEVICE

Joseph R. Mendez, 232 E. 165th St., New York, N.Y. 10456

Filed May 28, 1965, Ser. No. 459,584
7 Claims. (Cl. 35—5)

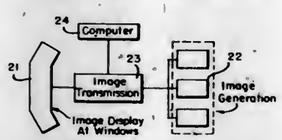


The disclosure describes a key operated phonetic sound reproducing device. The device is housed in a cabinet in which is a plurality of simultaneously rotatable assemblies of magnetic record disks. Magnetic heads are suspended over the disks from the cover of the cabinet. When the cover is removed all the heads are removed and exposed. Each of the disk assemblies can be individually removed and selected disks can be removed and replaced with others.

3,367,046
VISUAL SIMULATOR

Thomas P. Neuberger, Baltimore, Md., assignor to General Precision, Inc., Binghamton, N.Y., a corporation of Delaware

Filed Dec. 22, 1965, Ser. No. 515,582
8 Claims. (Cl. 35—12)

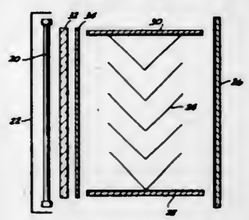


In training devices used to simulate the operation of vehicles, visual effects are often important. This disclosure describes a system for projecting onto a screen placed before a pilot trainee in an aircraft simulator a realistic view of terrain over which his simulated flight takes place. The image comprises a photograph of a three-dimensional model taken immediately ahead of the simulated aircraft, processed and projected onto the screen. A computer receives signals representative of the changes in the condition of the controls as the trainee flies the mission, and performs the necessary computations to develop signals which determine the direction and extent of film and camera displacement to compensate for the changed viewpoint of the trainee.

3,367,047
MOLECULAR FLOW ANALOG

Siegfried Hansen, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed June 21, 1965, Ser. No. 465,602
1 Claim. (Cl. 35—13)

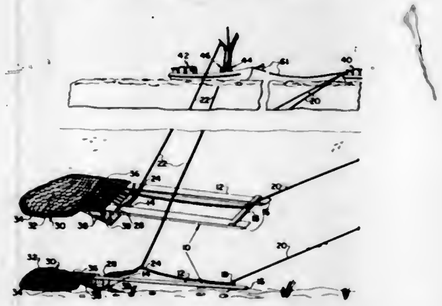


Apparatus which simulates the effects of a structure and its walls on a fluid molecular flow by constructing a model of the structure under investigation, depositing a coating on the walls of the structure, such coating having optical properties which simulate the structure walls of a fluid flow system, then illuminating the structure with light from the side of fluid flow, and then measuring the amount of light passing through the structure by a photo cell.

3,367,048
DREDGE FISHING METHOD AND APPARATUS

Richard E. Doughty, 529 Melrose Ave., Atlantic City, N.J. 08401

Filed Apr. 23, 1965, Ser. No. 450,420
4 Claims. (Cl. 37—55)

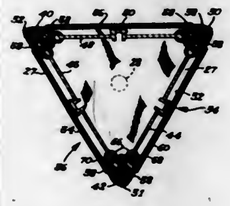


This invention comprises the use of two vessels and two dredges in a novel method of dredge fishing for clams and other shellfish, wherein one vessel tows the other at a suitable distance, as well as pulls the dredges at a corresponding distance for continuous dredging of the sea bed substantially under said other vessel by alternate dredges, the vessels being provided with winches for alternately lifting one dredge at one side of the trailing vessel for unloading it into the hold thereof while lowering the other dredge at the other side of said vessel for dredging the clams from said sea bed, until said vessel is suitably loaded, the vessels then exchanging towing and loading positions for continued dredging operations until both vessels are desirably loaded before returning to port with their cargoes.

3,367,049
SIGN ELEMENT

Clarence L. Noreen, Edina, Minn., assignor to Tri King Division of Stevens-Lee Company, Minneapolis, Minn., a corporation of Minnesota

Filed Nov. 22, 1965, Ser. No. 509,033
4 Claims. (Cl. 40—76)

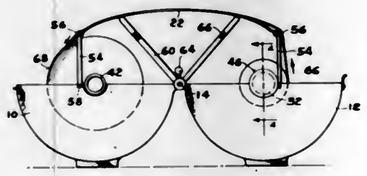


A sign element having a combination of a non-magnetic frame, magnetic strips along the sides of the frame, a magnetizable display panel held to the frame by the magnets, and transparent panel means specially formed to slide over the magnetizable panel.

3,367,050
COMBINED PHOTOGRAPHIC CASSETTE AND VIEWING DEVICE

Irving W. Doyle, Massapequa, N.Y., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware

Filed Oct. 24, 1965, Ser. No. 504,683
4 Claims. (Cl. 40—86)



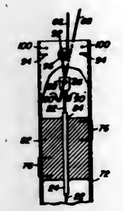
A combination processed-film container and viewing device for allowing processed aerial films or the like to be dropped from aircraft to ground personnel, and promptly viewed by facilities included in the device. A split cylindrical container includes a shaft for rolling processed film, and a second shaft stowed in the device permits rolling and re-rolling of film between the opened container halves and over an illuminated light-table formed of a plastic sheet supported on tilt-up arms of the container halves.

3,367,051
POWER ANIMATED ORNAMENT

John A. Tylle, E. 8th St., Columbus, Nebr. 68601

Filed June 22, 1965, Ser. No. 466,038
4 Claims. (Cl. 40—106.32)

This invention is a power animated ornament, such as may be used on a tree, cake, floral arrangement or the like, which is inexpensive to construct and operate. The ornament has a pair of flapping wings, the power means includes an electrical motor and an electrical power supply thereto, with a Bowden cable for transmitting motion from the motor to the ornament, the ornament body including a power transmission means which connects the

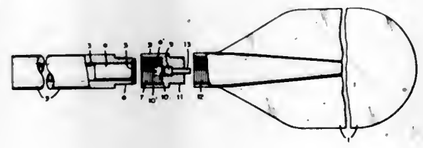


reciprocating cable within the Bowden wire to a pair of cables, one for each wing, to reciprocate such pair of cables and thus flap the wings.

3,367,052
COMBINATION OF PADDLE AND FLARE-GUN

Larry E. Powers, 8401 Latty Ave., Hazelwood, Mo. 63042

Filed Jan. 10, 1967, Ser. No. 608,380
2 Claims. (Cl. 42—1)

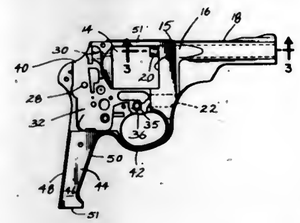


This invention consists of a hollow metal boat paddle which can be dismantled so that it serves as an emergency gun, either to fire flares or shotgun charges.

3,367,053
FIREARM CONSTRUCTION

Karl R. Lewis, 54 Folly Brook Blvd., Wethersfield, Conn. 06109

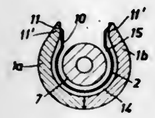
Filed June 2, 1965, Ser. No. 460,689
5 Claims. (Cl. 42—59)



1. In a firearm, the combination comprising a cast one-piece frame member defining a chamber open at one side for receiving the various parts of a firing mechanism, a side plate for enclosing said firing mechanism chamber,

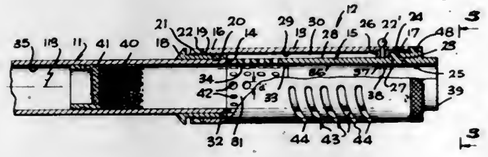
said frame member also defining a generally rectangular opening for receiving a cylinder, said frame member having a forwardly extending shroud portion, and a separate one piece barrel secured in said shroud portion, said shroud portion extending substantially the full length of said barrel, said barrel including at least one annular portion defining a forwardly and a rearwardly facing generally radially extending surface for engaging the material of said shroud portion to secure said barrel against axial movement relative to said shroud portion.

3,367,054
HAND GUARD FOR RIFLES
Theodor Löffler, Mullheim, Paul Seifried, Badenweiler, Günther Wilmsmeyer, Mullheim, and Karl Harbrecht, Eisental, near Buhl, Germany, assignors to Firma Rheinmetall G.m.b.H., Dusseldorf, Germany
Filed Feb. 17, 1966, Ser. No. 528,179
Claims priority, application Germany, Feb. 19, 1965, R 39,944
7 Claims. (Cl. 42—71)



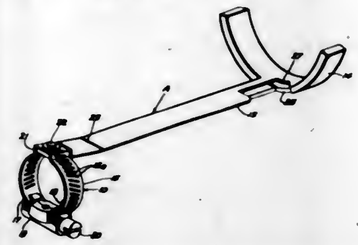
A hand guard for rifles having an outer sleeve of heat-insulating material and an inner metal sleeve of approximately U-shape within the outer sleeve forming an air gap and with both sleeves having side limbs with the side limbs of the inner sleeve pressing resiliently against the side limbs of the outer sleeve at bent top edges.

3,367,055
SHOTGUN MUZZLE DEVICE COMPRISING A COMPENSATOR AND CHOKE
Edward Baden Powell, 250 N. Orange Grove Ave., Pasadena, Calif. 91103
Filed Dec. 27, 1965, Ser. No. 516,632
14 Claims. (Cl. 42—79)



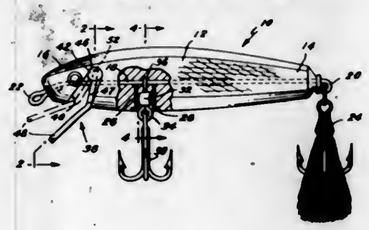
A shotgun muzzle device having an outer tubular cage containing a removable choke tube which is connected to the forward end of the cage and projects rearwardly therein in alignment with the gun barrel, and in spaced relation to the cage to provide a gas discharge space radially between the cage and tube. The choke tube has a rear portion containing apertures of relatively small size through which gases of combustion discharge laterally. Forwardly of these apertures, the tube first tapers to a reduced diameter, and then has a straight cylindrical portion continuing forwardly at that reduced diameter. The gases discharge from the device into the atmosphere more in a downward direction than in an upward direction to produce a net upward reaction against the muzzle end of the gun barrel.

3,367,056
CRADLE SUPPORT EXTENSION FOR SHORT CASTING ROD
Rolly A. Johnson, Box 388, Lucerne, Calif. 95458
Filed Sept. 21, 1965, Ser. No. 488,902
3 Claims. (Cl. 43—25)



An arm support for mounting on the handle of a short type bait casting rod, and of a length equal to a substantial portion of a user's forearm. A clamp on one end of the support arm clamps the support arm co-extensively onto the butt end of such rod so that the support arm extends beyond the butt end of the rod and beneath a user's forearm. A cradle for fitted support against the underside of a user's forearm is provided on the other end of the support arm, leaving the rod free to be raised for casting, but supported for still fishing, thereby relieving the wrist-activating muscles from the strain of supporting the rod.

3,367,057
FISH LURE
Robert B. Pond, South Attleboro, Mass., assignor to Atom Manufacturing Co., Inc., South Attleboro, Mass., a corporation of Massachusetts
Filed July 6, 1965, Ser. No. 469,474
8 Claims. (Cl. 43—42.02)



A fish lure having a central longitudinally extending rod fixed in the body thereof, and to the forward end of which an outwardly extending lip is pivotally mounted, the lip providing for a swimming action of the lure when it is pulled through the water.

3,367,058
ANIMATED FISHING LURE WITH BUOYANCY CHANGING MEANS THEREIN
Anthony C. Dominique, 4749 DeMontluzin St., New Orleans, La. 70122
Filed Aug. 10, 1965, Ser. No. 478,646
7 Claims. (Cl. 43—42.06)

While the over-all tackle is of general significance, the essence of the concept has to do with an animated fishing lure characterized by a hollow cylindrical shell open at the bottom and provided at the top with a diving nose. The hollow portion constitutes a main chamber which functions to collect and trap a column of water. A neck at the top has an attachable cap-like closure the hollow portion of which constituties an auxiliary chamber which is adapted to contain a water-soluble gas-generating

pellet. The pellet generates and discharges pressurized gas through a port from the auxiliary into the main chamber in a manner to expel the water in the main chamber and render the thus gas-charged body buoyant, causing it to float and swim upwardly to and through the water's surface. Self-shifting weight means, a simple ball, is confined in a special cup provided therefor in the lower part of the main chamber and functions to assist in capsizing the lure at the water's surface and then directing the nose downwardly to complete a first cycle of operation.

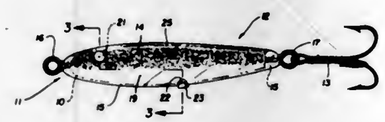


3,367,059
FISH LURE
Richard T. Puls, 1508 W. Ramsey Ave., Milwaukee, Wis. 53221, and Wayne T. Wencka, 2224A N. 63rd St., Wauwatosa, Wis. 53213
Filed June 3, 1965, Ser. No. 460,921
1 Claim. (Cl. 43—42.14)



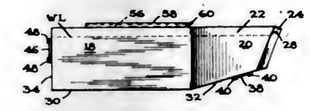
A fish lure having a resiliently flexible wire rod which carries a head member on its front portion and an intermediate member on its rear portion, the intermediate member having propeller vanes and being dynamically unbalanced so that its rotation imparts vibration and lateral deflection to the flexible rod. A second rod, carrying a tail member, is loosely connected to the rear end of the first rod so that the tail member is subjected to wobbling as a result of vibration and deflection imparted to the first rod by the intermediate member.

3,367,060
FISH LURE
Charles G. Abercrombie, Buena Vista Ave., Stinson Beach, Calif. 94970
Filed May 10, 1965, Ser. No. 454,437
6 Claims. (Cl. 43—42.33)



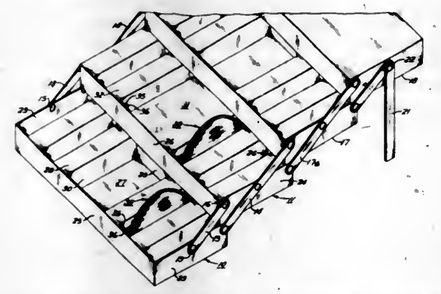
A body or core of metal is shaped to simulate a bait fish in longitudinal and transverse sections. The body is decorated by randomly disposing highly reflective glitter along the upper surface of the body. The body is then encapsulated in a clear strong polyester, fiberglass filled thick plastic casing which is molded about the lure. Screw eyes are mounted on the body for receiving a hook and line.

3,367,061
COMBINED FLOATING TRAILER AND REFRIGERATION DEVICE FOR FISH
Chester J. Brandemihl and Charles Primmer, Bozeman, Mont.; James K. Brandemihl, administrator of the estate of said Chester J. Brandemihl, deceased, assignor to said Charles A. Primmer.
Filed Sept. 13, 1965, Ser. No. 486,696
5 Claims. (Cl. 54—55)



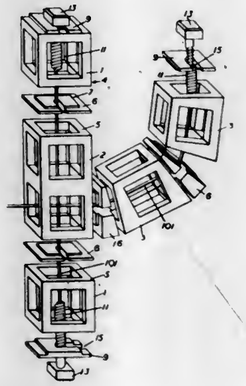
A hollow, imperforate fish trailer and refrigeration device having adjustable valve plates located at different levels on its front and back ends to provide a water control baffle which regulates the water flow through the interior of the trailer and keeps the fish alive. Furthermore, a foamed thermoplastic interior lining imparts added buoyancy to the trailer while serving as an insulation material when the fish are refrigerated.

3,367,062
LURE LADDER FOR A FISHING TACKLE BOX
Theodore D. Glass, 841 Phoenix Ave., Chester, W. Va. 26034
Filed Apr. 7, 1966, Ser. No. 540,933
8 Claims. (Cl. 43—57.5)



1. In a fishing tackle box, the combination comprising at least two trays pivotally interconnected, each tray having side walls and including a separator corrugated with at least one ridge and at least one valley on the top and the bottom thereof, each said ridge and valley extending substantially the length of the side walls, said trays being adapted to be stacked vertically and unstacked with the side walls thereof substantially in alignment when stacked, said valley in the bottom side of one separator of one tray being positioned above said valley in the top side of a second separator of a second tray of said trays and said ridge in the bottom side of said one separator being substantially in alignment with said ridge in the top side of said second separator to form a chamber extending substantially the length of the side walls upon stacking said trays, a lure ladder adapted to receive fish hooks substantially vertically disposed in said valley on the top side of said second separator, means retaining the lure ladder in said valley, the height of said lure ladder being greater than the depth of said valley of said second separator whereby a portion of said ladder extends into the valley on the bottom side of said one separator which forms the upper portion of said chamber upon stacking of said trays.

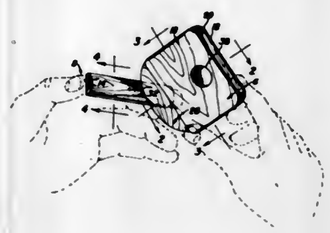
3,367,063
POLYHEDRONAL ELEMENTS HAVING CONNECTOR ELEMENTS EXTENDING THROUGH ADJACENT WALLS
Erik Bondesen, Aalsgaarde, Copenhagen, Denmark, and Frode Hansen, 12 Links Road, Epsom, Surrey, England
Continuation-in-part of application Ser. No. 147,344, Oct. 24, 1961. This application Feb. 24, 1965, Ser. No. 434,859
Claims priority, application Great Britain, Oct. 25, 1960, 36,636/60; Oct. 10, 1963, 40,094/63
5 Claims. (Cl. 46—26)



1. A set of elements for erection into a constructional unit, said set comprising a number of hollow, polyhedronal elements each having an aperture extending through each face thereof and communicating with the hollow interior, the apertures in said faces being such that each face is frame-like having leg-like portions forming the sides of the frame, connecting means including connecting elements between such polyhedronal elements and disposable in contact with and fitting into said frame-like face apertures with portions extending into the hollow interior of the polyhedronal element and gripping round the leg-like portions of the frame-like faces to form an assembly of said polyhedronal elements, said connecting elements being flexible for pushing into the apertures, insert means for maintaining said connecting elements rigid when gripping said leg-like portions, said connecting elements and insert means each having a central passage therethrough, and second connecting means including terminal elements rotatably engageable with the end polyhedronal elements of the assembled unit, and at least one stressing element having a twistable portion passing through the hollow polyhedronal elements and said central passages and being non-rotatably fastened to said terminal elements which are rotatable to twist said twistable portion of the stressing element to maintain all the assembled elements under compression thereby forming a constructional unit.

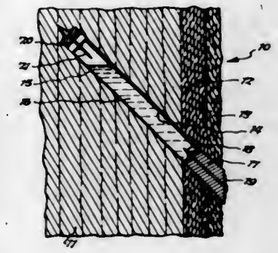
3,367,064
TURKEY CALLER
Buzze E. Anthony and Jay E. Anthony, Punxsutawney, Pa. (both of Austin, Pa. 16720)
Filed Apr. 23, 1965, Ser. No. 450,336
2 Claims. (Cl. 46—189)

The herein disclosed turkey caller is characterized by a hollow wooden box such that it may be held by the fingers of one hand. This box is open at one end and embodies parallel panel-like walls joined marginally by an intervening rim embodying bottom and end walls. The panel-like walls are provided with suitably enlarged sound discharging holes. A thin wooden partition, called a diaphragm, is fitted into the hollow chamber portion of the box and has a projecting marginal edge. A block-like dia-



phragm striker or vibrator is adapted to be held in the other hand and has a convex surface which can be raked across said marginal edge in a manner to vibrate the diaphragm.

3,367,065
TREE TREATMENT METHOD
Du Val Cravens, Buffalo, N.Y., assignor to Osmose Wood Preserving Co. of America, Inc., Buffalo, N.Y.
Filed Aug. 8, 1966, Ser. No. 570,940
8 Claims. (Cl. 47—57.5)

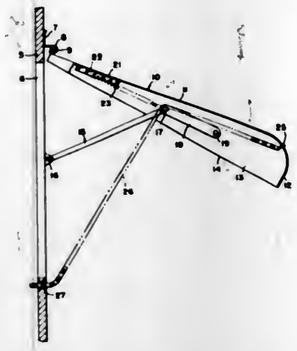


1. The method of applying a fluid to a tree comprising forming a hole in the tree, positioning a container carrying the fluid in the hole so that the container is substantially confined within the tree, closing the exterior end of the hole, and providing an opening through a portion of the container to permit the fluid to pass from the container into the tree.

3,367,066
AWNING SHUTTER
Benjamin H. Slusser, Jr., West Hollywood, Fla., assignor to Hurr-I-Cane Awning Shutter Co., Inc., Hialeah, Fla., a corporation of Florida
Filed Feb. 4, 1966, Ser. No. 525,027
2 Claims. (Cl. 49—71)

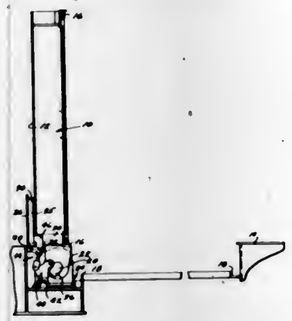
An awning shutter hingedly connected to the wall of a building above a window opening therein. Springs tend to normally bias the awning to an open or extended position. A rod extends transversely of the awning at the inner side thereof, the rod being hung between fulcrum links hinged at one end to the awning and having their other ends attached to the rod. Links pivotally attach the rod to brackets mounted on the wall of the building. A flexible chain passes through an aperture in the wall and can be held against longitudinal movement through the aperture by means of a hook on its end that

is engaged between the links so that when the hook is thus engaged and the chain held against movement, the



awning will be held in lowered or closed position in opposition to its spring bias.

3,367,067
HINGED COVER PLATE FOR HATCH COVER
Franz H. Noll, Bremen-Oberneuland, Germany, assignor to Wiley Manufacturing Company, Port Deposit, Md., a corporation of Delaware
Filed Apr. 14, 1966, Ser. No. 542,540
6 Claims. (Cl. 49—98)

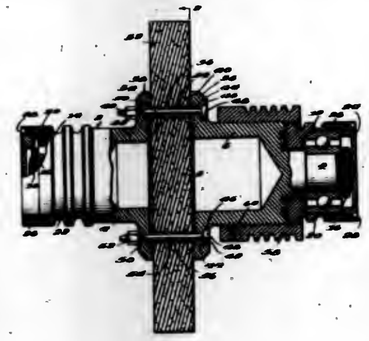


1. In a hatch cover assembly of the type having a hinged cover plate for covering a recess adjacent to the pivotal axis of the hatch cover and wherein said cover plate opens in response to an opening of the hatch cover, the improvement comprising:

closing means carried by said hatch cover and engageable with a portion of said cover plate for positively closing said cover plate upon closing said hatch cover, whereby said cover plate will be positively moved to a closed position without relying solely upon gravity.

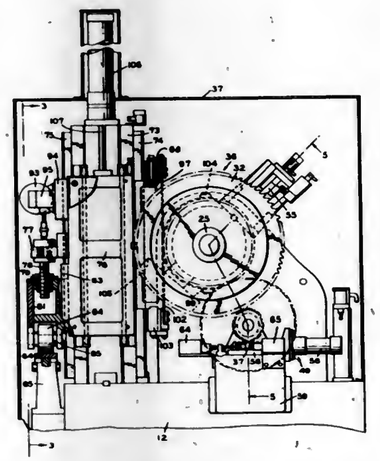
3,367,068
GRINDING WHEEL MOUNTING
Peter C. Dooley, Jr., Lewiston, N.Y., assignor to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware
Filed Mar. 25, 1965, Ser. No. 442,574
3 Claims. (Cl. 51—168)

A grinding wheel mounting spindle having flanges on opposite sides of the wheel. A plurality of studs radially spaced from the wheel axis are fixed at their one ends to one flange and extend through aligned bores of the wheel and the other flange. Nuts on the other ends of the studs are tightened against the other flange. Both flanges have



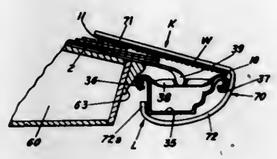
surfaces that are radially disposed beyond the studs and bear directly against the sides of the wheel.

3,367,069
FORM WHEEL GEAR GRINDER
George Mickas, Grosse Pointe Woods, Mich., assignor to Michigan Tool Company, Detroit, Mich., a corporation of Delaware
Filed Jan. 28, 1965, Ser. No. 428,716
4 Claims. (Cl. 51—232)



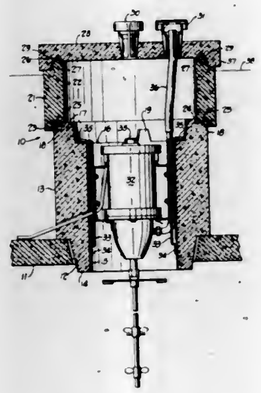
A gear grinder for helical and spur gears including a reciprocating work table with a rotary work spindle having an index plate engaged by a pawl on an arm. The arm is operatively connected to a stationary adjustable cam track by means of a slide and cam follower which moves over the track upon movement of the table thus rotating the workpiece on the spindle to provide a helix on the workpiece. An adjusting screw and reversible motor between the slide and cam follower provide an adjustment of the rotary position of the spindle and workpiece through the slide and pawl. Compensating structure is also provided to relieve the variations in frictional forces on the spindle which might cause unequal grinding on opposite tooth flanks of the gear.

3,367,070
GUTTER GUARD
Wilbur A. E. Mitchell, P.O. Box 1073, Greeley, Colo. 80631
Filed Jan. 14, 1965, Ser. No. 425,404
2 Claims. (Cl. 52—12)



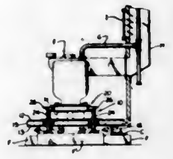
A gutter protector, comprising a normally spring-tensioned reticulated protector strip adapted to be clampingly positioned and held over the cornice edge of a roof and across the adjacent eaves trough thereof, and a single expandable and normally inwardly-compressible spring-tensioned and removable clamping means adapted to extend between and from under substantially the center part of the eave trough onto an upper part of said cornice and over and across said reticulated strip for effecting a holding of said strip over said cornice edge and over the adjacent eave trough of the cornice.

3,367,071
COMPOSITE MOUNTING COLLAR AND COVER FOR SEPTIC TANK AERATOR MECHANISM
David S. MacLaren, 21176 Brantley Road, Shaker Heights, Ohio 44122
Filed Oct. 31, 1966, Ser. No. 590,796
2 Claims. (Cl. 52—21)



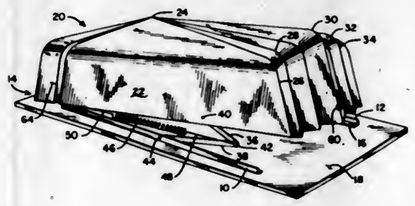
1. A composite mounting collar and cover for septic tank aerator mechanisms, of the unitary type having laterally extending support feet, comprising in combination:
(a) a hollow cylindrical primary collar section, open at both ends, having a dependent sleeve at its lower end adapted to fit in the vent opening of a septic tank roof, and a circular flat seat at its upper end, having a socket in the face thereof;
(b) the primary collar section also having an inner, circular ledge, spaced downwardly of said seat, adapted to be engaged by the laterally extending feet of the unitary aerator mechanism and support same therefrom;
(c) an upstanding lug positioned on said ledge, engageable by one of said unitary aerator mechanism supporting feet, to prevent rotation of said unit relative to the ledge and primary collar section;
(d) a hollow cylindrical secondary collar section, open at both ends, with circular flat seats at the upper and lower ends thereof, the lower seat having a dependent lug and the upper seat having an upstanding lug;
(e) a flat cover having a socket in its lower surface, spaced inwardly of and proximate its peripheral edge;
(f) the secondary collar section being seated on the primary collar section, with its dependent lug fitted in the primary collar section socket; the cover being seated on the secondary collar section with the upstanding lug thereof fitted in the cover socket, whereby relative rotation of the several collar sections and cover is prevented.

3,367,072
VIBRATION ISOLATING MOUNT
Frank C. Walz, Jr., Golden, and Jerry B. Davis, Lakewood, Colo., assignors to Armadillo Manufacturing Co., Denver, Colo., a corporation of Colorado
Filed June 7, 1966, Ser. No. 555,719
8 Claims. (Cl. 52—36)



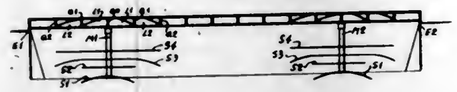
The skid mount of the present invention isolates vibrations of a machine or other vibrating load from a building structure by supporting a machine on legs which extend through openings in the floor of the building and positioning the legs on a foundation externally of the building, and further by isolating vibrations transmitted to the supporting legs from the floor of the building.

3,367,073
RIBBED UNITARY TILTABLE SHELTER
Charles R. Seeger, Fridley, Minn. (324 Ironton St. NE., Minneapolis, Minn. 55432); and Robert J. Wennen, 529 W. County Road E., St. Paul, Minn. 55112
Filed Sept. 7, 1965, Ser. No. 485,267
13 Claims. (Cl. 52—66)



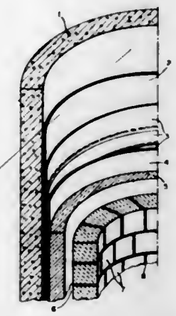
A unitary shelter for vehicles is described. The shelter includes an integrally formed cover portion having rib members extending from a high point outwardly to the front and back yielding an over-all clam-like shape. Apparatus for tilting the shelter to permit vehicles to be moved in place is also shown.

3,367,074
METHOD FOR ERECTING PREFABRICATED BRIDGES OF CONCRETE, AND BRIDGE ERECTED BY SAID METHOD
Francesco Vanich, 67 Via Chiodo, Spezia, Italy
Filed Mar. 17, 1964, Ser. No. 352,502
3 Claims. (Cl. 52—223)



1. A prefabricated concrete bridge comprising:
a bridge supporting structure including transverse beams disposed in pairs;
the transverse beams including substantially flat frame beams and lattice-shaped beams;
at least two longitudinal beams arranged in spaced apart, substantially parallel relation to one another;
the longitudinal beams being securely clamped between the pairs of transverse beams;
tensioning rods operatively related to the longitudinal beams and anchored to the transverse beams; and
prefabricated carriage-way slabs mounted between the longitudinal beams.

3,367,075
CORROSION-PROOF LINER FOR CHIMNEY OUTER WALL
Robert Raymond Pierce, Natrona Heights, and Donald Joseph Kossler, New Kensington, Pa., assignors to Pennsalt Chemical, Corp., Philadelphia, Pa., a corporation of Pennsylvania
Filed June 24, 1966, Ser. No. 560,268
13 Claims. (Cl. 52—249)



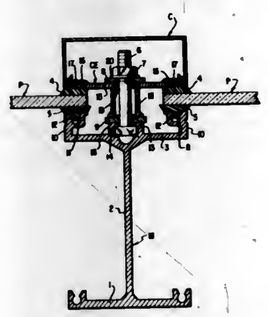
1. In a chimney having an outer wall with an inner and outer surface, an interior wall of brick having an inner and outer surface, the inner surface of said brick wall being designed to carry corrosive flue gases upwards to the atmosphere, the inner surface of said outer wall and the outer surface of said brick wall being separated an insulating distance from each other, the improvement which comprises a corrosion-proof, vapor-impervious chimney liner sealingly applied to the inner surface of said outer wall, said chimney liner essentially consisting of a first layer of mastic material sealingly adhered to said inner surface of said outer wall, at least one sheet-like layer of impervious fluorocarbon plastic membrane material adhered on one surface against the exposed surface of said first layer of mastic, a second layer of mastic sealingly adhered on the opposite surface of the membrane material, said mastic material substantially completely covering said membrane material.

3,367,076
WALL PANEL CONSTRUCTION
Paul S. O'Brien, San Mateo, Calif., assignor to Soule Steel Company, San Francisco, Calif.
Filed Sept. 22, 1965, Ser. No. 489,164
6 Claims. (Cl. 52—394)



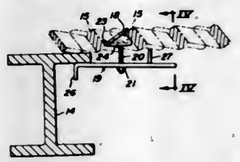
1. A wall structure panel of the type adapted to be nested together in edge to edge relation, said panels being formed of a pair of spaced-apart relatively thin skins, the first vertical edge of each skin having a first inwardly projecting vertical foot mounted along length of the first vertical edge and having the second opposite vertical edge formed with a second inwardly projecting foot positioned substantially inwardly from the second edge and in a parallel, spaced-apart relation with the first edge of each skin being in co-planar alignment with the second edge of the other skin, channel members having a pair of longitudinal grooves along opposite edges thereof receiving oppositely facing said first and second feet to hold said skins in locked, spaced-apart alignment along both edges, the outer face of each channel being disposed in a diagonal, vertical plane extending between the first and second feet to which said channel is attached and solid filler disposed within said panel in the area between the skins and channels.

3,367,077
ENCLOSURE STRUCTURE FOR BUILDINGS
Bobby M. Johnston, Dallas, Tex., assignor to Aluminum Fronts, Inc., Terrell, Tex., a corporation of Texas
Filed Feb. 15, 1966, Ser. No. 527,425
12 Claims. (Cl. 52—464)



An enclosing structure in a building includes inner and outer supporting elements between which panels, e.g. glass, are mounted by resilient heat insulating sealing means. The inner and outer elements are clamped toward one another to apply pressure to the sealing means by bolt and nut clamping pressure applying means of high heat conductivity, the bolt being connected to one of the elements and the nut applying clamping pressure to the other of the elements through a heat insulating means interposed between the nut and the other of the elements. Tightening of the nut exerts clamping pressure through the heat insulating means. One of the said elements is free from contact with the other of the elements and is free from contact with the bolt and nut means. The heat insulating means limits the relative toward-one-another movement of the two elements and so controls the pressure exerted on the sealing means and panel means.

3,367,078
FASTENING DEVICE FOR EXPANDED-METAL SHEETS
Jerrell B. Thompson, Jr., 1205 E. Vassar Ave., Fresno, Calif. 93704
Filed June 9, 1964, Ser. No. 373,783
8 Claims. (Cl. 52—507)



5. The combination, with an expanded metal sheet formed of integrally connected strands and having an exposed surface and a plurality of elongated diamond-shaped openings between strands, said strands sloping from the plane of said exposed surface at each side of said openings; and

a structural member supporting said sheet and engaging the surface thereof opposite said exposed surface;

of a device for fastening said sheet to said member and comprising:

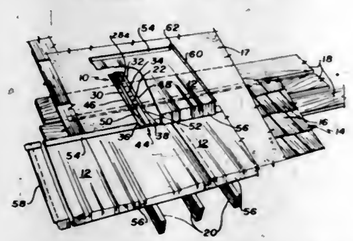
a washer having an elongated flat portion tapering at its ends and fitting at least partially around the edges of one of said openings and resting on the strands at opposite sides of the opening and lying entirely inside the plane of said exposed surface;

a clip having a flat portion engaging said member opposite said sheet and a flange abutting the surface of said sheet opposite said exposed surface;

a bolt carried by said washer and extending at an oblique angle with respect to the flat portion thereof but normal to the planes of the surfaces of said sheet and through said sheet and the flat portion of said clip and normal thereto; and

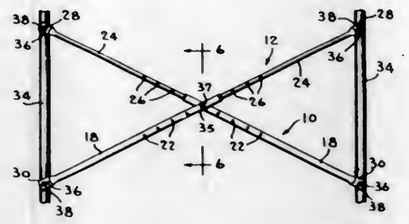
a lock nut threadedly engaged with said bolt.

3,367,079
ANCHORING CLIP ARRANGEMENT
David G. Berg, Oakland, Calif., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Continuation of application Ser. No. 412,079, Nov. 18, 1964. This application June 8, 1967, Ser. No. 644,738
2 Claims. (Cl. 52—520)



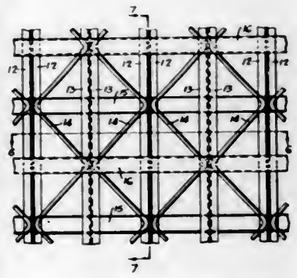
An elongated one-piece clip formed from sheet metal or the like for use in fastening interlocked panel sections to an underlying roofing structure and the like. The body of the clip is generally made in the form of an inverted channel-shaped structure provided with flanged sidewall portions and a series of openings in the web portion, whereby one of the openings of the clip is always in alignment with a support element of the underlying structure in order that the clip can be positively fastened thereto. One end of the clip includes a hooked portion for disposition between and interengagement with the interengaging flanged edges of a pair of interlocked panel sections. The inverted channel-shape of the clip along with the hooked portion thereof when engaged with a pair of panel elements prevents twisting and distortion of the clip.

3,367,080
ADJUSTABLE CROSS BRACE
Robert McClelland, Butler, Wis., assignor, by mesne assignments, to "Automatic" Sprinkler Corporation of America, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 23, 1965, Ser. No. 503,638
2 Claims. (Cl. 52—645)



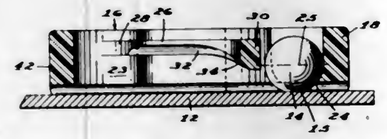
A pair of pivotally connected adjustable cross brace assemblies for use in construction scaffolding, each cross brace assembly including first and second tubular telescopingly engaged members having a plurality of longitudinally and equally spaced openings which extend completely therethrough. A single removable pin member is provided for insertion through aligned openings in the first and second members of each cross brace assembly, said pin member extending first through one assembly and then through the other assembly to pivotally connect the two assemblies together. The effective length of each cross brace assembly can thus be adjusted by simply mounting the pins through different sets of aligned openings in the members.

3,367,081
SPACE DECKS
John G. Feltrin, Montreal, Quebec, Canada, assignor to Dominion Bridge Company Limited, Montreal, Quebec, Canada
Filed June 5, 1964, Ser. No. 372,943
Claims priority, application Canada, Apr. 29, 1964, 901,620
17 Claims. (Cl. 52—648)



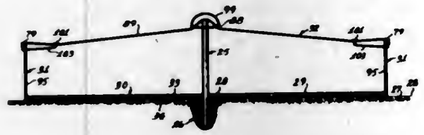
13. A two-way, three-dimensional space deck of the type wherein the upper and lower boundaries define generally parallel upper and lower boundary planes and wherein the structural elements of the space deck which resist forces applied to the deck include joists disposed in non-vertical planes positioned between the said boundary planes, comprising: a plurality of joists of indeterminate length positioned side-by-side wherein each joist abuts its adjacent joists, each joist comprising upper and lower substantially parallel spaced chords and a web bar extending in a longitudinal direction, the web bar located between and interconnecting the said upper and lower chords, the plane of each joist being at an angle to the plane of its adjacent joists, whereby the joists are arranged in a substantially zig-zag manner, when viewed in a plane taken transversely to the said longitudinal direction, the said upper chord of each joist being attached to the upper chord of an abutting joist and the lower chord of each joist being attached to the lower chord of an abutting joist, a plurality of substantially parallel upper and lower tie members located above and below the upper and lower chords, respectively, the said tie members extending in a direction substantially perpendicular to the said longitudinal direction and the said tie members located in the said boundary planes.

3,367,082
ADAPTOR AND MOLDING ASSEMBLY
Engelbert A. Meyer, Union Lake, Mich., assignor to Chicago United Products Company, Inc., Detroit, Mich., a corporation of Michigan
Filed Feb. 3, 1966, Ser. No. 524,731
5 Claims. (Cl. 52—718)



This disclosure relates to an adaptor and assembly, wherein the adaptor has an opening for receiving a button secured to a support, an opposed button seat, and U-shaped tongue portion resiliently joined to the body portion of the adaptor restricting withdrawal of the button from the button seat.

3,367,083
CIRCULAR BUILDING STRUCTURE
Billy L. Woods, 3818 W. Ocotillo 85019, and Richard L. Cook, 4841 W. Elm Drive 85031, both of Phoenix, Ariz.
Filed July 8, 1966, Ser. No. 563,836
5 Claims. (Cl. 52—741)



1. The method of constructing a circular building comprising the steps of:

(A) securing a vertically disposed central located construction post in the ground,

(B) pivotally mounting a radially disposed boom for swinging about the vertical axis of said post.

(C) dumping a slab supporting fill on the ground surface surrounding said post,

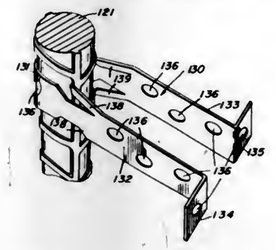
(D) leveling said fill to desired configuration by swinging said boom around said post,

(E) positioning and securing a form ring on the ground surface in accurate concentric position relative to said post,

(F) pouring premixed concrete on said fill in an increasing spiral manner starting at the center adjacent said post and working progressively outwardly to said form ring,

(G) and tamping and troweling said poured concrete by swinging said boom around said post thereby forming a floor slab.

3,367,084
LOAD BEARING REINFORCED CONCRETE STRUCTURE
Frank D. Relland, Chicago, Ill., assignor to Gateway Erectors, Inc., Chicago, Ill., a corporation of Delaware
Filed June 14, 1965, Ser. No. 463,764
4 Claims. (Cl. 52—733)

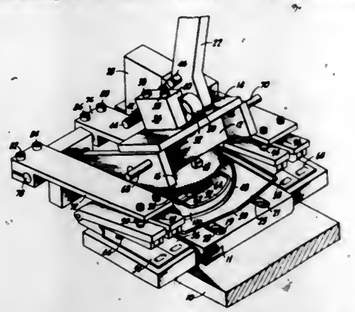


A load-bearing steel-reinforced concrete column, beam, or like structure including a multiplicity of individual stress equalizers for interlocking the mass of concrete with one or more longitudinal steel reinforcing bars. The steel reinforcing bars are of conventional construction having a multiplicity of circumferentially extending ridges. Each of the stress equalizers is formed from strip spring steel and includes a C-shaped mounting portion having an internal diameter approximately equal to the diameter of the steel reinforcing bar upon which the stress equalizer is mounted. Each stress equalizer further includes at least one cantilever extension, also formed of strip spring steel, that projects radially outwardly of the open part of the C-shaped mounting portion, terminating in anchor flanges for interlocking the cantilever extension with the mass of concrete. In the preferred construction, two cantilever extensions are provided and each has a number of apertures for additional interlocking with the concrete mass. The stress equalizer is located on the reinforcing bar and is wedged into a firm encompassing grip on the bar by locking means at the junction of the mounting portion of the cantilever extensions. In the preferred construction, the entire stress equalizer is shaped from a single continuous strip of spring steel and the locking means includes four locking fingers that project inwardly at acute angles from the cantilever extensions into end-abutting engagement with the reinforcing bar to maintain the stress equalizer in fixed angular and longitudinal position on the reinforcing bar.

3,367,085
APPARATUS AND PROCESS FOR CLOSING BAG AND FORMING A HANDLE THEREFOR
Bruce V. Parsons, Burlingame, Calif., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada
Filed Sept. 21, 1965, Ser. No. 488,973
11 Claims. (Cl. 53—14)

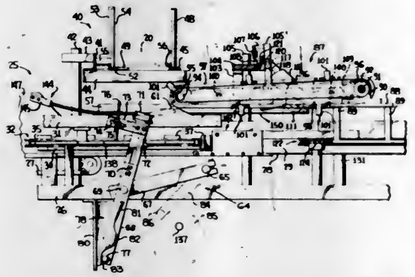
11. A process for closing an open-mouth paper bag containing purchased goods therein and forming a handle therefor so as to reduce pilferage in stores and providing a carrying means for said bag which comprises folding an elongated reinforcing cardboard blank along the lateral center thereof to form two leaves substantially equal in

size, the width of said blank being somewhat less than the width of said bag, overfolding the edge portion of said bag horizontally across its entire width, inserting the overfolded top edge portion of the bag between said leaves, securing said blank to said bag by stapling said



two leaves together with said portion of the bag therebetween, and cutting out simultaneously with stapling a lateral arcuate handslot through central portions of said leaves and said top portion of the bag inserted therebetween.

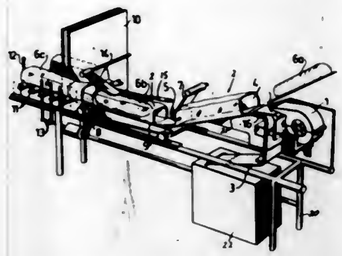
3,367,086
PACKAGE FORMING MACHINE
Robert H. Ganz, 55 McKay Drive, Bergenfield, N.J. 07621
Filed May 28, 1964, Ser. No. 370,854
22 Claims. (Cl. 53—48)



A machine is provided which utilizes a suction gripper to remove a lowermost blank in a stack of blanks disposed within a hopper, the blank being moved rearwardly to a position free of a forward lip of the hopper, the blank then being moved forwardly and being placed between feed rolls, with the aid of a pusher. Specially designed cams provide the desired motion for the blank gripper. The blanks are then placed overtop groups of containers and are folded thereabout, by means mounted on a floating support. Containers being conveyed through the machine, prior to wrapping of blanks around the containers are retained in desired positions free of can chime-up by means of progressive strap-type leaf springs engageable with can ends.

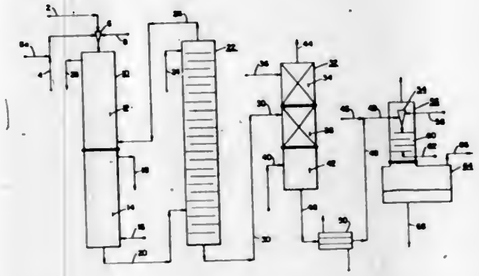
3,367,087
APPARATUS FOR AUTOMATICALLY FILLING AND SEALING TUBULAR PACKING MATERIAL
Harry Sigurd Valdemar Järund, 18 Otto Lindbladsvägen, Lund, Sweden
Filed June 18, 1965, Ser. No. 464,983
Claims priority, application Sweden, June 22, 1964, 7,562/64
10 Claims. (Cl. 53—188)

A packaging conveyor carrying a continuous band which connects pockets having a leading closed end and a trailing open end. A stream of air directed against the open end inflates the pocket for insertion of goods, and the inserted goods actuate the starting switch of the conveyor. When the trailing end reaches a sealing station,



the closed end actuates a switch which stops the conveyor and energies deflectors which move the sealed pocket laterally of the conveyor, thereby tearing it from the next pocket which is laterally secured by guide plates.

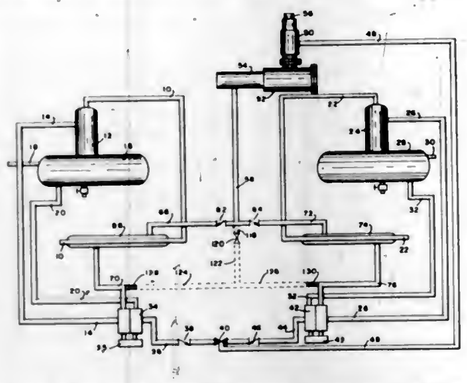
3,367,088
METHOD FOR TREATING A RAW GAS STREAM CONTAINING ACETYLENE AND IMPURITIES
John C. Burns, Jr., Pasadena, Tex., assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware
Filed Dec. 4, 1964, Ser. No. 415,894
7 Claims. (Cl. 55—44)



An acetylene-bearing gas stream containing impurities such as heavy acetylenes is treated during purification with a solvent mixture comprising a major amount of a water-miscible solvent and a minor amount of a water-immiscible solvent. Impurities removed by the solvent mixture can be stripped from same with an inert gas and the solvents thereafter separated for subsequent use.

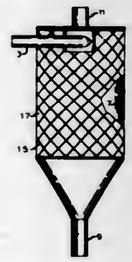
3,367,089
APPARATUS FOR DEHYDRATING A PLURALITY OF GAS STREAMS
Richard L. Scott, Tulsa, Okla., assignor to Forrest L. Murdock, Tulsa, Okla.
Filed Apr. 4, 1966, Ser. No. 539,912
3 Claims. (Cl. 55—208)

The apparatus described by this invention comprise dehydrating a plurality of wet gas streams each having a separate pressure and volume wherein a first wet gas stream flows through a first dehydrating zone where it is contacted by a stream of dry glycol to remove moisture from the gas stream with the stream of glycol leaving the first dehydrating zone as a stream of wet glycol, a second wet gas stream made to flow through a second dehydrating zone where it contacts a second stream of dry glycol and a second stream of dry glycol leaves the second absorbing zone as a second wet stream of glycol, the first and second gas streams continuing out of their dehydrating zones independently and then being combined to form a single wet stream and this combined wet glycol stream being dried in a single distillation zone from which dry glycol may be withdrawn and recycled to the said wet gas



streams in accordance with demand requirements of the wet gas streams. The individual wet gas streams to be treated may originate from separate sources, such as separate producing wells or separate zones within the same producing well, and may enter the treating zones at different pressures and/or with different moisture content.

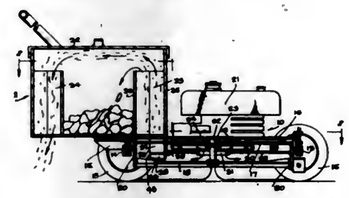
3,367,090
CYCLONIC APPARATUS
George W. Dingus, Pampa, Tex., assignor to Cabot Corporation, Boston, Mass., a corporation of Delaware
Continuation-in-part of application Ser. No. 453,060, May 4, 1965. This application Sept. 6, 1966, Ser. No. 577,500
7 Claims. (Cl. 55—293)



The present invention relates broadly to novel self-purging cyclone apparatus. Broadly, said apparatus comprises a cyclone chamber comprising a multi-perforated outer supporting structure and an elastomeric liner attached to the interior thereof. During operations, said liner flexes thereby maintaining the cyclone apparatus free from accretion of solids therein.

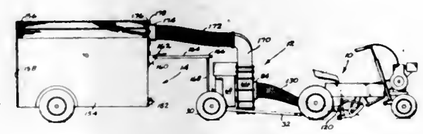
3,367,091
LAWN CARE UNIT
Alfred Weiland, 200 Haven St., Clearwater, Fla. 33516
Filed Mar. 24, 1965, Ser. No. 442,360
8 Claims. (Cl. 56—25.4)

A lawn care unit having a power-driven cutting blade rotatable in a horizontal plane within a housing open toward the ground. The cutting blade is provided at each of its opposite ends with a grass cutting edge and with an upwardly inclined air impeller vane in trailing relation to the cutting edge. The air impeller vanes, upon rotation of the cutting blade, creates a pressurized air stream about the interior of the blade housing by means of which the grass cuttings are forced into a collector by way of an outlet leading from the interior of the blade housing to the collector. The outlet is provided at its entrance end with a shear plate so designed and disposed in relation



to the impeller vanes as to shred the grass cuttings which are impelled by the impeller vanes against the shear plate, which shearing action is auxiliary to the cutting action of the blade cutting edges in that it not only shreds the grass cuttings into small particle size but also breaks up any clogs of packed wet grass which might otherwise be too heavy to be forced by the pressurized air stream toward and into the collector.

3,367,092
POWER MOWER ATTACHMENT
Oscar D. Gifford, 1003 N. Central, Olympia, Wash. 98502
Continuation-in-part of application Ser. No. 324,977, Nov. 20, 1963. This application Jan. 15, 1965, Ser. No. 425,870
2 Claims. (Cl. 56—26)



1. An attachment for a power mower having a rear axle housing extending between transversely spaced rear wheels, a transversely arranged reel type cutter forwardly of said housing, a transversely arranged cutter bar associated with the cutter reel, and a transversely arranged upper frame member spaced above the cutter bar, the attachment comprising

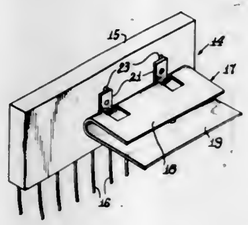
(a) collecting funnel means comprising a flat funnel open at both ends arranged horizontally and having a leading open end substantially the width of the cutter reel and a rearward open end of restricted cross section adapted for connection to a source of suction,

(b) mounting means for pivotally mounting the funnel means with its leading open end adjacent the space between the cutter bar and upper frame member and extending rearward therefrom under the rear axle housing between the rear wheels,

(c) and flexible air sealing means extending transversely between the upper frame member and upper surface of the funnel means and between the cutter bar and lower surface of the funnel means, respectively, for sealing said spaces from access of air, thereby directing the air stream into the funnel means, and

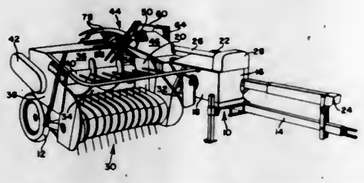
(d) the funnel means being arranged to receive clippings substantially horizontally rearward directly as they are cut by the mower and to entrain them in an air stream moving rearward through the funnel means.

3,367,093
RAKE ATTACHMENT FOR ROTARY MOWERS
Elmer L. Zwickel, 403 W. Fremont St., Elmhurst, Ill. 60126
Filed Dec. 17, 1964, Ser. No. 419,144
3 Claims. (Cl. 56—27)



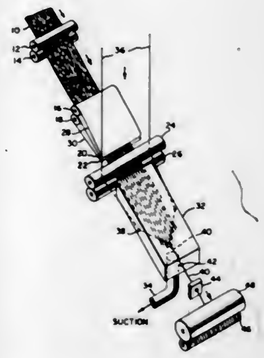
A rake assembly for a rotary lawn mower having a rake element adjustably mounted on a clamp secured to the cutter bar of the mower.

3,367,094
BALER FEED MECHANISM
Lawrence Harwig, P.O. Box 94, Cheyenne Wells, Colo. 80810
Filed July 25, 1966, Ser. No. 567,745
6 Claims. (Cl. 56—364)



1. In a baler having an elongated, generally horizontal bale chamber with an upright side wall formed with a feed opening, a plunger reciprocatable longitudinally within said bale case and movable across said feed opening, a crop-receiving floor extending horizontally and outwardly from the lower edge of the feed opening, a crop pickup means for depositing crops on the floor, and a rotatable conveyor means operatively mounted above said floor for moving the crop material along the floor toward said feed opening, the combination therewith of an improved feeding mechanism operatively associated with the discharge end of said conveyor means for moving the crop material from the conveyor means through the feed opening and comprising: a first crop-engaging finger means movable in a timed relationship with said plunger in a curved, generally upright path, transverse to said plunger movement, and including a working portion, wherein the finger means move downwardly past the discharge end of said conveyor means, transversely, and then through the feed opening to move the crop material into the bale chamber when the plunger is clear of said feed opening, and a return portion, wherein it withdraws from said chamber and returns to the start of its working portion a relatively greater distance above the said floor than during its work, and auxiliary feeder finger means connected at one end to the first feeder finger means and extending laterally therefrom toward the intake end of the conveyor means and downwardly toward the floor and movable therewith in a similar curved path spaced toward the intake end of the conveyor means from the path of the first finger means.

3,367,095
PROCESS AND APPARATUS FOR MAKING WRAPPED YARNS
Frederick C. Field, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 397,139, Sept. 17, 1964. This application June 30, 1967, Ser. No. 650,437
5 Claims. (Cl. 57—5)

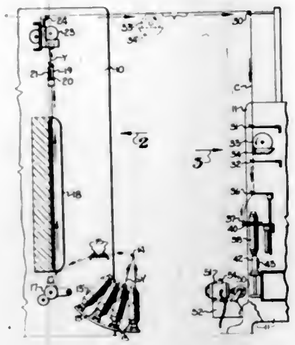


A method and apparatus are disclosed for combining discontinuous fibers and two or more continuous core elements to form a yarn having a surface wrapping of fibers twisted about substantially straight core elements with portions of surface fibers locked into place in the core. A stream of separated discontinuous fibers, supplied by drafting sliver or other source of fibers, is fed into a chamber. The fibers are forwarded through the chamber in a compressible fluid stream so that the individual fibers are supported by the stream. Separate, continuous multifilament core elements are fed into a chamber to converge with each other and the stream-supported fibers and then pass from the chamber through a false twisting device. The core elements are false twisted together to cause twist to back up into the chamber and combine the fibers with the core elements. During travel beyond the false twisting device, the twist is removed from the core elements and the fibers are reverse-twisted about the core elements to form a surface wrapping which holds the core together as a compact bundle.

3,367,096
APPARATUS FOR FALSE-TWISTING AND PLYING YARNS
Marvin H. Comer and Bobby Roy Fain, Burlington, N.C., assignor to Alamance Industries, Inc., Burlington, N.C., a corporation of North Carolina
Filed June 7, 1965, Ser. No. 461,997
3 Claims. (Cl. 57—34)

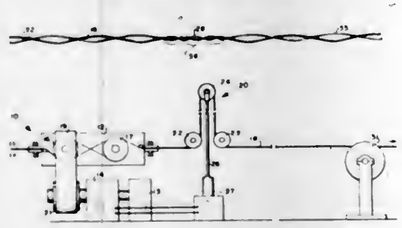
A false-twisting frame is spaced from a yarn plying frame to provide an access aisle therebetween so that a false-twisted torque-free yarn is produced in a single continuous operation. The yarn supply packages are positioned on the false-twisting frame and in a convenient location along one side of the access aisle while the yarn take-up packages are positioned on the plying frame and

in a convenient location along the opposite side of the access aisle. This arrangement provides ready accessibility



to the complete path of travel of the yarn during both the false-twisting and plying operations.

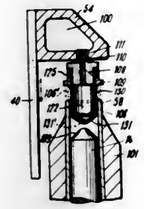
3,367,097
REVERSE TWIST STRANDER, STRANDING METHOD, AND STRAND
George N. Menasoff, Hastings-on-Hudson, N.Y., assignor to Anaconda Wire and Cable Company, a corporation of Delaware
Filed June 16, 1966, Ser. No. 558,113
9 Claims. (Cl. 57—34)



9. Apparatus for applying a reversing twist to an advancing strand comprising:
(A) rotating guide means for said strand,
(B) means for rotating said guide means in a first direction,
(C) means for reversing the rotation of said guide means, said reversing occurring in a short, finite length of time,
(D) means for advancing said strand through said rotating means,
(E) means for accumulating said strand between said rotating means and said advancing means, and
(F) means for reducing the speed of strand passing through said guide means within said finite length of time.

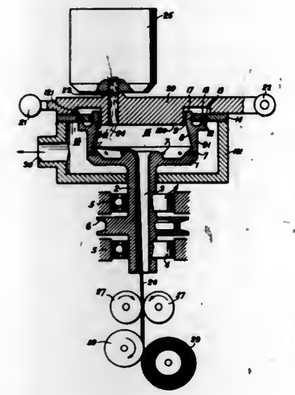
3,367,098
METHOD AND APPARATUS FOR EXCHANGING TUBES ON TEXTILE MACHINES
Günter Schulz, Ebersbach (Fils), Germany, assignor to Firma Zinser Textilmaschinen GmbH., Ebersbach (Fils), Germany
Filed Dec. 17, 1965, Ser. No. 514,574
Claims priority, application Germany, Dec. 19, 1964, Z 11,239
16 Claims. (Cl. 57—52)

A gripping device for the acquisition and release of bobbin tubes mounted on spindles of a textile machine, such as spinning or twisting machines having at least one expandable bag-like pressure element supported by means capable of effecting insertion thereof into an end of said



bobbin tube mounted on a spindle and supply means for selectively supplying pressure fluid to said element for effecting expansion thereof to grip said bobbin tube.

3,367,099
SEALING ARRANGEMENT FOR A SPINNING APPARATUS
Miloslav Kubový, Dolní Dorbouc and Josef Starý and Erik Jirásek, Usti nad Orlici, Czechoslovakia, assignors to Vyzkumny Ustav Bavlnarsky, Usti nad Orlici, Czechoslovakia
Filed Jan. 9, 1967, Ser. No. 608,120
Claims priority, application Czechoslovakia, Mar. 5, 1966, 1,488/66
10 Claims. (Cl. 57—58.89)

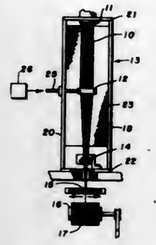


A labyrinth sealing arrangement between the rotating spinning chamber and the casing surrounding the spinning chamber in a fingless spinning machine.

3,367,100
MULTIFILAMENT YARN HAVING INDIVIDUALLY TWISTED FILAMENTS
George B. Hughey, Raleigh, N.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed June 23, 1965, Ser. No. 466,237
3 Claims. (Cl. 57—140)

A threadline composed of a plurality of synthetic thermoplastic polymeric filaments exhibiting low molecular orientation is provided. The filaments have a polygonal cross-section and are characterized by each filament having a permanent individual twist along its length. The twist of some of the filaments takes a direction of their lengths opposite to that taken by the other filaments. Preferably, about 20–80% of the filaments assume a Z direction twist along their entire lengths and the other 80–20% of the filaments assume an S direction twist along their entire lengths. A preferred polymer is nylon

particularly nylon-66 which shows a low degree of molecular orientation as indicated by a birefringence of about

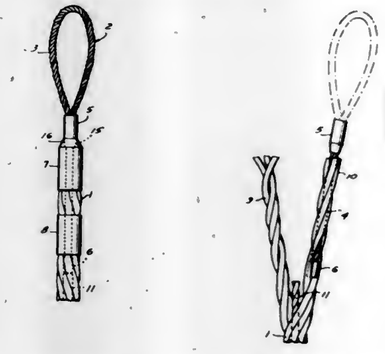


0.000–0.040. After the twist has been set in the filament the threadline will ordinarily be drawn to increase the molecular orientation as desired.

3,367,101
CRIMPED ROVING OR SLIVER
Harold Garner, Kingston, Ontario, Canada, Abraham J. Rosenstein, New Marlboro, Mass., and Nathan Rosenstein, West Hartford, Conn., assignors to Spunize Co. of America, Inc., Unionville, Conn., a corporation of Connecticut
No Drawing. Original application May 22, 1959, Ser. No. 814,953, now Patent No. 3,255,580, dated June 14, 1966. Divided and this application Oct. 22, 1965, Ser. No. 508,884
5 Claims. (Cl. 57—140)

1. A crimped roving or silver comprising a blend of (1) heat-seat crimped staple fibers of a synthetic heat-setting resin, said crimps being set angularly to about 180° of the longitudinal axis of the fibers, with (2) other staple fibers selected from the groups consisting of uncrimped fibers and fibers which have been crimped to a crimp angle less than 180°, said blend characterized by the fact that the latent crimp recovery of said 180° crimped staple fibers causes bulking of said staple fibers which have been crimped to a crimped angle less than 180° when the blend is heated.

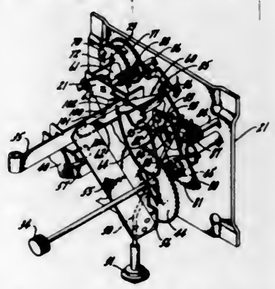
3,367,102
WIRE ROPE AND METHOD OF MAKING SAME
Alfred F. Meger, Yardley, Pa., assignor to CF&I Steel Corporation, a corporation of Colorado
Filed Jan. 11, 1966, Ser. No. 519,862
8 Claims. (Cl. 57—142)



3. In combination, a becket loop having a tail portion with an enlargement at the inner end thereof, and a wire rope the core of which extends to a point short of the end portion of the rope, the becket tail portion being disposed at the center of the wire rope end portion in line with the core, at least one sleeve member surrounding the wire rope and the becket tail portion, said tail portion having an enlargement located between the inner end of the sleeve member and the core end, and the sleeve member having approximately the same diameter as the wire rope.

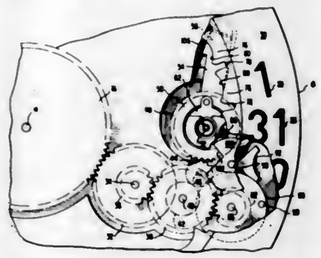
7. In combination, a wire rope having a becket loop projecting from its end, the connecting portion of said loop with the wire rope extending axially into the wire rope, centrally of the strands thereof, and a sleeve member surrounding the end portion of the wire rope, said sleeve member being compressed to approximately the same diameter as the wire rope thereby causing said connecting portion beneath the sleeve to be brought into close association with the strands of the rope so as to transfer the pull of the becket loop evenly to the rope strands.

3,367,103
ALARM CLOCK HAVING A TOUCH TYPE DELAY FEATURE
Lee C. Bowden, Bowling Green, Ky., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed Nov. 10, 1966, Ser. No. 593,497
2 Claims. (Cl. 58—21.155)



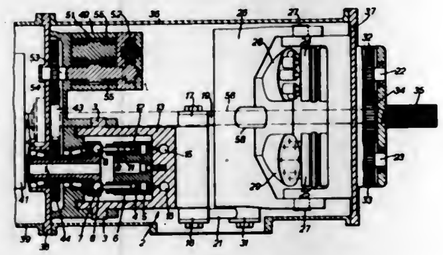
An electric alarm clock having provision for giving the sleeper additional time, referred to as "drowse," simply by touching the clock housing to actuate an alarm delay plunger at the base of the housing, and with final shut-off of the alarm effected by manipulation of a plunger at the back of the clock.

3,367,104
WATCH CALENDAR DRIVE MECHANISM
Donald J. Rogers, Lancaster, Pa., assignor to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Mar. 11, 1966, Ser. No. 533,512
10 Claims. (Cl. 58—58)



1. A calendar mechanism for timepieces comprising date indicating means, a spring, means coupled to one end of said spring for continuously winding said spring from the power train of said timepiece, indexing means coupled to the other end of said spring and normally spaced from said date indicating means for periodically indexing said date indicating means to the next date, means normally locking said indexing means against movement whereby energy is stored in said spring, and means operated in synchronism with said power train for periodically releasing said indexing means whereby said spring acts through said indexing means to advance said date indicating means to the next date.

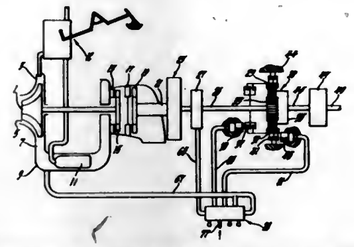
3,367,105
HYDRAULIC APPARATUS
George H. Dowty, Cheltenham, England, assignor to Dowty Technical Developments Limited, Cheltenham, England, a British company
Filed June 3, 1965, Ser. No. 461,207
Claims priority, application Great Britain, June 4, 1964, 23,126/64
4 Claims. (Cl. 60—19)



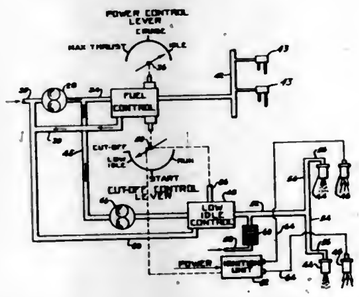
A power transmission unit is disclosed in which there is a hydrostatic transmission comprising a tilting head type hydraulic pump, a drive shaft for the pump, the tilting head of the pump being tiltable relative to the drive shaft about an axis extending transversely to the drive shaft axis, a hydraulic motor, and a motor power output shaft. A casing encloses the hydrostatic transmission and forms a reservoir for the working liquid of the transmission, the motor power output shaft extending through a wall of the casing. In addition, a main shaft extends through the casing substantially parallel to the pump drive shaft, one end of the main shaft being external of the casing to form a power input shaft and the other end of the main shaft being external of the casing to form a further power output shaft. Power is transmitted from the main shaft to the pump drive shaft by means of gears or the like. To produce a highly compact unit, the main shaft is arranged within the casing close to the volume swept out by the tilting head of the pump during its angular tilting movement, a portion of the tilting head of the pump remote from the tilt axis being closest to the main shaft at an angular position of the tilting head which is between its two extreme angular positions.

3,367,106
GAS TURBINE POWER TRAIN AND CONTROLS
Donovan L. Robinson, Plainfield, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 25, 1966, Ser. No. 544,942
14 Claims. (Cl. 60—39.2)

A gas turbine power train having a transmission input two speed splitter unit provided by a planetary gear set conditioned for splitter low ratio by a brake and for splitter high ratio by a clutch. The splitter ratios are automatically selected by a shifter valve biased toward a downshift position by gas turbine compressor discharge pressure and toward an upshift position by Pitot governor pressure driven by the power turbine. The valve is designed with a differential area so that compressor discharge pressure provides a variable hysteresis force appropriate to engine speed so that upshift and downshift points are close to optimum engine operating power levels for all throttle settings.



3,367,107
LOW IDLE FUEL CONTROL SYSTEM
Harry L. Richardson, River Edge, and Ralph J. Sneeden, Woodcliff Lake, N.J., assignors to Curtiss-Wright Corporation, a corporation of Delaware
Filed Oct. 5, 1965, Ser. No. 493,113
3 Claims. (Cl. 60—39.28)

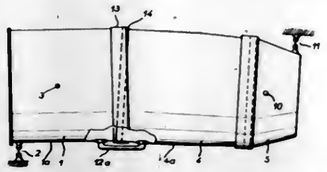


A fuel system having a valve regulating the flow of fuel from a pump to fuel nozzles, which can be of the vaporizing type, in the combustion chamber of a jet engine. The fuel supplied by the fuel nozzles supports the main source of engine combustion. A low idle valve regulates the flow of fuel from the pump to a group of primer nozzles in the combustion chamber. A control lever mechanism operatively coordinates the valves to form a low idle fuel system. This low idle system maintains vaporization temperatures in the combustion chamber during in flight periods when the flow of fuel to the fuel nozzles is cut off. The operation of the fuel system can be adjusted from main combustion to low idle and return to main combustion without being shut down. Combustion at the primer nozzles is insufficient to establish significant engine thrust.

3,367,108
ARTICULATED CONNECTIONS FOR DUCTS
Andre Alphonse Mederic Leon Camboulives, Billancourt, France, assignor to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France
Filed June 8, 1966, Ser. No. 556,114
Claims priority, application France, June 14, 1965, 20,685
7 Claims. (Cl. 60—39.32)

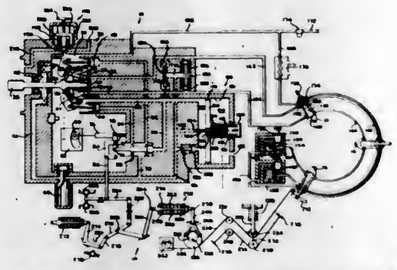
A plural duct arrangement wherein a plurality of duct

sections are joined at their ends by means of a flexible



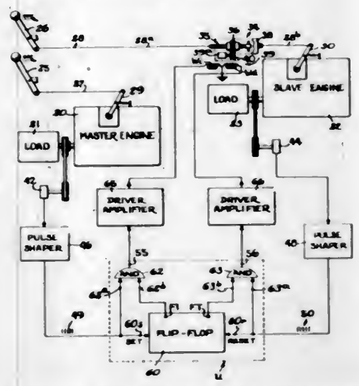
joint which permits articulation of one duct section relative to the next adjacent duct section.

3,367,109
HYDRAULIC POWER-ACTUATOR SYSTEM
Henry Troeger, Cooperstown, John H. Ferguson, Sauquoit, and Frank Woodruff, New Hartford, N.Y., assignors to The Bendix Corporation, a corporation of Delaware
Filed July 29, 1966, Ser. No. 568,946
10 Claims. (Cl. 60—51)



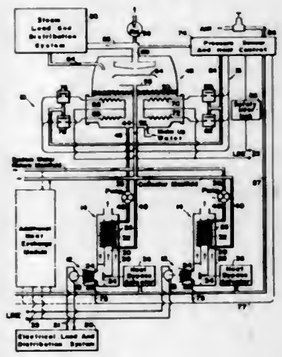
1. An hydraulic power-actuator system comprising:
a housing defining a chember containing control fluid therein;
a variable stroke piston pump means in said housing having first and second fluid transmitting ports;
said pump means having a movable wobble plate tiltable in either of two opposing directions from a neutral no stroke null position, said pump means operative to draw fluid from one of said first and second fluid transmitting ports, and deliver fluid to the other of said first and second fluid transmitting ports depending on the direction said wobble plate is tilted from its null position;
remotely located piston actuator means having a movable actuator piston and first and second fluid chambers on opposed piston sides;
first and second fluid conduits interconnecting said first and second fluid transmitting ports with said first and second fluid chambers respectively;
first and second flow limiting means connected to said first and second fluid chambers respectively to provide a controlled amount of bleed fluid flow from each of said first and second fluid chambers;
return conduit means connected to each of said first and second flow limiting means and the chamber containing control fluid in said housing to return bleed flow to said housing;
accumulator means contained in said housing operative to regulate pressure of control fluid in said housing to a low superatmospheric pressure;
servo valve and piston means connected to said wobble plate for controlling the position thereof in response to an input signal; and,
boost pump means connected to said control fluid chamber in said housing operative to supply pressurized servo control fluid to said servo valve and piston means.

3,367,110
DIGITAL SYNCHRONIZING AND PHASE MATCHING SYSTEM
James L. Leeson, Jr., Rockford, Ill., assignor to Woodward Governor Company, Rockford, Ill., a corporation of Illinois
Filed Feb. 1, 1966, Ser. No. 524,315
17 Claims. (Cl. 60—97)



6. In a system for achieving and maintaining speed synchronism of a master and a slave prime mover, the combination comprising means for creating a first train of pulses substantially proportional in their repetition rate to the speed of the master prime mover, means for creating a second train of pulses substantially proportional in their repetition rate to the speed of the slave prime mover, means coupled to receive said first and second trains of pulses and responsive thereto for producing an output pulse of one character when two pulses of the first train occur without an intervening pulse of the second train and for producing an output pulse of another character when two pulses of the second train occur without an intervening pulse of the first train, and means responsive to said pulses of said one or said other character for respectively increasing or decreasing the speed of said slave prime mover.

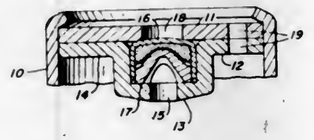
3,367,111
ENERGY RETRIEVAL SYSTEM
John W. Edgemond, Jr., Oakland, and John L. Boyen, Orinda, Calif., assignors, by mesne assignments, to Vapor Corporation, Chicago, Ill., a corporation of Delaware
Filed May 5, 1966, Ser. No. 548,002
14 Claims. (Cl. 60—105)



1. Energy conversion apparatus comprising: closed fluid flow circuitry having a fluid load and distribution system, a receptacle for supplying said system with fluid at

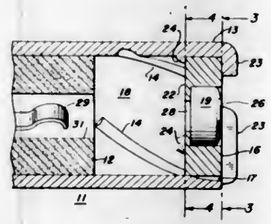
an elevated temperature, and a number of heat transfer units disposed for heating the fluid before it enters the receptacle; a turbine-generator assembly for each heat transfer unit respectively, each assembly having a fluid outlet for the exhaust of heated gases therefrom and an electrical power output; an electrical load and distribution circuit coupled with the power outputs of said assemblies; means defining a fluid passage between the fluid outlet of each assembly and its corresponding heat transfer unit, whereby heated gases from the assembly may be directed into heat exchange relationship with its heat transfer unit to thereby heat the fluid flowing therethrough; and electrical heating means coupled with said electrical circuit and disposed within said receptacle in heat exchange relationship to the fluid therewithin for heating said fluid in response to a predetermined condition of the fluid as it flows to said structure from said receptacle.

3,367,112
MULTIPLE PLATE ROCKET NOZZLE
Robert Mainhardt, Diablo, Calif., assignor to MB Associates, a corporation of California
Filed Oct. 18, 1965, Ser. No. 496,906
5 Claims. (Cl. 60—201)



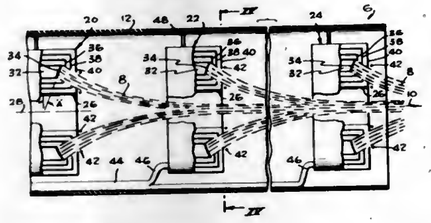
This invention relates to a spin stabilized rocket having a nozzle structure including centrally and circularly apertured plates. One plate includes an integral axially disposed cup arranged to receive an igniter, the central aperture in the abutting plate preventing blow-back of the igniter upon firing. The circularly disposed perforations or ports in the several plates are indexed prior to assembly in the rocket casing to provide spin stabilization of the rocket when the exhaust gases issue through the indexed ports.

3,367,113
INTERNALLY CUT ROCKET NOZZLE
Robert Mainhardt, Diablo, Calif., assignor to MB Associates, a corporation of California
Filed Oct. 18, 1965, Ser. No. 496,907
2 Claims. (Cl. 60—201)



The invention relates to a rocket construction in which the interior wall of the rear end of the casing is provided with longitudinally extending grooves that together with the perimeter of the nozzle are arranged to control the flow of gases to spin stabilize the rocket.

3,367,114
CONSTRUCTION AND METHOD OF ARRANGING A PLURALITY OF ION ENGINES TO FORM A CLUSTER
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Hayden E. Gallagher, Malibu, Calif.
Filed Oct. 8, 1965, Ser. No. 494,280
13 Claims. (Cl. 60—202)



A plurality of ion engines are positioned, one upstream of the other, rather than in side by side relationship. In the disclosed form, a downstream engine is positioned to shield the engine upstream of it. The engines are also constructed so the ion beam from an upstream engine will not impinge on a downstream engine. Such a construction decreases the amount of heat loss by an ion engine to space. This creates a much more efficient cluster. Additionally, when the engines are positioned in a line, with a common longitudinal axis, it is easier to accurately control the total thrust if one engine should become inoperative. This is because, even if an engine should become inoperative, the direction of thrust of the remaining engines would still continue to be along their common longitudinal axis.

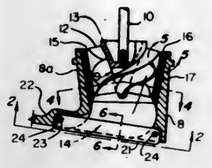
3,367,115
SOLID HYDROCARBON RESIN ROCKET PROPELLANTS AND METHOD OF PROPULSION
Lawrence Spenadel, Elizabeth, and William J. Sparks, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Feb. 8, 1960, Ser. No. 7,488
6 Claims. (Cl. 60—219)

6. A method for developing thrust in a rocket from finely-divided solid propellant components of high-energy value in the combustion chamber of the rocket which comprises, combusting said components composited and held together in a mold grain containing 1 to 10 wt. percent of a hydrocarbon resin binder that gives the grain increased tensile strength, said hydrocarbon resin being made by polymerizing with a Friedel-Crafts catalyst a steam-cracked petroleum fraction boiling in the range of 20° to 280° C. and containing C_5 to C_9 olefins, diolefins and aromatics, said resin having a molecular weight of about 1,000 to 5,000, said finely-divided components including a finely-divided fuel from the group consisting of lithium, aluminum, beryllium, boron, magnesium, hydrazine diborane and hydrazine monoborane, and a compatible oxidizer from the group consisting of ammonium perchlorate, lithium perchlorate, sodium perchlorate, nitrocellulose, hexanitroethane, and sodium nitrate.

3,367,116
INTAKE GRILL FOR WATER JET PUMP
Richard C. Stallman, 1311 Dayton St., Alameda, Calif. 94501
Filed Dec. 13, 1965, Ser. No. 513,183
2 Claims. (Cl. 60—221)

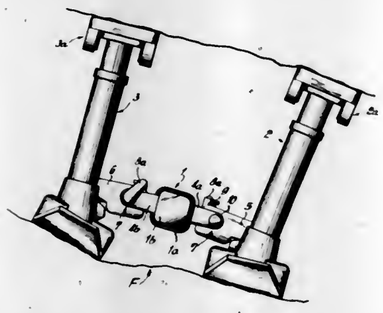
An intake grill for use with a water jet pump of the type adapted for use with a boat motor for driving a

boat through water. The intake grill is adapted to limit the size of rocks and foreign bodies ingested into the jet



pump and including means for allowing any rocks which enter between the grills to be easily dislodged.

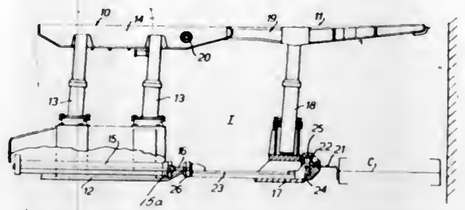
3,367,117
MINE ROOF SUPPORT
Walter Weirich and Willy Watermann, Dortmund, Germany, assignors, by mesne assignments, to Gewerkschaft Eisenhutte Westfalia, Altlunen, Germany, a corporation of Germany
Filed Feb. 2, 1965, Ser. No. 429,779
Claims priority, application Germany, Feb. 4, 1964, H 51,579
6 Claims. (Cl. 61—45)



The invention relates to a support structure for mine roofs which may be advanced progressively through the work area of a mine as excavation takes place. The structure includes opposed pairs of telescopable props between which a horizontally extending power cylinder is positioned. The power cylinder includes telescopable members provided with oppositely extending brackets which, in turn, include arms that cooperate with the telescopable props. By reason of the brackets and arms and the manner in which they are connected to the support structure, the telescopable props may be folded over the power cylinder for transport.

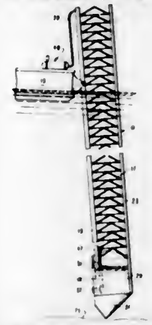
3,367,118
MINE ROOF SUPPORTS
George J. Best and Joseph Gaskell, Wigan, Lancashire, England, assignors to Gullick Limited, Wigan, England, a British company
Filed Nov. 29, 1965, Ser. No. 510,342
Claims priority, application Great Britain, Jan. 6, 1965, 508/65
3 Claims. (Cl. 61—45)

In a self-advancing mine roof support having a pressure-fluid ram for pushing over a conveyor and advancing the support, the piston rod of said ram is provided with an extension bar for connecting it to the face conveyor. The extension bar has a socket at one end in which the outer end of the piston rod is loosely anchored or alternatively the outer end of the piston rod has a socket in which an end of the extension bar is loosely anchored. The socket is formed with a conical passageway into



which the end of the piston rod or the extension bar, as the case may be, passes with a predetermined amount of clearance. The walls of this conical passageway limit the amount by which the piston rod and extension bar can move angularly out of alignment.

3,367,119
FLOTATION DEVICE FOR OFFSHORE PLATFORM ASSEMBLY
Chester A. Rybicki, Houston, Tex., assignor to Signal Oil and Gas Company, Los Angeles, Calif.
Filed Jan. 20, 1966, Ser. No. 528,329
7 Claims. (Cl. 61—46.5)

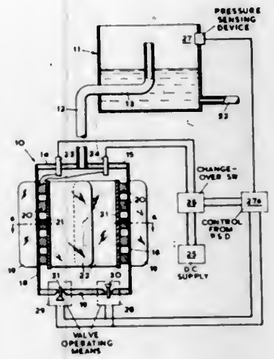


An offshore platform assembly comprises a platform and a plurality of depending legs, means connected to the platform and the legs to adjustably position the legs vertically and laterally relative to the platform, wherein each of the legs comprises a rigid frame structure having a submersible lower portion and wherein at least one of the legs includes a closed chamber disposed in the submersible portion of the frame with means for opening the chamber to allow the entry of water and an adjustable standpipe communicating with the exterior of the chamber and extending to a predetermined level within the chamber whereby the amount of air and water within the chamber may be automatically and adjustably controlled.

3,367,120
ELECTRICAL APPARATUS WITH THERMO-ELECTRIC GAS DRYING
Edward Beaumont Franklin, Stafford, England, assignor to The English Electric Company Limited, London, England, a British company
Filed Nov. 29, 1965, Ser. No. 510,236
Claims priority, application Great Britain, Dec. 11, 1964, 50,494/64
7 Claims. (Cl. 62—3)

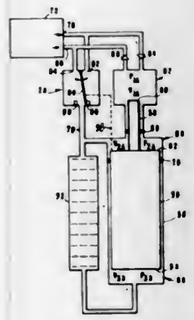
An electrical apparatus such as a transformer including a gas space of which the moisture content is required to be maintained at a low level, the apparatus including

a surface with which the gas in the gas space comes into contact and which is cooled by thermoelectric elements to below the dew-point of the gas so that the gas is dried by the deposition of moisture. Advantageously, the surface is provided by a segmented cooling duct which forms part



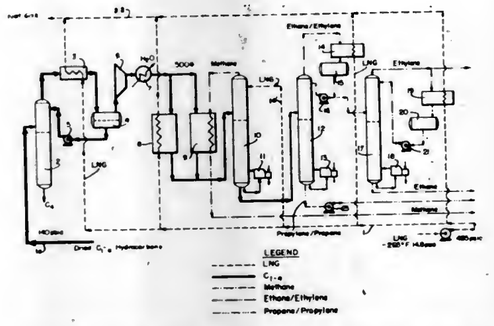
of a closed circuit gas path around which gas in the gas space is convectively circulated so that a progressive drying effect is achieved. A gas passage connected to the closed circuit gas path allows the apparatus to "breathe" by connecting the gas space intermittently to atmosphere.

3,367,121
REFRIGERATION APPARATUS
James E. Webb, administrator of the National Aeronautics and Space Administration, with respect to an invention of Walter H. Higa, Tujunga, Calif.
Filed Aug. 19, 1966, Ser. No. 574,282
9 Claims. (Cl. 62—6)



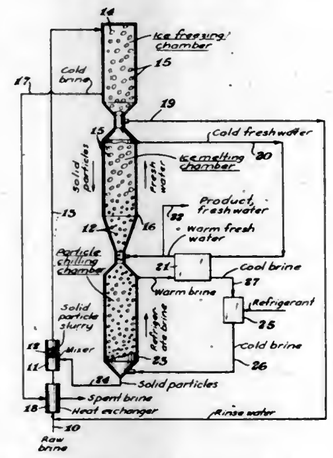
1. In a refrigeration apparatus including a displacer mounted for reciprocal movement between first and second variable volume chambers to alternatively effect compression and expansion thereof;
a piston coupled to said displacer and defining an end surface remote therefrom;
a third chamber;
said piston end surface being disposed within said third chamber; and
means establishing a constant pressure within said third chamber.

3,367,122
REGASIFYING LIQUEFIED NATURAL GAS BY HEAT EXCHANGE WITH FRACTIONATOR OVERHEAD STREAMS
Ralph Charles Tutton, Teddington, Middlesex, England, assignor to Conch International Methane Limited, Nassau, Bahamas, a Bahamian company
Filed Jan. 25, 1965, Ser. No. 427,615
Claims priority, application Great Britain, Mar. 12, 1964, 10,482/64
10 Claims. (Cl. 62—28)



Liquid natural gas is converted to gaseous form for general use, and at the same time separation is achieved of the components of an independent mixture such as cracked naphtha or a refinery gas stream, said mixture comprising C_{1-4} hydrocarbons, by the use of separate fractionating columns, in each of which the necessary cooling is achieved by a separate stream of liquefied natural gas derived from the main stream thereof which has been previously pressurized, the liquefied natural gas being used in the methane separation fractionator as a direct reflux.

3,367,123
PREPARING POTABLE WATER FROM BRINE BY CHILLED PARTICULATE MATERIAL CONTACT
William P. Schambra, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Feb. 3, 1966, Ser. No. 524,946
5 Claims. (Cl. 62—58)

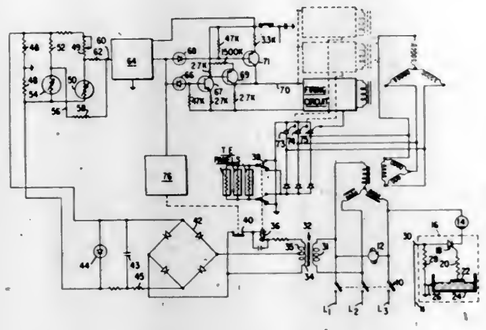


Chilled particulate solid material fractionally freezes thereon the aqueous component of brine solutions, the frost being removed subsequently as potable water by contact with relatively warm fresh water.

3,367,124
THERMOELECTRIC REFRIGERATION CONTROL MEANS

Arnold A. Beck, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Original application Feb. 18, 1965, Ser. No. 433,737. Divided and this application Sept. 27, 1966, Ser. No. 582,426

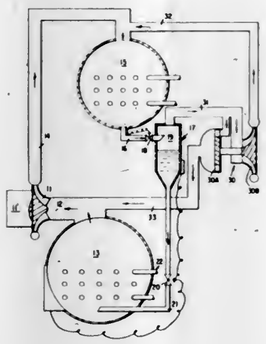
2 Claims. (Cl. 62—93)



2. The method of removing condensate from a trough disposed to receive the condensate from a condensate creating means which comprises the steps of, periodically pumping the condensate from the trough in response to the predetermined accumulation of collected condensate, utilizing the meniscus effect of the condensate as its level is reduced to sustain the pumping action to assure the removal of a predetermined amount of the condensate.

3,367,125
REFRIGERATION SYSTEM

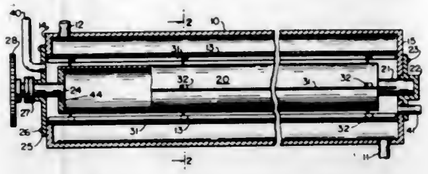
William L. McGrath, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Sept. 2, 1966, Ser. No. 576,899
4 Claims. (Cl. 62—116)



2. A refrigeration system comprising a relatively low pressure evaporator, a relatively high pressure condenser, a refrigerant compressor for lifting refrigerant from an intermediate pressure portion of the system to said condenser and means for driving said compressor by expanding refrigerant gas from an intermediate pressure to evaporator pressure.

3,367,126
FLOATING AGITATOR

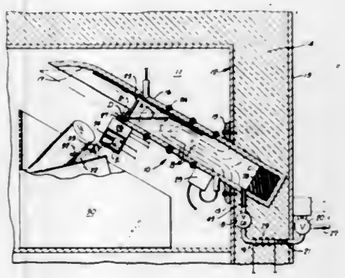
John D. Howell, 140 Red Hill Road, New City, N.Y. 10956
Filed May 19, 1966, Ser. No. 551,252
3 Claims. (Cl. 62—123)



A tubular crystallizer for solutions having an agitator shaft, an agitator means and a mounting means which are substantially the same weight per unit of length as the weight of solution displaced by them.

3,367,127
HYDRAULIC ICEMAKER

Frank M. Walker, Oklahoma City, Okla., assignor to H & W Industries, Inc., Oklahoma City, Okla., a corporation of Oklahoma
Filed Dec. 7, 1965, Ser. No. 518,511
7 Claims. (Cl. 62—137)

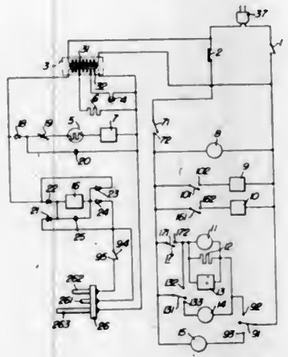


This invention discloses a hydraulic icemaker having a metal tubular shaped vertically oriented mold, open at the upper end and containing water to be frozen into a piston shaped ice body. A transverse groove on the inner periphery of the mold near the upper open end thereof, contains an O-ring of suitable resilient material, fitted to the groove and having the inner periphery thereof extending slightly beyond the inner periphery of the mold surface to form a pressure friction seal between the mold surface and the ice piston surface, respectively, during the ejection of the ice body from the mold by water pressure. Thus, when heat is applied to the outer periphery of the mold to loosen the ice piston from the mold, and water pressure is simultaneously applied to the surface of the ice piston below the O-ring seal, the ice body is forced from the mold and against an oblique surface spaced from the end of the mold to develop hydraulic stress between the ice body and the mouth of the mold to shear off the portion of the ice body in said space and leave the portion of the ice body still within the mold to remain therein during the freezing of the succeeding ice body. The above combination, together with suitable controls therefore, as disclosed, provide an apparatus for automatically producing successive ice bodies, utilizing a source of water under pressure as the primary means of

power for the icemaker in the course of filling the mold with water for the next ice body.

3,367,128
CONTROL SYSTEM FOR ICE-MAKING APPARATUS

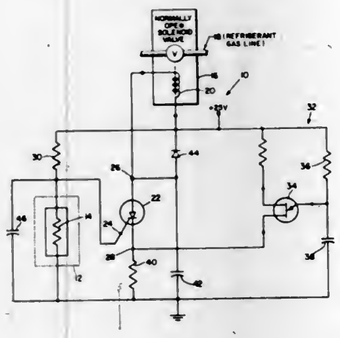
Taisei Hosoda, Tochigi-ken, Japan, assignor to Hitachi Ltd., Tokyo, Japan, a corporation of Japan
Filed May 16, 1967, Ser. No. 638,865
6 Claims. (Cl. 62—137)



A control system for ice-making apparatus having means for effecting positive, fully automatic and sequential switch-over control of a circulating pump, a solenoid valve for the change-over of the flow of a refrigerant, and a feed water valve. The control system can also positively operate in cooperation with a slow-acting thermostat.

3,367,129
SWITCHING CIRCUIT, OF A TYPE EMPLOYING A FOUR-LAYER SOLID STATE SWITCHING DEVICE

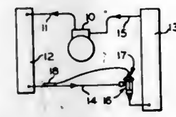
Walter E. Freitag, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 9, 1966, Ser. No. 548,804
3 Claims. (Cl. 62—216)



An electronic on-off switch circuit using a silicon switch semi-conductor device, characterized by application of a periodic positive turn-off spike to the cathode terminal across a parallel small valved dropping resistor and a current storage capacitor between the cathode terminal and ground.

3,367,130
EXPANSION VALVE AND REFRIGERATION SYSTEM RESPONSIVE TO SUBCOOLING TEMPERATURE

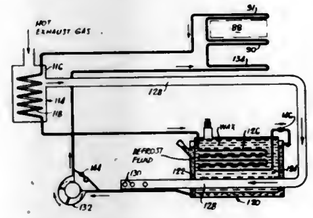
Alan Owens, Ballwin, Mo., assignor to Sporlan Valve Company, St. Louis, Mo., a corporation of Missouri
Filed Feb. 23, 1966, Ser. No. 529,330
20 Claims. (Cl. 62—222)



1. In a refrigeration system having a compressor, condenser, and evaporator operatively interconnected:
(a) an expansion valve connected in the line between the condenser and evaporator, the expansion valve comprising a valve body having an inlet connected to the line leading from the condenser, and an outlet connected to the line leading to the evaporator, and the valve body having a passage connecting the valve inlet and outlet,
(b) a valve means movably mounted in the body for controlling flow through the passage,
(c) spring means tending to urge the valve means toward an open position,
(d) a flexible motor element carried by the body,
(e) means operatively connecting the flexible motor element and the valve means,
(f) thermal-sensing means subjecting one side of the motor element to a pressure that is a function of the temperature of the refrigerant at a point in the line between the condenser and the expansion valve, and which tends to urge the valve means toward a closed position, and
(g) means subjecting the other side of the motor element to the liquid pressure of the refrigerant at substantially said point, the liquid pressure cooperating with the spring means and tending to urge the valve means toward the open position.

3,367,131
DEFROST MEANS FOR REFRIGERATION UNIT

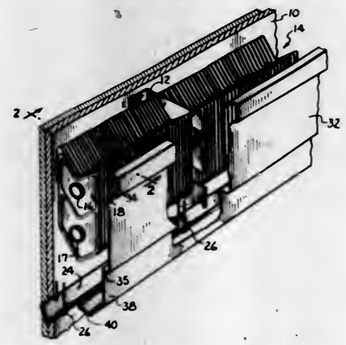
John K. Foessl, Candiac, Montreal, Quebec, Canada, assignor to Galt Equipment Limited, Montreal, Quebec, Canada
Filed May 19, 1966, Ser. No. 551,445
10 Claims. (Cl. 62—238)



1. A vapor compression type refrigeration unit including a compressor, condenser coils, evaporator coils, an expansion valve, interconnecting conduit means therefor forming a complete closed refrigeration circuit and having refrigerant therein, an internal combustion engine for driving said compressor, and a separate system for defrosting said evaporator coils, said system including heat storage means, duct means for conducting hot exhaust gases from said engine through said heat storage means for transfer of heat thereinto, defrost piping forming a closed circuit and having a defrost fluid therein, a portion

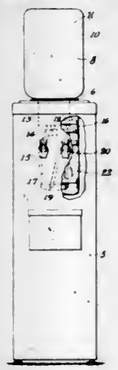
of said defrost piping extending into said heat storage means for transfer of heat to said defrost fluid, another portion of said defrost piping positioned adjacent said evaporator coils for supplying heat thereo, and pump means for circulating said fluid within said defrost piping circuit.

3,367,132
VALANCE TYPE HEAT EXCHANGER WITH TROUGH MEANS
Ernest C. Elliott, Michigan City, Ind., assignor to Weil-McLain Company, Inc., Michigan City, Ind., a corporation of Indiana
Filed Sept. 2, 1965, Ser. No. 484,690
3 Claims. (Cl. 62—285)



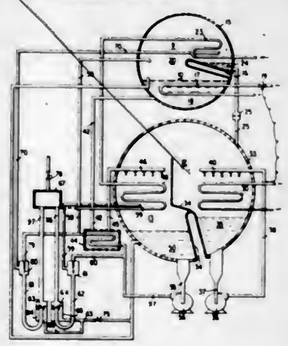
A valance-type heating and cooling system is described having fin-and-tube units provided with means for slowing condensate runoff, for collecting and disposing of condensate, and for collecting and disposing of secondary condensation.

3,367,133
BOTTLED-WATER COOLER WITH TWO FAUCETS
Darby H. Dreis, Van Nuys, Louis T. Sands, Hawthorne, and Carlos E. Acosta, Los Angeles, Calif., assignors, by mesne assignments, to Hanes Corporation, Winston-Salem, N.C., a corporation of North Carolina
Filed Oct. 11, 1965, Ser. No. 494,678
3 Claims. (Cl. 62—390)



1. A bottled-water cooler having a cabinet with an open top and adapted to support an inverted bottle of water with its neck extending through said opening, said cooler comprising:
(a) a reservoir to receive water from said bottle by gravity flow,
(b) a dispensing faucet connected to the lower part of the reservoir for drawing off water therefrom at the temperature of the water in the reservoir,
(c) a tank disposed below the reservoir,
(d) a restricted flow connection between the reservoir and the tank to minimize heat conduction therebetween,
(e) means to refrigerate the water in said tank and including an evaporator or cooling coil around the tank,
(f) heat insulation around the reservoir and tank and therebetween, and
(g) a second dispensing faucet connected to the tank for drawing off water therefrom at a temperature below the temperature of the water in the reservoir.

3,367,134
PURGE ARRANGEMENT FOR ABSORPTION REFRIGERATION SYSTEMS
Joseph R. Bourne, Dewitt, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Aug. 30, 1966, Ser. No. 576,036
2 Claims. (Cl. 62—475)

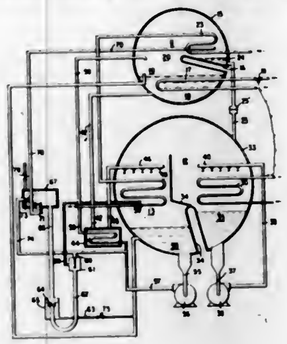


1. In an absorption refrigeration system of the type having a generator section, a condenser section, an evaporator section, and an absorber section, said absorber section having a sump within which relatively weak solution is adapted to collect, the combination of: a purge line opening into said condenser section; a chamber for storing noncondensible gases; pump means for passing solution in said absorber section to said generator section; a conduit connecting the discharge side of said pump means with said purge line to divert a portion of the solution discharging from said pump means to said purge line, said conduit opening into said purge line to emit a stream of solution into said purge line to draw noncondensible gases from said condenser section into said purge line and entrainment with said solution stream, said solution serving to absorb refrigerant accompanying noncondensible gases drawn through said purge line; means communicating with said purge line and adapted to separate noncondensible gases from said entraining solution; a line for returning separated solution from said separating means to said system; and a gas conduit for conducting nonconductive gases from said separating means to said storage chamber for exhaust into the atmosphere.

3,367,135
PURGE ARRANGEMENT FOR ABSORPTION REFRIGERATION SYSTEMS
John A. Greacen, Fayetteville, and Keith V. Elsberg, Camillus, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Aug. 30, 1966, Ser. No. 576,051
10 Claims. (Cl. 62—475)

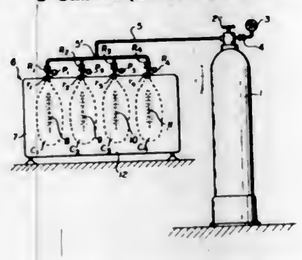
1. In an absorption refrigeration system of the type having a generator section, a condenser section, an evaporator section, and an absorber section, said absorber section having a sump within which relatively weak solution

is adapted to collect, the combination of: a purge line opening into said condenser section; a chamber for storing noncondensible gases, said purge line communicating with said storage chamber; pump means for passing solution from the absorber section sump to said generator section; a conduit leading from the discharge side of said pump, said conduit opening into said storage chamber and



arranged to discharge solution adjacent the terminal end of said purge line to draw noncondensible gases from said condenser section, said solution serving to absorb refrigerant drawn through said purge line with said noncondensible gases for return to said system; and a solution return line connecting said storage chamber with said absorber section to return solution to said system.

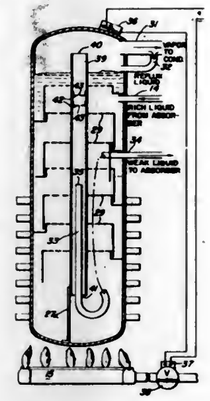
3,367,136
COOLING APPARATUS EMPLOYING EXPANDING GAS
Angelo Bottani, Via Salvini 1, Milan, Italy
Continuation-in-part of application Ser. No. 550,036, May 13, 1966. This application July 26, 1966, Ser. No. 582,772
Claims priority, application Italy, May 13, 1965, 10,650
5 Claims. (Cl. 62—514)



Cooling apparatus for cooling bottled liquids and the like comprising a source of pressurized gas, a gas-permeable receptacle for the object to be cooled, a spray nozzle communicating with the interior of the receptacle and with the source of pressurized gas and valve means for regulating the flow of gas between the gas source and the receptacle.

3,367,137
ABSORPTION REFRIGERATION GENERATOR
Eugene P. Whitlow, St. Joseph, Mich., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Apr. 20, 1966, Ser. No. 543,844
7 Claims. (Cl. 62—497)

An absorption refrigeration refrigerant generator having a refrigerant weak liquid tube with its inlet positioned substantially above the bottom of the generator for maintaining a minimum amount of refrigerant weak liquid in the generator. The inlet portion of the refrigerant weak liquid tube is enclosed within a larger diameter tube which extends from substantially below the refrigerant



weak liquid level to adjacent the top of the generator and is provided with metering baffles to limit gaseous refrigerant from entering the refrigerant weak liquid tube.

3,367,138
DETACHABLE SHAFT COUPLING
Robert K. Tiedeman, Wayne, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed July 21, 1966, Ser. No. 566,818
10 Claims. (Cl. 64—1)

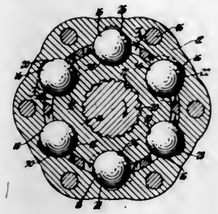


1. Coupling means for establishing a readily disconnected rotary drive between two shafts comprising
(a) a member having a recess for receiving the coacting end of a first shaft,
(b) means for interlocking said member and shaft within said recess against relative rotation, said member being movable along the longitudinal axis of the shaft,
(c) means operatively connecting said member with the other shaft for rotation therewith and also for movement along its longitudinal axis,
(d) a disc-like retainer ring for seating snugly on said first shaft near its end,
(e) resilient means interposed between said member and the coacting end of said other shaft for urging said member onto said first shaft at said recess and into abutting engagement with the retainer ring,
(f) and means formed on said first shaft for restraining both said retainer ring and member at a predetermined position thereon against the bias of said resilient means for defining the assembled position of the coupling.

3,367,139
UNIVERSAL JOINT
Theodore F. Ristau, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 29, 1966, Ser. No. 561,616
7 Claims. (Cl. 64—21)

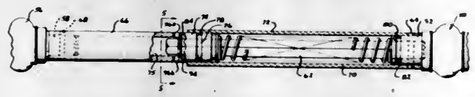
1. An axially slidable universal joint comprising an outer member having a first set of grooves each crossed with respect to the outer member axis and a second set of grooves each parallel to the outer member axis, an

inner member having a third set of grooves each crossed with respect to the inner member axis and crossed with respect to a corresponding first set groove, the inner member having a fourth set of grooves each parallel to the inner member axis and corresponding to a second set groove, and a plurality of torque transferring elements



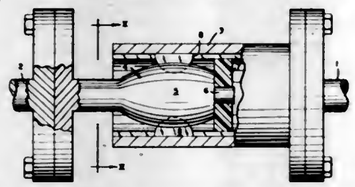
received within the corresponding grooves and interconnecting the inner and outer members, whereby upon application of torque to one of the members the corresponding first and third set grooves force the torque transferring elements axially of both members to effect relative axial movement of the members.

3,367,140
TORQUE COUPLING
George B. Stillwagon, Jr., Dayton, Ohio, assignor of one-half to Kenneth G. Fraser, Dayton, Ohio
Filed Feb. 4, 1965, Ser. No. 430,267
4 Claims. (Cl. 64—23)



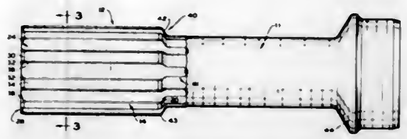
A torque coupling of adjustable length wherein a non-circular rod slides in a complementary non-circular tubular member and the sliding movement of the rod is limited by a snap ring received in an annular groove formed in a non-circular rod. In one embodiment, a recess is provided in the rod to inoperatively store the snap ring. Movement of the snap ring from said recess to an operative position is accomplished by relative movement between the rod and the tubular member.

3,367,141
ROTARY SHAFT COUPLING
James R. Baughman, Canoga Park, Calif., and Andrew Papinchak, Jeannette, Pa., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Sept. 21, 1965, Ser. No. 489,003
1 Claim. (Cl. 64—23)



A shaft coupling employing a flexible quill shaft having an enlarged portion near one end thereof for engagement with the inside of a tubular sleeve member by means of keys inserted in slots formed in the enlarged portion of the flexible quill shaft and the inner surface of the tubular sleeve, said quill shaft and tubular sleeve engaging driving and driven shafts. A washer having self-lubricating properties is affixed to the flexible quill shaft for centering the quill shaft in the tubular sleeve.

3,367,142
SLIP SPLINE ASSEMBLY
Wilson T. Groves, Toledo, and Raymond F. Lowry, Maumee, Ohio, assignors to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Filed May 31, 1966, Ser. No. 554,132
10 Claims. (Cl. 64—23)



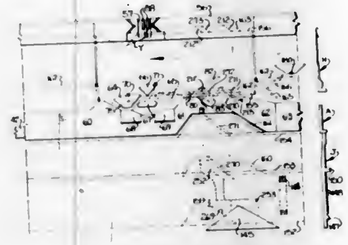
1. In a drive shaft slip spline assembly, the combination including: (a) an axially extending shaft, (b) an axially extending sleeve surrounding said shaft, (c) splines integral with said shaft and extending generally radially outwardly, (d) splines integral with said sleeve and extending generally radially inwardly, (e) each of said splines on said shaft having side walls extending longitudinally of said shaft, said splines terminating outwardly in faces forming the outermost peripheral portion of said stub shaft, (f) a round bottom portion disposed between a pair of flat side walls on adjacent splines on said shaft to form a groove therebetween, (g) a nylon coating adheringly deposited on said shaft to form a load bearing friction surface therealong, (h) said splines on said sleeve having side walls extending longitudinally along said splines, said side walls on each of said splines extending inwardly, said splines on said sleeve terminating radially inwardly by inward faces forming the innermost peripheral portion of said sleeve, (i) said sides of said sleeve splines terminated radially outwardly by outward faces that space said sleeve splines peripherally from one another to thereby form grooves therebetween, (j) said splines on said sleeve and said splines on said shaft being in inter-fitted engagement, said splines on said shaft being disposed in said grooves in said sleeve and the splines on said sleeve being disposed in grooves on said shaft, (1) each of said side walls on said sleeve abuttingly engaging a coated side wall on said shaft, (2) each of said outward faces on said sleeve abuttingly engaging said coated outward faces on said shaft, (3) chamfered portions on each of said splines on said shaft spacedly displaced from the adjacent side wall and outer face of the engaging sleeve spline, (4) each of said round bottomed portions of said shaft spacedly displaced from said inner faces of said sleeve spline, (k) whereby under load bearing relationship said spline and shaft are freely telescopically movable and said grooves formed by said round bottom portions provide clearance for cold flow of said coating.

3,367,143
METHOD AND KNITTING MACHINE FOR FORMING NON-RUN POCKETS IN HOSIERY
Wallace H. McGinty, Belmont, James W. Southers, Mount Holly, and James M. Taylor, Belmont, N.C., assignors, by mesne assignments, to Hanes Corporation, Winston-Salem, N.C., a corporation of North Carolina
Filed Sept. 14, 1964, Ser. No. 396,231
12 Claims. (Cl. 66—48)

1. In the formation of a seamless stocking on a circular knitting machine having a single knitting station, a slotted needle cylinder, needles carried for vertical movement in the slots of the cylinder, a pattern jack positioned beneath each needle, at least one movable needle raising cam positioned in advance of the knitting station, and drive means for rotating and reciprocating said needle cylinder, a method of knitting at least one pocket of run resistant reciprocatorily knit fabric in the stocking comprising the

steps of reciprocating the needle cylinder and knitting successive partial courses on a group of adjacent active needles, one partial course with each swing of the needle cylinder, while

(a) raising all needles of the active group to shed level in advance of the knitting station and knitting plain stitch loops in every wale of each of the partial courses formed during each swing of the needle cylinder in one direction, and



(b) moving the needle clearing cam into operative position and thereby raising alternate needles of the active group to shed level in advance of the knitting station during alternate swings of the needle cylinder in the other direction and knitting plain stitch loops thereon while forming tucks on the intervening needles of the active group while

(c) raising the pattern jacks beneath the intervening needles of the active group to raise said intervening needles to shed level in advance of the knitting station and knitting plain stitch loops thereon while forming tucks on the alternate needles during intervening swings of the needle cylinder in said other direction.

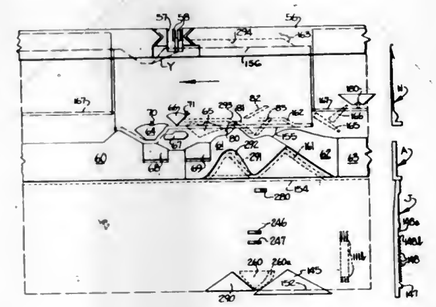
3,367,144
KNITTING MACHINE FOR FORMING NON-RUN POCKETS IN HOSIERY
Wallace H. McGinty, Belmont, James W. Southers, Mount Holly, and James M. Taylor, Belmont, N.C., assignors, by mesne assignments, to Hanes Corporation, Winston-Salem, N.C., a corporation of North Carolina
Continuation-in-part of application Ser. No. 396,231, Sept. 14, 1964. This application Nov. 30, 1964, Ser. No. 414,687
1 Claim. (Cl. 66—48)

1. In a circular knitting machine for knitting seamless stockings having rotary knit portions and at least one reciprocatorily knit fashioned pocket therein, said knitting machine having a needle cylinder, drive means for imparting rotary and reciprocatory movement to said needle cylinder, needles disposed for vertical movement in slots in the cylinder, a knitting station including a reverse stitch cam normally positioned to engage and raise said needles to shed level and a running stitch cam positioned to lower said needles to stitch drawing level to form plain stitch loops on each needle with rotational movement of said cylinder, main pattern control means including a pattern jack positioned below each of said needles and disposed for vertical movement in the slots in said cylinder, and primary jack selector means positioned in advance of said knitting station and including a selector drum, a racking gear carried by said selector drum, a first pawl adapted to engage said racking gear, a racking link having said first pawl supported on one end thereof, and means associated with the other end of said racking link for reciprocating the same in timed relationship to movement of said needle cylinder to impart step-by-step movement to said selector drum, a main jack clearing cam, selector levers operable by said selector drum to engage said pattern jacks and control their vertical movement in said cylinder and to thereby raise certain of the needles to shed level while permitting the other needles to remain at tuck level during the rotary knit portions of the stocking; the combination therewith of auxiliary pattern control means operable during the reciprocatory knitting of the fashioned pocket in the stocking by a group of adjacent active needles for controlling these needles to form non-run fabric in the pocket, said auxiliary pattern control means comprising

(a) means associated with said reverse stitch cam for positioning the same in operative position with each swing of the needle cylinder in the reverse direction to lower all needles of the active group to stitch drawing level to form plain stitches thereon in alternate partial courses of said fashioned pocket, and for moving said reverse stitch cam to inoperative position with each swing of the needle cylinder in the forward direction,

(b) means associated with said running stitch cam for lowering the same below the level of said reverse stitch cam during reciprocation of said needle cylinder, and

(c) auxiliary jack selector means positioned between said primary jack selector means and said knitting station and comprising



(1) an auxiliary selector drum including

(A) a control shaft supported in a vertical position for rotation, and

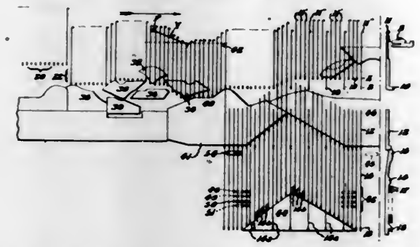
(B) a pair of pattern wheels supported for circumferential adjustment on said control shaft,

(2) an auxiliary jack clearing cam and an auxiliary selector lever operable by each of said pattern wheels to engage said pattern jacks and control their vertical movement in said cylinder and to thereby raise certain of the needles of the active group to shed level while permitting the other needles of said active group to remain at tuck level during each forward swing of said needle cylinder to form a predetermined pattern of plain stitch loops and tucks in intervening partial courses of said fashioned pocket,

(3) a racking gear carried by said control shaft, and

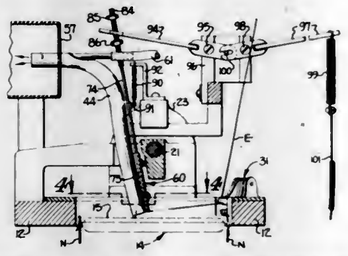
(4) a second pawl supported on a medial portion of said racking link and being adapted to engage said racking gear and impart step-by-step movement to said auxiliary selector drum during the reciprocatory knitting of the fashioned pocket.

3,367,145
METHOD AND APPARATUS FOR NEEDLE SELECTION IN RECIPROCATORY KNITTING
Robert Peel and Thomas Blaine Reavis, Winston-Salem, N.C., assignors to Hanes Corporation, a corporation of North Carolina
Continuation-in-part of application Ser. No. 345,991, Feb. 19, 1964. This application Jan. 14, 1965, Ser. No. 426,479
4 Claims. (Cl. 66—48)



Knitting run resistant fabric on a circular knitting machine during reciprocatory knitting utilizing auxiliary needle selection means operative for selecting needles during alternate strokes of the needle cylinder, and having means for forming larger stitches during the intervening strokes of the cylinder than those formed during the alternate strokes thereof.

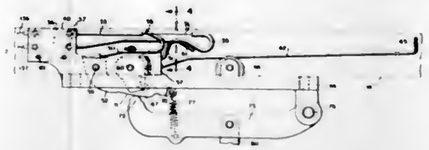
3,367,146
ELASTIC YARN TENSIONING AND CLAMPING MECHANISM FOR KNITTING MACHINES
Charles R. Allred, Burlington, N.C., assignor to Alamance Industries, Inc., Burlington, N.C., a corporation of North Carolina
Filed June 28, 1965, Ser. No. 467,589
5 Claims. (Cl. 66—134)



The clamp for the elastic yarn cooperates with the suction tensioning means and yarn cutting means of the knitting machine to clamp the elastic yarn before it is cut and maintain it under uniform tension while the elastic yarn is not being knit, and to maintain the uniform tension on the yarn as it is again knit. The clamp is supported on the suction means and is operated through pattern controls of the knitting machine to operate at the proper times during the knitting of support hosiery and the like.

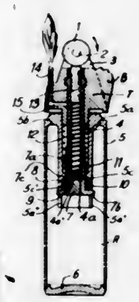
3,367,147
YARN SEVERING MEANS FOR STRAIGHT-BAR KNITTING MACHINES
Herbert E. Haehnel, Reading, Pa., assignor to Textile Machine Works, Wyomissing, Pa., a corporation of Pennsylvania
Filed June 8, 1965, Ser. No. 462,194
8 Claims. (Cl. 66—145)

Severing means for straight-bar knitting machines for automatically severing yarn between a completed fabric blank and the machine fabricating elements including a yarn deflecting member movable between an inactive position below the draw-off path of said blank to an active position to engage and deflect the yarn toward a wire element, yarn engaging members receiving said yarn from



said deflecting member and pressing same into engagement with said element upon return of said deflecting member to inactive position and pattern control means for selective control of said members and the heating of said element to sever the yarn.

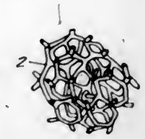
3,367,148
GAS LIGHTER
Louis Bourderau, 102 Champs Elysees, Paris 8eme, France
Filed July 8, 1965, Ser. No. 470,514
Claims priority, application France, June 9, 1965, 20,043, Patent 88,240
6 Claims. (Cl. 67—7.1)



A gas-lighter comprising a fuel reservoir; a plunger extending into the reservoir and axially shiftable therein, the plunger being formed with a nozzle and a passage for delivering fuel to the nozzle; a flint-carrying tube mounted on said plunger and extending longitudinally therealong while terminating at an upper end of the plunger externally of the reservoir; and igniting means on the plunger including a flint received in the tube and a striker roller cooperating with the flint for igniting a flame at the nozzle; and valve means operable upon displacement of the plunger for selectively opening and blocking communication through the passage between the nozzle and the reservoir.

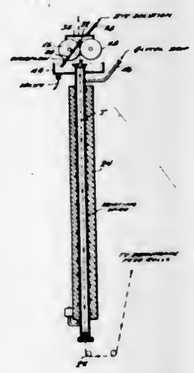
3,367,149
RADIANT WHITE LIGHT SOURCE
Wendell J. Manske, Birchwood, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Continuation of application Ser. No. 339,220, Jan. 21, 1964. This application Dec. 15, 1966, Ser. No. 602,106
8 Claims. (Cl. 67—98)

A three-dimensionally reticulated structure of thoria and ceria is provided which has relatively low bulk density and is so open as to give relatively low resistance to gas flow therethrough. It is structurally relatively strong



and is included in gas lights, lanterns, heaters, etc. The structures before firing or after firing and lacquering are convenient forms for shipment.

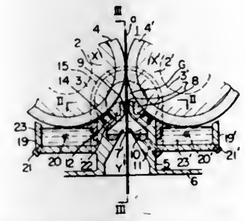
3,367,150
APPARATUS FOR THE COLORATION OF FILAMENTS MELT SPUN FROM SYNTHETIC LINEAR POLYMERS
Norman Brian Smith, George Richards, and Neville Durrant Scott, Harrogate, and William Donald Parkey, Bradford, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Original application Dec. 26, 1961, Ser. No. 162,248, now Patent No. 3,241,906, dated Mar. 22, 1966. Divided and this application Jan. 28, 1966, Ser. No. 544,322
Claims priority, application Great Britain, Dec. 28, 1960, 44,463/60
3 Claims. (Cl. 68—5)



A pad-mangling system for applying dye solution and a draw frame for drawing the filaments, comprising two resilient rolls, one fixed to a shaft driven fro mthe feed rolls of the subsequent draw frame and the other running on a floating shaft, which can be loaded to press the rolls together a controlled amount, side plates with heating and feed means for maintaining dye solution in a padding bath between the nip of the resilient rolls at a constant level and temperature followed by the draw frame with feed rolls driven at the same speed as the resilient rolls on the pad-mangling system, and draw rolls driven 3–8 times faster than the feed rolls with means for heating the filaments and means for removing dye solution which has not penetrated the filaments and means for winding or forwarding the dyed and drawn filaments.

The foregoing abstract is not intended to be a comprehensive discussion of all of the principles, possible modes or applications of the invention disclosed in this document and should not be used to interpret the scope of the claims which appear at the end of this specification.

3,367,151
APPARATUS FOR CONTINUOUSLY LEADING TEXTILES INTO OR OUT OF A PRESSURE-TREATING CHAMBER
Seitaro Fujihashi, Kyoto, Japan, assignor to Kyoto Machinery Company, Limited, Kyoto, Japan, a corporation of Japan
Filed May 3, 1966, Ser. No. 547,284
Claims priority, application Japan, May 18, 1965, 40/29,169; Dec. 1, 1965, 40/74,208
5 Claims. (Cl. 68—5)

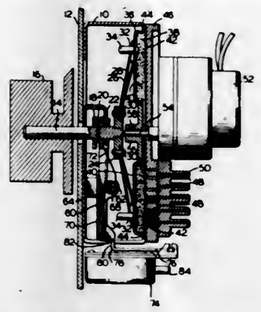


1. An apparatus for continuously leading textiles into or out of a pressure-treating chamber comprising a feeding roll device consisting of two component rolls each coated with an elastic material on the peripheral surface and pressed against each other outside a textile inlet or outlet of a pressure-treating chamber, an annular pressure fluid chamber formed around a textile passing port on the upper surface of said textile inlet or outlet, an annular peripheral surface sealing member fitted in said pressure fluid chamber, a second annular pressure fluid chamber formed on each side of a hollow space formed between the parts of the peripheral surfaces of said two component rolls opposed to each other and the upper surface of said textile inlet or outlet and an annular end surface sealing member fitted in said second annular pressure fluid chamber so that, when a pressure fluid having a pressure higher than the pressure in said pressure-treating chamber is fed into both of said annular pressure fluid chambers, said annular peripheral surface sealing member and end surface sealing members press against the peripheral surfaces opposed to each other and both end surfaces of said two component rolls, respectively.

3,367,152
PNEUMATIC PROGRAMMER
Roland D. Beck and Ellsworth F. Smock, Anaheim, and Roy W. Houser, Orange, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Application Feb. 27, 1964, Ser. No. 347,882, now Patent No. 3,286,730, dated Nov. 22, 1966, which is a continuation of abandoned application Ser. No. 153,300, Nov. 20, 1961. Divided and this application Feb. 10, 1966, Ser. No. 541,046
10 Claims. (Cl. 68—12)

This disclosure relates to a program controlling means for fluidly interconnecting a source of pneumatic fluid to a plurality of pneumatically operated actuator means as the program member rotates relative to a stationary reading head, the program member comprising a flexible reading sheet having open ended channels formed in the sides thereof that move over the reading head to interconnect together a vacuum port thereof to another port leading to a pneumatically operated actuator means. The program member is rotated by a timer motor interconnected to the program member by an overrun clutch

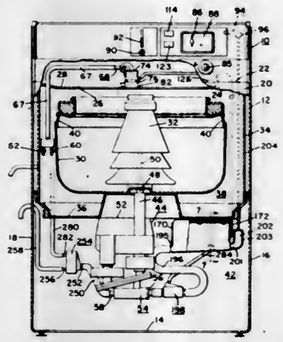
means that not only permits manual movement of the program member relative to the timer motor, but also permits other means for moving such program member independently of the timer motor.



3,367,153
FLUID SUPPLY SYSTEM FOR AN AUTOMATIC WASHING MACHINE

Robert F. Brubaker, Eaton, Robert E. Hoffman, Bellbrook, and Norman J. Bullock, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 10, 1966, Ser. No. 556,604
3 Claims. (Cl. 68—12)



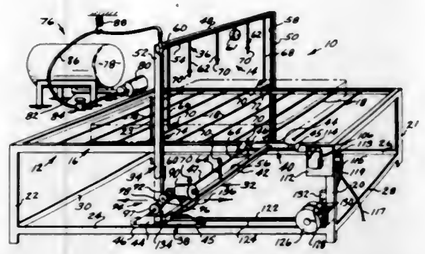
In preferred form, a water inlet and water level control arrangement for an automatic washer including a combination water gap forming fill nozzle having an integrally formed proportional flow divider for directing a part of the washer inlet flow to a fill nozzle hose inlet of the fill nozzle and a second part of the divided flow through a splash guard flow director on a water container top of the washer, the washer further including control circuit means utilizing an air pressure switch in the level control system and a plurality of timer controlled switches to eliminate the need for a holding relay to prevent deenergization of the washer during predetermined periods where fluid is drained from the washer water container.

3,367,154
MATTRESS SANITIZING APPARATUS

Marion O. Wyatt, Long Beach, and Carl A. Jennings, Sacramento, Calif., assignors of forty-five percent to Marion O. Wyatt and fifty-five percent to Carl A. Jennings, Long Beach and Sacramento, Calif., respectively

Filed June 14, 1965, Ser. No. 463,534
3 Claims. (Cl. 68—205)

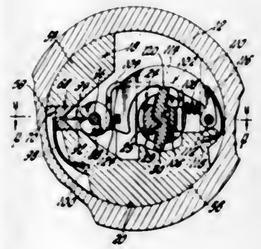
A mattress sanitizing apparatus having a relatively open frame for supporting a mattress so that all surfaces thereof are exposed, the frame also including tracks for supporting and guiding a spray carriage for reciprocal movement past the mattress, the spray carriage including spray nozzles for spraying the exposed surfaces of the mattress with a sanitizing solution during its reciprocal movement.



3,367,155
LOCK CYLINDER ASSEMBLY

Peter M. Kobrehel, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 16, 1966, Ser. No. 550,513
9 Claims. (Cl. 70—366)



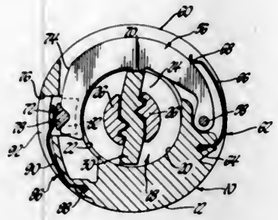
1. A side bar lock cylinder assembly comprising, in combination, a casing structure, a plug structure movably mounted within said casing structure, a plurality of tumblers, each tumbler including a side bar receiving opening, means mounting said tumblers on one of said structures for movement between an unlocked position, wherein said openings are successively aligned, and a locked position wherein said openings are misaligned, a side bar assembly mounted on one of said structures for movement between locked and unlocked positions, means on said side bar assembly interlocking said casing structure and said plug structure when said side bar assembly is in locked position and freeing said plug structure for movement relative to said casing structure when said side bar assembly is in unlocked position, said assembly including a plurality of individual locking members respective to said tumblers and having at least one surface thereof normally lying in a plane of movement of said side bar assembly, means mounting said locking members on said assembly for individual movement relative thereto, said tumbler openings each including an edge portion lying in a plane in parallel spaced relationship to the plane containing the locking member surfaces when said tumblers are in unlocked position, each opening receiving a respective locking member to permit said side bar assembly to move to unlocked position, the locking member surfaces being located in juxtaposed parallel relationship to the tumbler

opening edge portions in said unlocked position of said assembly.

3,367,156
LOCK CYLINDER ASSEMBLY

Theodore H. Johnstone, New Baltimore, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 25, 1966, Ser. No. 552,974
9 Claims. (Cl. 70—366)

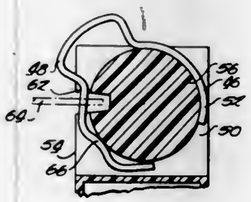


1. A lock cylinder assembly comprising, in combination, a casing structure, a key receiving plug, means rotatably mounting said plug within said casing structure, a plurality of tumblers traversing said plug, said tumblers each having one end thereof located to one side of said plug and the other end thereof located to the other side of said plug, means rotatably mounting said tumblers adjacent said one ends thereof on said casing structure, each of said tumblers including a side bar receiving opening adjacent the other end thereof, each of said tumblers including a node intermediate the ends thereof engageable by a proper key inserted within said plug to move said tumblers to unlocked position wherein said side bar receiving openings are successively aligned, a side bar mounted on said casing structure for movement between locked and unlocked positions with respect to said plug, said side bar having means locking said plug to said casing structure in the locked position, said side bar being received within said tumbler openings in the unlocked position thereof and of said tumblers to free said locking means on said side bar from said plug for rotation of said plug and the key inserted therein as a unit relative to said casing structure, said tumblers and said side bar.

3,367,157
KEYHOLDER

Cecil B. Woofter, Newton, Iowa, assignor to The Vernon Company, Newton, Iowa, a corporation of Iowa

Continuation-in-part of application Ser. No. 530,038, Feb. 25, 1966. This application Sept. 9, 1966, Ser. No. 578,265
1 Claim. (Cl. 70—459)

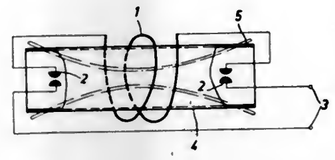


A keyholding device on which a plurality of keys may easily be mounted and temporarily secured.

3,367,158
HIGH-POWER WORKPIECE-FORMING METHOD

Hans-Josef Mürtz, Lampertheim, Germany, assignor to Brown, Boveri & Cie Aktiengesellschaft, Mannheim-Kafertal, Germany, a corporation of Germany

Filed Apr. 21, 1965, Ser. No. 449,720
Claims priority, application Germany, Apr. 23, 1964, B 76,467
13 Claims. (Cl. 72—56)

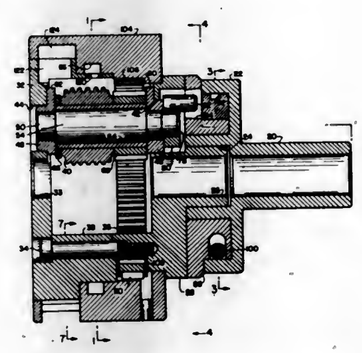


High-pressure method of forming workpieces by converting electrical shock discharges into mechanical deformation effects acting upon the workpieces includes transmitting deformation energy simultaneously to different locations of a workpiece by a plurality of different kinds of electrical-to-mechanical shock conversion. Device for carrying out the foregoing method includes electrical shock-current supply means, a plurality of different energy converters adapted to jointly receive a workpiece to be formed and connected to the supply means for simultaneously converting shock current into mechanical deformation effects acting upon the workpiece, one of the energy converters being a mechanical field coil and another of the converters having electrically responsive means for producing a mechanical pressure surge.

3,367,159
GEARED PROFILE-ROLLING HEAD

Donald E. Youtz, Waynesboro, Pa., assignor to Landis Machine Company, Waynesboro, Pa., a corporation of Pennsylvania

Filed Mar. 9, 1965, Ser. No. 438,259
10 Claims. (Cl. 72—78)

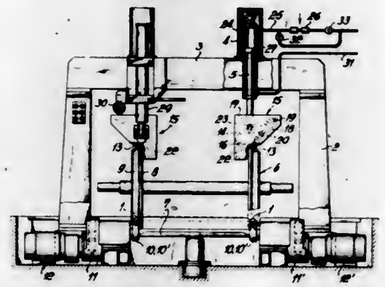


Tool for rolling threads, splines or like formations on a workpiece, said tool having a plurality of dies carried by a rotatable head. The head includes a stationary part connected to drive each of the dies upon rotation of the head. The dies are arranged to produce axial feed of the workpiece without substantial rotation of the workpiece.

3,367,160
APPARATUS FOR WORK HARDENING AND FINISH ROLLING PERIPHERAL SURFACES OF PREMACHINED RAILROAD WHEELS OR THE LIKE

Hans Sperber, Theodor Dombrowski, and Bernhard Kunze, Erkelenz, Germany, assignors to Wilhelm Hegenscheidt Kommanditgesellschaft, Erkelenz, Germany

Filed Jan. 20, 1966, Ser. No. 521,916
Claims priority, application Germany, Jan. 25, 1965, H 54,960; Feb. 1, 1965, H 55,025
12 Claims. (Cl. 72—86)

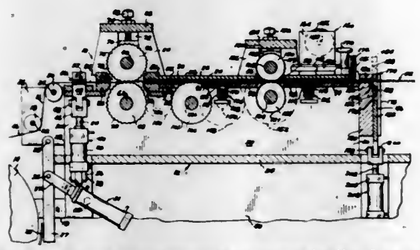


1. Apparatus for work hardening and finish rolling peripheral surfaces of premachined railroad wheels or the like comprising, in combination, a work hardening and finishing roller adapted to engage the peripheral surface of a wheel; lever means mounting said work hardening and finishing roller turnable about its own axis and tiltable about a tilting axis normal to its own axis; first pressure means connected to said lever means for tilting the latter about the tilting axis to press thereby said work hardening and finishing roller against the peripheral surface of the railroad wheel; second pressure means connected to said lever means for moving the latter and the work hardening and finishing roller mounted thereon in a direction substantially normal to said tilting axis toward the peripheral surface of the railroad wheel while permitting said lever means to move in the opposite direction under the reaction of the force imparted by said work hardening and finishing roller on said wheel; and an abutment roller arranged so as to engage the railroad wheel on a side face thereof to take-up axial force components imparted to the wheel by said work hardening and finishing roller.

3,367,161
LOUVERED ZIGZAG FIN STRIP FORMING MACHINE

Hrant J. Avakian, 440 Gellert Drive, San Francisco, Calif. 94132

Filed Aug. 18, 1965, Ser. No. 480,715
7 Claims. (Cl. 72—186)



This machine continuously automatically forms metal ribbon coil stock into zigzag-convoluted fin strip material while at the same time it forms louvers in the convolutions for more efficient deflection of the cooling air, then accurately spaces these convolutions and finally automatically cuts off the zigzag convoluted strip material into strips of accurately predetermined length.

The metal ribbon coil stock supplied to the machine is subjected to a frictional drag applied by an air-cylinder-operated drag device, so that the zigzag convolutions are precisely formed to accurately-controlled dimensions.

Toothed gathering rolls follow the toothed forming rolls for the purpose of precisely spacing the convolutions by the desired amount and maintaining that spacing up to the instant of cutoff into sections.

Adjustable-width guides for the convoluted fin strip material emerging from the forming rolls and entering the gathering rolls thereby adapt the machine to the production of different widths of convoluted fin strips.

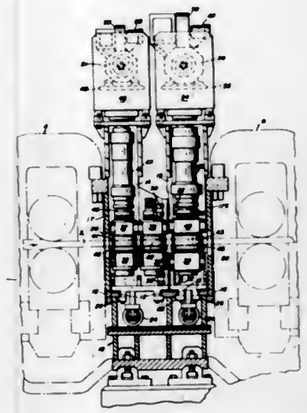
A pressure pad disposed between the forming rolls and the gathering rolls and preferably also beyond the gathering rolls applies a gradual frictional drag to the convoluted strip material.

A double-acting cutoff device which moves alternately in opposite directions to cut off the continuous convoluted fin strip material into strips of predetermined length, thereby increases the speed of operation of the machine.

3,367,162
APPARATUS FOR REDUCING SLAB WIDTH

Llewellyn S. Kazebee, Fullerton, Frank A. Purdy, Woodland Hills, and Walter Suter, Hollywood, Calif., assignors to United States Steel Corporation, a corporation of Delaware

Filed Apr. 7, 1965, Ser. No. 446,221
14 Claims. (Cl. 72—205)



An edge-rolling mill for hot steel slabs formed by a continuous casting process. Mill includes a plurality of vertical sets of rolls situated between two conventional horizontal roll stands. The vertical rolls reduce the slab width quite drastically, while assisting the horizontal rolls in maintaining the slab under tension.

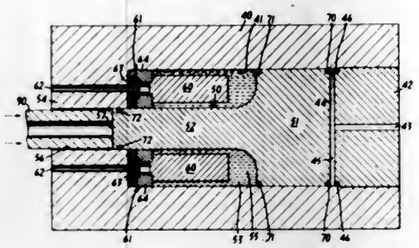
3,367,163
APPARATUS FOR PRESSURIZING A LIQUID

Alexander Zeitlin, White Plains, and Jacob Brayman, Staten Island, N.Y., assignors to Barogenics, Inc., New York, N.Y., a corporation of New York

Filed Oct. 27, 1964, Ser. No. 406,679
14 Claims. (Cl. 72—253)

Liquid pressurizing apparatus comprising a pressurizing chamber bounded at opposite ends by first and second closure means. The chamber is contractible between the ends by relative movement between the closure means

Press means are provided by which an actuating pressure is applicable to the first closure means and by which said chamber is so contractible with the aid of such pressure to impart hydrostatic pressure to a liquid in said chamber. Stem means extend from the first closure means through the chamber into aperture means in said second closure

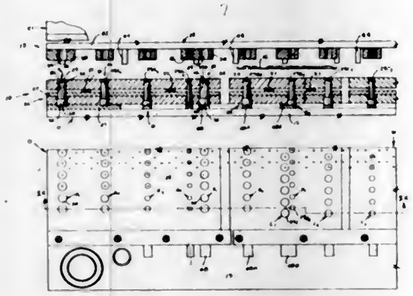


means. The first closure means and the stem means conjointly comprise pressure multiplier means to convert said actuating pressure into a greater hydrostatic pressure of said liquid. Seal means seal the aperture means against the hydrostatic pressure, and means are provided for utilizing the hydrostatic pressure.

3,367,164
METHOD OF FORMING SHEET METAL AND APPARATUS THEREFOR

Lawrence A. Franks and Eugene E. Eldridge, Sturgis, Mich., assignors to Burr Oak Tool & Gauge Company, Sturgis, Mich., a corporation of Michigan

Filed Mar. 3, 1966, Ser. No. 531,545
10 Claims. (Cl. 72—324)



1. A punch and die construction for producing progressively a plurality of uniformly arranged distortions in a strip of sheet material while intermittently advancing said sheet material through said construction unidirectionally in uniform increments, the combination comprising:

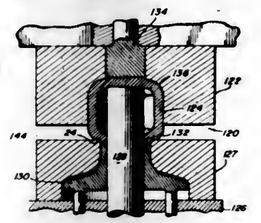
a first set of punches and cooperating dies arranged in pairs at spaced intervals along a line parallel with said direction, the length of each interval being a multiple of the length of the increment of advancement;

a second set of punches and cooperating dies arranged in pairs at spaced intervals along a line parallel with said direction, the length of each interval being equal to a multiple of the length of the increment of advancement, and the line of said second set being offset laterally from the line of said first set, some of the intervals in at least one of the sets being longer than the other intervals in said one set.

3,367,165
METHOD FOR FORMING A FIELD STRUCTURE FOR MAGNETIC LOUDSPEAKER

Aldo L. Coen, 1640 E. 50th St., Chicago, Ill. 60615

Filed July 20, 1965, Ser. No. 473,396
13 Claims. (Cl. 72—348)

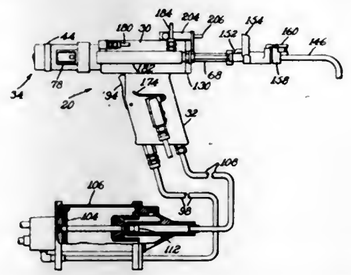


A method of making a magnetic field structure for a loudspeaker in the form of a unitary cylindrical member having a closed bottom end and an open end defined by an inwardly extending annular lip formation; the inner periphery of which provides a cylindrical surface adapted to cooperate with a permanent magnet positioned in said pot to define the air gap for the magnetic circuit of the speaker. The method envisioning the forming of a cup-like metal blank by forming sheet stock over a mandrel or otherwise so producing said cup-like configuration; deforming the open end of said blank to define said inwardly extending lip formation, while simultaneously sizing the inner periphery of the lip formation to provide a substantially smooth cylindrical surface suited for cooperation with said permanent magnet in defining the air gap; and further sizing the resulting structure, if necessary, to the desired final configuration. As an additional or supplementary feature, if desired, the simultaneous sizing and deforming step may be performed in conjunction with the preventing of radial inward curling of the open end of the cup-shaped blank, such that said cylindrical, air gap defining surface is formed from a portion of the blank other than the end face of the open end of said blank.

3,367,166
PULL-TO-SET RIVETERS HAVING AUTOMATIC FEED MEANS

Albert E. Newton, Beverly, and Adelbert W. Rockwell, Jr., Gloucester, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., and Boston, Mass., a corporation of New Jersey

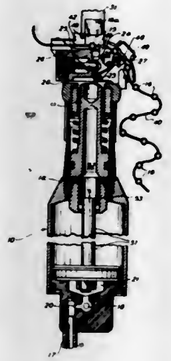
Filed July 12, 1965, Ser. No. 471,293
21 Claims. (Cl. 72—391)



1. Apparatus for successively setting separable mandrel rivets comprising a tool having a hollow body and an anvil end, means in the body adjacent to said end for gripping and tensioning the mandrel of a rivet to be set, and means connected to the tool and under the control of an operator for successively delivering mandrel rivets

from a random supply to the gripping and tensioning means, and other means on the tool under the control of the operator for operating the gripping and tensioning means.

3,367,167
PROCESSING OF ELECTRIC TERMINALS
Harold J. Bush, Matawan, N.J., assignor to The Thomas & Betts Co., Inc., Elizabeth, N.J., a corporation of New Jersey
Filed Sept. 27, 1965, Ser. No. 490,591
17 Claims. (Cl. 72—412)



A trigger actuated tool for processing electric terminals, said tool having dies between which the terminals on a belt are serially fed by an advance mechanism and compressed by closing one die against the other, compressing the intermediately disposed terminal, wire or other object, the belt being held against movement during the compression step by a pawl engaging the belt, and, at the end of the operation stroke, positioning the next-in-line terminal intermediate the dies for repetition of the operation at the next actuation of the trigger, the belt and terminal being advanced only on completion of operation of the dies for compression of the terminal—thus providing a unique safety factor.

3,367,168
RAM HEIGHT ADJUSTMENT MECHANISM FOR PRESS BRAKES
Victor L. McHenry, Overland, and Robert F. Hartung, Jr., Bridgeton, Mo., assignors to Engel Equipment, Inc., St. Louis, Mo., a corporation of Missouri
Filed June 16, 1966, Ser. No. 558,140
6 Claims. (Cl. 72—441)

1. Ram height adjusting mechanism for a machine tool of the type having a ram means, vertical guide means therefor and power operated crank arm means to raise and lower the ram means, comprising

ram support means having a horizontal axis and formed as a surface of revolution about said axis,

an adjusting eccentric mounting said ram support means adjustably in said crank arm, and

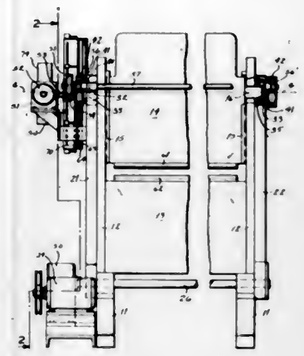
a toothed gear portion extending more than 180° about the perimeter of the eccentric,

the crank arm having a motor support and a substantially vertical rack slide,

a motor mounted on said motor support and having a gear drive meshing with the gear portion of the adjusting eccentric, whereby to rotate the eccentric in either direction and thereby adjust the height of the ram support means relative to the crank arm,

a toothed rack mounted in said slide, the rack teeth engaging the toothed gear portion of the adjusting eccentric,

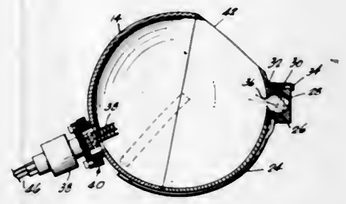
means to limit the vertical travel of the rack to the region in which it remains in meshing engagement with the gear of the eccentric, and



set stop switches adjustably aligned along the path of the rack, and connector means by which said switches stop the gear drive of the motor,

whereby angular rotation of the adjusting eccentric may be set at limits corresponding to desired settings of ram height.

3,367,169
SPHERICAL CHAMBER FOR CALIBRATING VACUUM GAUGES
Boude C. Moore, Sepulveda, Los Angeles, Calif., assignor to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed June 14, 1965, Ser. No. 463,738
4 Claims. (Cl. 73—4)

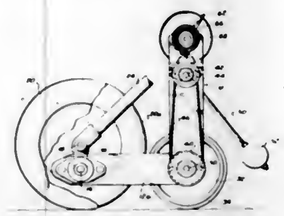


A vacuum calibrator for internally calibrating vacuum gauges which is spherically shaped to facilitate even gas molecular distribution. Also, further molecular distribution is achieved through the use of an additional distributing means prior to entry of the molecules of gas.

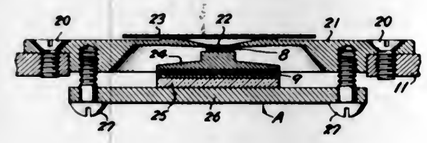
3,367,170
SURFACE FRICTION TESTER
Francis J. Lynch and Donald L. Miller, Bellefonte, Pa., assignors to John I. Thompson & Company, Washington, D.C., a corporation of Delaware
Filed Aug. 5, 1965, Ser. No. 477,453
5 Claims. (Cl. 73—9)

To measure the coefficient of friction of a surface a body having a shiftable center of gravity is pulled or pushed along the surface. A scale is attached to the body. When

the center of gravity has shifted enough to create a restoring force equal to the moment introduced by the friction force, the reading on the scale at that instant is the coefficient of friction of the surface.

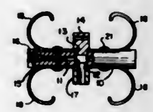


3,367,171
MELTING POINT MEASURING DEVICE
Tomio Kobayashi, 21–9 5-chome, Tsukagoshi, Warabi-shi, Saitama-ken, Japan
Filed Mar. 25, 1965, Ser. No. 442,755
Claims priority, application Japan, Mar. 31, 1964, 39/24,801
6 Claims. (Cl. 73—17)



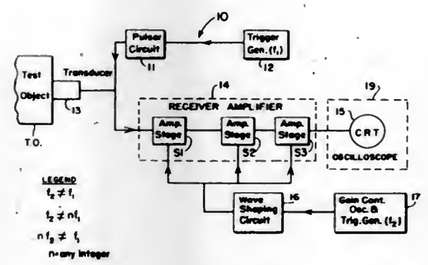
A device for determining the melting point of a sample of microscopic size in which the sample is deposited on a thermistor element through an opening in a cover plate above the thermistor element, the thermistor element being heated to in turn heat the sample until it melts, and the melting point is read on a calibrated meter connected to the thermistor element.

3,367,172
AIR GAGE HEADS FOR INTERNAL MEASURING OF WAVE GUIDE BENDS
David W. McCormick, Vernon, Conn., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 11, 1966, Ser. No. 520,307
4 Claims. (Cl. 73—37.9)



The disclosed invention is directed to a device for measuring the inside of a rectangular structure. The device is formed as an elongated cylinder or a flat cylindrical element through which air flow is directed under controlled conditions. The air outlets in the device are adjacent the wall surface to be measured and as the device is moved through the inside of a rectangular member the air flows according to the spacing between the device and the walls. This air flow is recorded and represents the dimensions of the rectangular element.

3,367,173
DEVICE FOR SONIC AND ULTRASONIC INTERNAL SCANNING OF SOLID AND FLUID MEDIA
Russel L. Uphoff, Stamford, Conn. (% Haffrel Instruments, Inc., 53 Water St., South Norwalk, Conn. 06854)
Filed Feb. 21, 1964, Ser. No. 346,427
19 Claims. (Cl. 73—67.8)



16. A device for inspecting solid and fluid objects comprising in combination:

an electrical pulse generator circuit for generating pulses at a pulse recurrence frequency;

electro-mechanical transducer means energized by said generator for applying mechanical pulses to the object, for receiving mechanical pulses from said object, and for generating other electrical pulses in response to the received mechanical pulses;

a receiving circuit comprising:

an electrical pulse amplifier;

means for applying said other electrical pulses from said transducer means to said amplifier, said first named pulses being applied to the amplifier; and

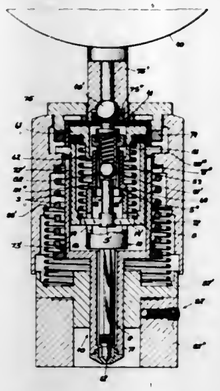
display means for display of the output of said amplifier;

and modulating means for modulating one of said circuits to vary the amplitude of the output thereof at a modulation frequency other than the pulse recurrence frequency or multiples of the pulse recurrence frequency whereby the system gain, or amplitude at the amplifier output, of an echo of each transmitted pulse varies over the period of the modulating frequency.

3,367,174
PENETRATION-BODY HARDNESS TESTING
Riccardo Affri, Via Campo dei Fiori, 26 Induno Olona, Varese, Italy
Filed July 19, 1965, Ser. No. 473,004
Claims priority, application Italy, July 22, 1964, 15,956, Patent 732,380
4 Claims. (Cl. 73—83)

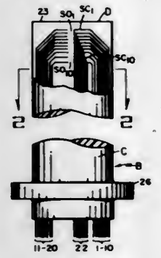
Hardness tester having a penetration body shiftable relatively to an indicator connected with another body, a loading mechanism adapted to urge the penetration body (e.g., a point, cone or ball) against the specimen, and a spring relieving the loading mechanism so that substantially only the weight of the penetration body is initially applied against the specimen, a housing structure movable in the direction of movement of the penetration body for relieving the spring to render the loading mechanism effective and a clutch between the measurement body and the pene-

tration body and operable upon the movement of the housing member to interconnect the indicator with the



penetration body and indicate the degree of penetration of the specimen under the load mechanism.

3,367,175
ABLATION SENSOR
John A. Morreal, North Andover, and Joseph A. Hull, Danvers, Mass., assignors to Avco Manufacturing Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Dec. 31, 1958, Ser. No. 784,342
7 Claims. (Cl. 73—86)



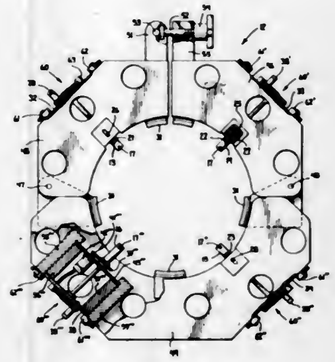
1. In combination in a ablation sensor, an elongated body, adapted to ablate longitudinally, a plurality of longitudinally spaced open switches laterally displaced from said plurality of closed switches, one each of said open and closed switches being positioned in the same longitudinal plane of said body, means for developing output signals, as said switches are sequentially opened and closed by ablation of said body.

3,367,176
APPARATUS FOR TESTING THE OUTPUT OF THE FUEL PUMPS OF COMPRESSION IGNITION ENGINES
Reginald S. Emerson, 34 Highlands Road, Buckingham, Buckinghamshire, England
Filed Oct. 13, 1965, Ser. No. 495,539
Claims priority, application Great Britain, Oct. 14, 1964, 41,918/64
5 Claims. (Cl. 73—119)

A device for testing the output of compression ignition engine fuel pumps comprising a timing mechanism having a rotatable element arranged to be driven by pump driving means through an angular distance corresponding to a selected number of pump shaft revolutions, in which selection of the angular distance through which the rotatable element is rotated is effected by means of a dial mechanism or similar device.

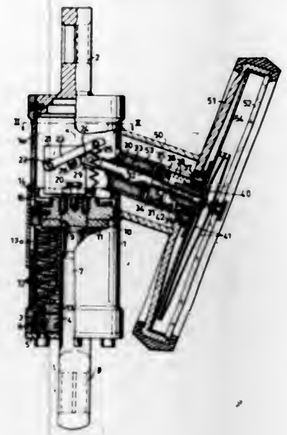


3,367,177
TORQUE MEASURING DEVICE FOR MISSILE CONTROL SHAFTS
Frederick G. Bonfils, Indianapolis, Ind., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 19, 1965, Ser. No. 508,870
6 Claims. (Cl. 73—134)



1. A torque measuring device for rotatable control surface shafts of a missile comprising:
a frame adaptable for fitting around the outer periphery of a missile,
a plurality of torque bars each having one end attached to said frame and each having the other end engageable with separate control surface shafts of said missile,
a plurality of gears attached one each to each said torque bar adjacent said end engageable with said control surface shafts,
a plurality of rotation responsive means equal in number to the number of said torque bars, said means each having an input shaft and being attached to said frame, and
a plurality of pinion gears attached one each to each said input shaft and engageable one each with each gear attached to each said torque bar.

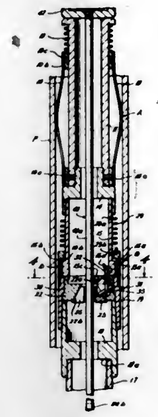
3,367,178
DEVICE FOR READING THE DEFLECTION OF A DYNAMOMETER
Sven Axel Tell and Anders Bengt Tell, both of Vikingavagen 3, Danderyd, Sweden
Filed Apr. 22, 1966, Ser. No. 544,450
Claims priority, application Sweden, Apr. 27, 1965, 5,504/65
8 Claims. (Cl. 73—141)



1. A dynamometer comprising a casing, a drawrod longitudinally displaceable in the casing, first spring means against the action of which the drawrod is longitudinally displaceable, an abutment movable with the drawrod, a transmission member, second spring means acting toward said first spring means to press said transmission member against said abutment, said transmission member being movable relative to and longitudinally of the drawrod away from said abutment, said transmission member having a control surface that extends obliquely with respect to the axis of the drawrod and that faces said first spring means, the casing having a lateral extension, a spindle movable axially in said extension and disposed at a substantial angle to the axis of said drawrod and at an acute angle to said control surface, a roller carried by said spindle and engaging said control surface, and indicia means responsive to axial movement of said spindle to indicate the magnitude of the load on the drawrod.

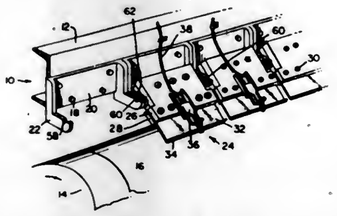
3,367,179
FREE POINT INDICATOR APPARATUS AND METHOD
Lawrence K. Moore, 3716 Ingold St., Houston, Tex. 77005
Filed Oct. 16, 1964, Ser. No. 404,224
7 Claims. (Cl. 73—151)

1. Free point indicator apparatus, comprising:
(a) a tubular body adapted to be lowered into the bore of a pipe which is stuck in a well,
(b) a flexible non-electrical line connected to said tubular body for lowering the body into the stuck pipe,
(c) said body having an upper body section and a lower body section with means for permitting limited relative longitudinal movement therebetween,
(d) an upper friction means on said upper body section for frictionally engaging the stuck pipe,
(e) a lower friction means on said lower body section for frictionally engaging the stuck pipe,
(f) sensing means having a variable sized opening which is operable to vary the size of such opening in response to longitudinal movement or torque developed in the stuck pipe between the upper and lower friction means, and



(g) a control rod extending through said opening of the sensing means and operably connected to the flexible non-electrical line for co-action with said sensing means to obtain an indication of the amount of longitudinal movement in the stuck pipe between the friction means when the pipe is longitudinally moved and to obtain an indication of the amount of torque in the stuck pipe between the friction means when torque is applied to the pipe.

3,367,180
SELF-ALIGNING SENSING SKID
Merton A. Look and Eugene Berg, Westbrook, Maine, assignors to S. D. Warren Company, Boston, Mass., a corporation of Massachusetts
Filed Mar. 25, 1965, Ser. No. 442,741
1 Claim. (Cl. 73—159)

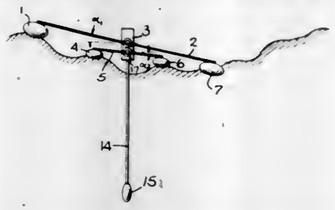


A self aligning sensing skid for caliper detectors having a center point suspension system. A spherical bearing is employed in the skid mounting system to permit three-dimensional movement of the skid and bump detector.

3,367,181
DIRECTIONAL WAVE SPECTRA MEASURING DEVICES
Cyrus Adler, 317 W. 99th St., New York, N.Y. 10025
Filed Feb. 11, 1965, Ser. No. 431,942
10 Claims. (Cl. 73—170)

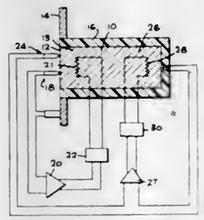
A device for measuring and recording the amplitudes, shapes, wave lengths, frequencies, and directional spectra of fluid waves.

The device consists of a plumb means, at least one buoyant arm pivoted to the plumb means, an inclinometer means for measuring the roll and tilt of the arms,



a device for measuring the azimuth orientation of the arms, an accelerometer for measuring the vertical motion of the waves, integrators and recorders.

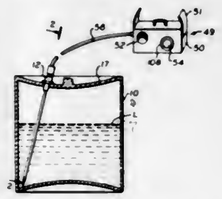
3,367,182
HEAT FLUX MEASURING SYSTEM
Richard D. Baxter, Lancaster, Calif., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed June 2, 1965, Ser. No. 460,877
4 Claims. (Cl. 73—190)



1. A heat flux sensor for measuring the heat flux inflow to a surface of a structure, said sensor comprising:
(a) a thermally symmetric heat conducting body mounted in said structure, said body having a first portion thereof disposed substantially flush with the surface of the structure and a second portion spaced from said structure surface;
(b) first heat control means connected to said first portion of said body and said structure surface for detecting a temperature differential therebetween and raising the temperature of said first portion to the temperature of the structure surface;
(c) second heat control means connected to said first and second portions of said body for detecting any temperature differential therebetween and raising the temperature of said second portion to that of said first portion; and
(d) means included in said heat flux sensor for determining the heating rate required to raise the temperature of said first and second portions of said body.

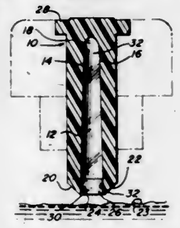
3,367,183
APPARATUS FOR MEASURING LIQUID LEVELS
George R. Webster, Princeton, N.J., assignor to Pyrofax Gas Corporation, New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 43,880, July 19, 1960. This application May 19, 1964, Ser. No. 368,650
7 Claims. (Cl. 73—304)

1. Apparatus for measuring the level of a liquid, possessing dielectric properties, in a plurality of tanks including tanks at widely separated locations, a variable capacitance probe extending through an upper part of each tank and downwardly in the tank for immersion in liquid stored within the tank, the probe including two closely spaced condenser elements, a fitting at the upper end of the tank and including a connector to which the condenser elements are connected, a portable measuring device comprising an electric circuit and indicating means in the circuit for measuring the capacitance of the probe at each tank, the electric circuit including two conductors and a connector to which said conductors connect and which is complementary to the connector on each tank for connecting the measuring device with each probe, the fitting at the upper end of each tank including a nipple that screws into a side of the tank and to the inner end of which one of the condenser elements is connected, a clamping nut that fits over the outer end of the nipple, a resilient sleeve that is within the clamping nut and surrounding an upper part of the other condenser element that extends through and beyond the upper end of the



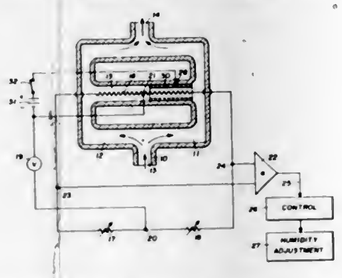
nipple, said other condenser element being electrically insulated from the nipple and clamping nut, a terminal piece connected to the clamping nut and constituting a part of the connector on the tank for connecting the probe with the measuring device, the terminal piece having a socket in its upper end and into which the upper of said other condenser element extends to form another part of the connector on the tank for connecting the probe with the measuring device, the terminal piece having studs on its outside surface for a bayonet lock, and the connector for the measuring device fitting over the terminal piece and having grooves that engage the studs to secure the connectors together, the connector for the measuring device having a resilient center contact in position to touch said other condenser element of the probe when the connectors are assembled with one another, and a flexible electric cable connecting the measuring device with its connector.

3,367,184
LIQUID LEVEL INDICATOR
John V. McHugh, Evanston, Ill., assignor to The Richardson Company, Melrose Park, Ill., a corporation of Ohio
Filed Mar. 29, 1966, Ser. No. 538,259
8 Claims. (Cl. 73—327)



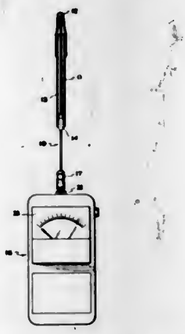
1. A liquid level indicator for use with storage batteries to signal when additional liquid should be added to the battery, the indicator comprising a light transmitting, hollow symmetrical body with the hollow core extending downwardly in an outward taper at a slight angle not exceeding about 5° to the lower end of the body and forming an opening in said lower end, the lower end having a conically shaped, reflecting surface to reflect light upwardly when the liquid level is below the reflecting surface and to disperse the light when the liquid level is in contact with said surface, the hollow core of the body terminating in a surface below the upper end of the body with this surface being irregular to prevent the transmission of light therethrough.

3,367,185
ELECTRIC FIELD DEPENDENT THERMALLY ACTUATED HUMIDITY SENSOR
Gene F. Wakefield, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Feb. 25, 1966, Ser. No. 530,155
8 Claims. (Cl. 73—336.5)



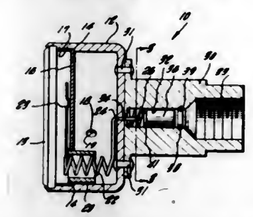
A device including a balanced bridge circuit network having two of its resistance arms heated and exposed to the atmosphere, plus a means for sensing a condition in the network. An electrode is placed coaxial to and extending substantially the length of one of said resistance arms, such that when a potential difference is established between said electrode and said one of said resistance arms an electric field is produced therebetween. The atmosphere reacts with said electric field producing an imbalance in the bridge network, said imbalance being an indication of relative humidity.

3,367,186
RESISTANCE THERMOMETER
John D. Ensign, Brigham City, and David M. Allen, American Fork, Utah, assignors to Measurement Science Corporation, Perry, Utah, a corporation of Utah
Filed Aug. 27, 1965, Ser. No. 483,038
1 Claim. (Cl. 73—362)



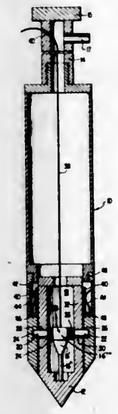
A resistance thermometer having a housing with a dial on the face, a bridge circuit therein, and a probe adapted to be plugged into the housing and circuit and including a spherical body contact element made of thin walled, conductive metal and a thermistor embedded in the wall of the body contact element and bonded in place with a conductive adhesive.

3,367,187
FAILSAFE BOURDON TUBE PRESSURE GAGE
Harry F. Smith, Glendora, Calif., and George Bales, Baldwin, N.Y., assignors to QED Incorporated, Monrovia, Calif, a corporation of California
Filed Mar. 17, 1966, Ser. No. 535,140
7 Claims. (Cl. 73—418)



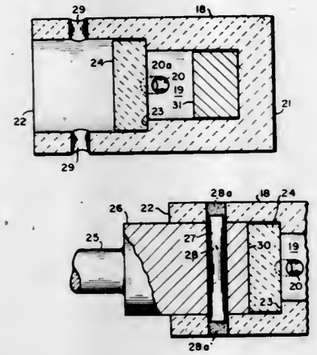
1. In a pressure gage having a case and a pressure-sensitive Bourdon tube in the case, the tube having an open end extending through the case, the improvement comprising a pressure fitting having an elongated internal bore, one end of the bore being an inlet for a pressure medium, the fitting being secured to the case whereby the tube end extends longitudinally into the bore; a sealing plug disposed in the bore between the tube end and the inlet and dimensioned to be a slip fit within the bore; and means in the bore for normally holding the plug away from the tube end, whereby the Bourdon tube is normally actuated by the pressure medium, and whereby Bourdon-tube rupture causes the pressure medium to force the plug against the tube end in sealing relation to avoid loss of the pressure medium.

3,367,188
RETRACTABLE DRIVING MEANS AND SAMPLING APPARATUS
Robert B. Robinson, Tulsa, Okla., assignor, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 5, 1965, Ser. No. 445,564
9 Claims. (Cl. 73—425.2)



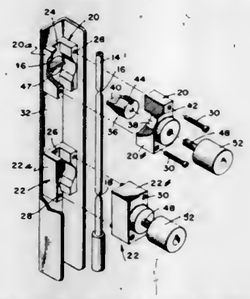
Portable apparatus for retrieving samples of subsurface earth and the like that is characterized by a hollow barrel connected to a rigid rod at one end and to a retractable driving point at the other end.

3,367,189
APPARATUS FOR PREPARING METAL TEST SAMPLES FROM MOLTEN METAL BATHS
William J. Curry, Jr., Johnstown, Pa., assignor to Hiram Swank's Sons, Johnstown, Pa.
Filed June 24, 1965, Ser. No. 466,733
7 Claims. (Cl. 73—425.4)



A molten metal sampling apparatus having an elongated hollow body of refractory material secured at one end to a handle and having a filling passageway in a side of the body for the flow of molten metal to fill the body which is the desired size of the sample to be taken and which may contain a chilling plug.

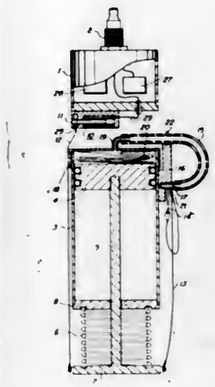
3,367,190
HERMETICALLY SEALING WATER SAMPLER
Rudolf H. Bierl, Del Mar, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 30, 1965, Ser. No. 517,862
10 Claims. (Cl. 73—425.4)



The description discloses a water sampler for obtaining a hermetically sealed sample of water at a selected depth. The sampler may be supported at such depth by a cable. The sampler includes an open tube and means for pinching the ends of the tube at a selected time so that water within the tube is trapped at the selected depth. The sampler along with the tube may then be retrieved and the gaseous content within the water will be representative of the gas content at the selected depth.

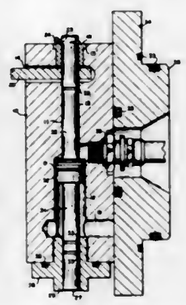
3,367,191
WATER SAMPLING APPARATUS
Joseph D. Richard, 3613 Loquat Ave., Miami, Fla. 33133
Filed Oct. 22, 1965, Ser. No. 501,100
4 Claims. (Cl. 73—425.6)

1. Water sampling apparatus of the character described comprising: a cylinder; a piston within the said cylinder; a spring urging the said piston toward the first end of the said cylinder; latching means for restraining the said piston adjacent the second end of the said cylinder against the force of the said spring; a flexible plastic bag folded within the said cylinder adjacent the second end, one end of the said plastic bag comprising a semi-rigid disk-shaped lid portion which fits snugly over the second end of the



said cylinder; a one-way valve passing through the aforementioned lid portion for admitting water into the said plastic bag when the said piston is retracted; means for attaching the said cylinder to an electrically conductive cable; and means for electromechanically releasing the said latching means in response to an electrical signal from the aforementioned electrical cable.

3,367,192
RELEASE MECHANISM
William L. Bryan, 2801 5th St. SE., Washington, D.C. 20032
Filed Feb. 28, 1966, Ser. No. 532,535
6 Claims. (Cl. 74—2)



1. In a release mechanism including a housing with an axial aperture therein within which a piston operates a first plunger to secure an object holding means within a slot in the housing in which the slot extends across said aperture, a squib operated means for releasing gas under high pressure for producing movement of said piston within said aperture in said housing to release an object held by said object holding means, the improvement comprising:

a plug secured in the axial aperture of said housing opposite from said piston,

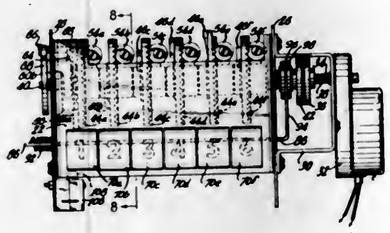
an axial aperture through said plug,

a second plunger,

said second plunger passing through said axial aperture in said plug having a length sufficient to extend into said aperture in said housing with the inner end operatively contacting said piston when in its uppermost position within said aperture and to extend outward through said aperture in said plug to the outside of said housing whereby,

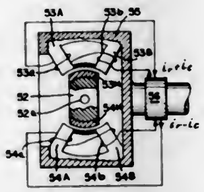
the outer end of each of said plunders are subjected to amibent pressure when said release mechanism is loaded and said piston and said plungers are positioned in their loaded positions.

3,367,193
TIMING SWITCH
Leonard Rose, Wantagh, N.Y., assignor to Consolidated Airborne Systems, Inc., New Hyde Park, N.Y.
Filed Oct. 23, 1965, Ser. No. 502,941
10 Claims. (Cl. 74—3.5)



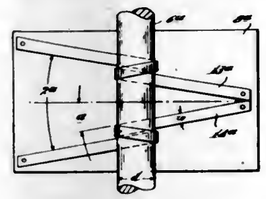
Precision timing device employing a plurality of individually adjustable cams on a common motor-driven shaft. A selected cam triggers a switch controlling linkage.

3,367,194
RATE GYROSCOPE
Nick D. Diamantides, 2517 14th St., Cuyahoga Falls, Ohio 44223
Continuation of application Ser. No. 169,451, Jan. 29, 1962. This application Feb. 4, 1965, Ser. No. 432,446
29 Claims. (Cl. 74—5.6)



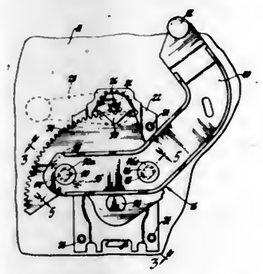
1. Apparatus responsive to angular movement, said apparatus comprising a rotatable head, means for spinning said head through a shaft at a high angular speed about a spin axis, a solid rotor carried on said head, said rotor being mounted for oscillatory movement with respect to said head through resilient means, said resilient means resisting but not impeding gyroscopically induced movements of said rotor with respect to said head about an oscillation axis orthogonal to said spin axis upon occurrence of relative angular movement of said apparatus about an axis normal to said spin axis, said resilient means connecting said rotor to said head, said rotor having one of its three principal axes of inertia aligned with said spin axis and a second of said principal axes aligned with said oscillation axis, said rotor being purposely shaped to exhibit equal moments of inertia about at least two of said principal axes, said two axes being both orthogonal to said oscillation axis.

3,367,195
MECHANICAL MOVEMENT
William A. Racine, Bridgewater, N.H. (P.O. Box E, Bristol, N.H. 03222)
Continuation-in-part of application Ser. No. 318,737, Oct. 24, 1963. This application May 23, 1966, Ser. No. 575,197
4 Claims. (Cl. 74—89.2)



1. A mechanical movement comprising a shaft and an oscillator having a surface movable back and forth transversely of the shaft tangentially to the shaft, two belts each having a turn around the shaft with portions extending along the oscillator on each side of the shaft, said turns spiraling in opposite directions axially of the shaft so that the inner ends of the turns are closer together than the outer ends of the turns, the outer ends of the portions extending from said inner ends of the turns being connected to the oscillator at one pair of points and the outer ends of the portions extending from said outer ends of the turns being connected to the oscillator at a second pair of points farther apart than the other two points so that said portions are disposed at an angle to each other on both sides of said shaft, thereby to prevent the overlapping parts of each turn from rubbing on each other.

3,367,196
WINDOW REGULATOR MECHANISM
Marvin A. Packett, Detroit, and Otto J. Langmesser, Jr., Mount Clemens, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 28, 1966, Ser. No. 568,643
6 Claims. (Cl. 74—89.18)

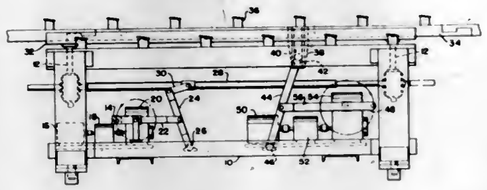


1. A vehicle window regulator, comprising in combination: drive means mounted on the vehicle body, said drive means having a generally planar portion; a driven arm connected to the window; and means mounting said driven arm on said drive means in a manner permitting limited movement of said driven arm relative to said drive means in directions generally transverse of the face of said planar portion to accommodate movement of said window in similar directions.

3,367,197
TRANSFER APPARATUS

Ralph L. Tabor, Birmingham, Walter Greenwood, Dearborn, and Peter J. Manetta, East Detroit, Mich., assignors to Simplex Corporation, Detroit, Mich., a corporation of Michigan

Filed July 19, 1965, Ser. No. 472,814
18 Claims. (Cl. 74—110)

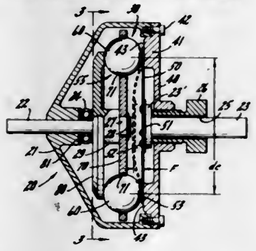


Transfer apparatus comprising a vertically movable platform, a slide movable vertically with and horizontally on the platform, and drive means for producing essentially harmonic motion of the platform vertically and of the slide horizontally.

3,367,198
VARIABLE SPEED REDUCER MECHANISM

Henry Schottler, North Riverside, Ill., assignor to Roller Gear Ltd., Zug, Zug, Switzerland, a corporation of Switzerland

Filed Mar. 9, 1966, Ser. No. 532,964
18 Claims. (Cl. 74—198)



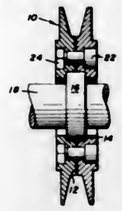
1. A speed reducer mechanism for transmitting the rotation of a rotatable input means to a rotatable output means at a reduced speed, said reducer comprising a first transmission member having an annular contact surface, a second transmission member comprising a plate arranged adjacent said annular contact surface, said plate defining a deformable circumferential working area engageable with said contact surface, retaining means to space said working area from said contact surface, a pressure wave generator energized by said input means and operable to propagate a rotating pressure wave which deflects successive segments of said circumferential working area into engagement with said contact surface to cause said circumferential working area of said plate to engage with and travel along a circular path of differing circumferential length on said contact surface and thereby rotate one of said transmission members with respect to the other transmission member at a reduced speed, and means connecting said transmission member rotating at a reduced speed to said rotatable output means.

3,367,199
PULLEY AND BEARING ASSEMBLY

Gerhard Dankowski, 8228 Hunnicut Road, Dallas, Tex. 75228

Filed May 25, 1966, Ser. No. 552,786
1 Claim. (Cl. 74—230.3)

1. A pulley comprised of at least two disc members in side by side axial relation, each said disc member being comprised of a circular body portion, a flange thereabout and a hub portion, said disc members being of a material having a coefficient of expansion greater than



steel, shouldered recesses in opposing faces of said hub portions, bearings received in and engaged by said shouldered recesses and transverse steel screws through said disc members securing the same together.

3,367,200
ROTARY SELECTION MECHANISM FOR CHANGING GEAR RATIOS

Clinton L. Cummings, Groton, Mass., assignor to Geartronics Corporation, North Billerica, Mass., a corporation of Massachusetts

Filed May 25, 1965, Ser. No. 458,656
12 Claims. (Cl. 74—329)

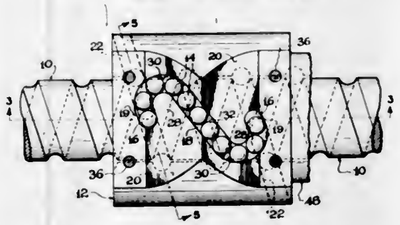


A speed change device having a main input gear encircled by a plurality of sub-gear trains all connected to an output gear. Each sub-gear train includes a station gear and shaft which produces one of a selected set of gear ratios. No push-pull linear motion is required to change the speed ratio. Ratio is changed by a turning motion which is converted into an axial, linear movement for connecting the appropriate station gear into the train between input and output gears.

3,367,201
BALL BEARING SCREW AND NUT MECHANISM

Harry Orner, 2479 Glen Canyon Road, Altadena, Calif. 91001

Filed July 12, 1965, Ser. No. 471,362
9 Claims. (Cl. 74—424.8)

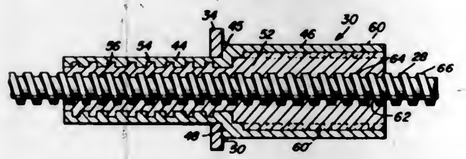


A ball bearing screw and nut mechanism having a recirculating passage in the nut for the balls to recirculate from one end of the ball race load groove to the other end. The recirculating passage is formed as a reverse curve on two inclined planes along the length of the nut. Pick-up structures at the junction of the recirculating passage and the load groove having inner extended ends tangent to the load groove to form the extreme ends of the reverse curve recirculating passage in a single curvilinear continuity curve. A cover over the recirculating passage on the inclined planes to retain the balls therein.

3,367,202
FEED SCREW NUT FOR THE KNIFE CARRIAGE OF A VENEER LATHE

Delbert G. Duvall, Gold Beach, Oreg., assignor of fifty percent to Curtis R Duvall, Gold Beach, Oreg.

Filed Sept. 28, 1966, Ser. No. 582,708
10 Claims. (Cl. 74—459)

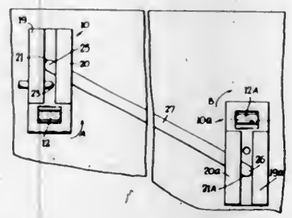


10. A feed screw nut for use with a steel feed screw in association with the movable knife carriage of a veneer lathe for peeling logs into veneer comprising a steel sleeve, a liner of babbit metal disposed in said sleeve and coextensive in length with the sleeve, and interlocking means between the liner and the inner surface of the sleeve to locate the liner against axial and rotational displacement within the sleeve, said liner being internally threaded to threadingly receive a steel feed screw.

3,367,203
CABLE CONTROL CLIP AND ASSEMBLY

Clifford Alexander Seckerson, Iver Heath, Edward Harry Frederick Ferguson, Harefield, and George Noel Crowther, Hillingdon, England, assignors to United-Carr Incorporated, Boston, Mass., a corporation of Delaware

Filed Mar. 3, 1966, Ser. No. 531,495
Claims priority, application Great Britain, Mar. 8, 1965, 9,725/65
6 Claims. (Cl. 74—469)

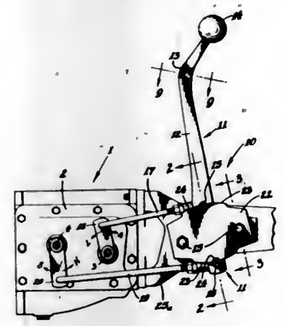


4. An assembly of two rotatable shafts formed with flats linked together for co-rotation with the aid of two clips and a link, each clip comprising an apertured base, a bowed web extending upwardly from one end of the base and an arm extending outwardly from the upper end of the web, the arm being formed with a hole, one of the shafts extending through the aperture in the base and the hole in the arm of each clip, with the web tensioned thereby, means being provided on each clip cooperatively engaged with the flat on each shaft to prevent relative rotation between the clip and the shaft and to resist withdrawal of the clip from the shaft, an aperture being provided in the arm of each clip and a link having cranked ends being engaged respectively in the said apertures in the arms of the two clips to link the clips together for co-rotation and there being also provided an extension on the arm of each clip which is reversely bent so as to overlie the said arm and retain the cranked end of the link in the aperture therein.

3,367,204
GEAR SELECTOR MECHANISM

Lee S. Chadwick II, R.F.D. 4, St. Albans, Vt. 05478

Filed Aug. 2, 1965, Ser. No. 476,256
8 Claims. (Cl. 74—477)

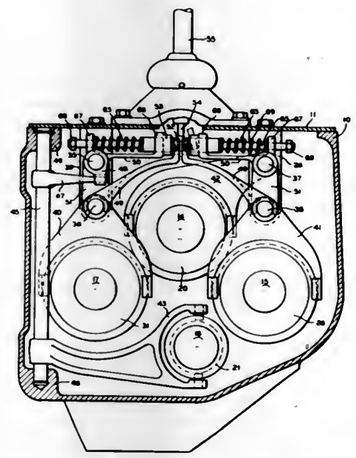


A gear selector mechanism for a power plant transmission having at least two gear systems each movable from a neutral setting to either of two operating settings, the mechanism including a lever movable in a plane and provided with two spaced detents linked, respectively, to the two gear systems, whereby each detent has positions corresponding to neutral and each of two drive settings, and a fixed plate provided with two spaced guide surfaces to guide the movement of the respective detents, each guide surface having a central recess corresponding to the neutral setting of the gear system linked to the detent guided thereby, the recesses and detents being so spaced that one detent will always be locked in neutral position.

3,367,205
TRANSMISSION SHIFT CONTROL

Richard L. Ratliff, Jackson, Mich., assignor to Clark Equipment Company, a corporation of Michigan

Filed Dec. 20, 1965, Ser. No. 515,006
3 Claims. (Cl. 74—477)



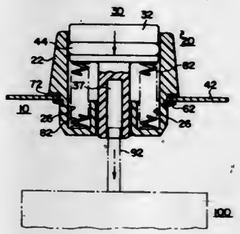
A transmission has four gears each operatively connected to a shift rail controlled through movement of an attached shift arm. The shift arms each terminate in a bifurcated end with the ends located next to each other along a line in a common plane. The shift rails are arranged in associated pairs with the bifurcated ends of the shift arms of each pair terminating adjacent each other.

A selector is mounted to engage a selective one of the bifurcated ends to shift the shift arms perpendicular to the line of the bifurcated ends and thereby the associated shift rail and gear as desired.

To prevent movement of more than one shift arm of a pair at a time, a spring detent means is mounted between the rails of each of the associated pairs. The spring detent means includes a pair of detent balls biased in opposition by a spring to engage respective recesses in the shift rails. A pin of selected length is located between the detent balls to lock one rail upon movement of the other.

To prevent movement of two rails not of the same pair, a biased plunger is inserted in the two outermost shift arms and the plungers are biased inwardly within the recesses formed by the bifurcations towards the two center bifurcated ends to lock each of the center ends to the position of the adjacent outermost end. Upon movement of the selector one of the plungers is pushed against the associated bias spring and when the plunger is moved to a position that clears the engaged end the engaged bifurcated end may be moved by shifting of the selector.

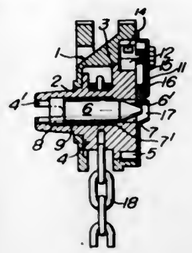
3,367,206
PUSHBUTTON ACTUATOR
James B. Moody, Indiana Township, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 10, 1965, Ser. No. 462,978
4 Claims. (Cl. 74—503)



More particularly, a plunger is slidably disposed in a supporting sleeve and includes a resilient portion of reduced cross-section which moves through an opening in a transverse web in the sleeve. The latter portion of the plunger includes projecting tabs which retain the plunger in assembled relation with the sleeve. Additional openings may be provided in the web of the sleeve or in the plunger to act as spring seats for the resetting springs disposed between the web and the plunger.

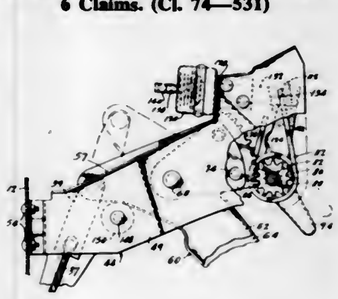
3,367,207
SPARE TIRE AND RIM OR WHEEL CARRIER
Hiroshi Iida, Kariya-shi, Japan, assignor to Shinzo Kondo, Nagoya, Japan
Filed Oct. 29, 1965, Ser. No. 505,713
Claims priority, application Japan, May 7, 1965, 40/26,809, 40/26,810
2 Claims. (Cl. 74—506)

A spare tire and rim or wheel carrier which is adapted to be mounted to the underside of the body of an automobile and which comprises a chain wheel rotatably mounted in a box body having ratchet teeth and a handle-receiving socket, a slide pin mounted in a pin hole bored through the chain wheel and having a tapered end thereof in contact with a spring biased cam lever, and a spring having one end bearing against a pawl intermeshing with the ratchet teeth of said chain wheel and the other end depressing said cam lever, whereby when the spare tire and rim or wheel is to be mounted, a chain trailing around the chain wheel and having an anchor plate at one end with said spare tire and rim or wheel mounted thereon is wound up by a handle inserted in the handle-



receiving socket, whereas when the spare tire and rim or wheel is dismounted, the chain is unwound upon releasing the engagement between the pawl and ratchet teeth by further inserting the handle with force.

3,367,208
MECHANISM CONTROL
Norman N. Fender, Toledo, Ohio, assignor to Universal American Corporation, New York, N.Y., a corporation of Delaware
Original application Apr. 22, 1963, Ser. No. 274,689, now Patent No. 3,236,120, dated Feb. 22, 1966. Divided and this application Feb. 3, 1965, Ser. No. 430,073
6 Claims. (Cl. 74—531)

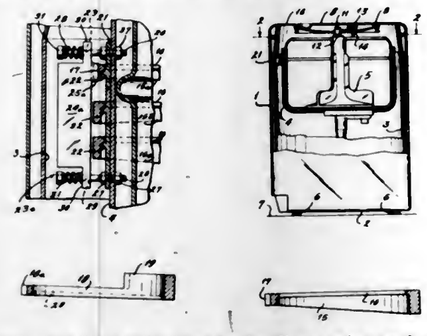


1. A method for manipulating parking brakes of an automotive vehicle including the steps of moving a brake actuator to set the brakes through the medium of a brake cable, rotating a surface by the brake setting movement of the actuator through a motion multiplying instrumentality, engaging the surface with a member stressed to lock the surface and actuator in brake setting position, and distorting the stressed member to release the surface and actuator for movement to brake release position.

3,367,209
LOAD EQUALIZER
Robert C. Peterson, 104 Santa Rita, Odessa, Tex. 79760
Filed Oct. 22, 1965, Ser. No. 502,666
10 Claims. (Cl. 74—573)

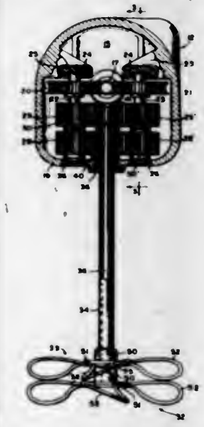
7. In a vertical tub, spin extractor type automatic washing machine, a load equalizer comprising support brackets mounted to said tub around the periphery thereof in three distinct planes, three unsymmetrical mass rings supported by said brackets for relative translation around the periphery of said tub, each said mass ring defining a notch in the edge thereof, a centrifugally operated brake for each said mass ring, each said brake having

a lug for engaging the notch in each said mass ring, each said mass brake holding each said lug in each said notch to retain all said mass rings arranged in a pattern with equal distribution of the masses of said mass rings about said spin tub below a certain rotary speed of said



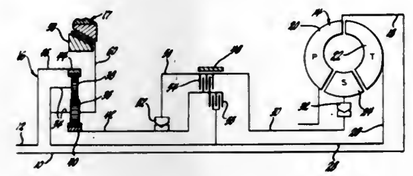
spin tub, and each said mass brake disengaging each said lug from each said notch under the influence of centrifugal force created by rotation of said spin tub at about said certain rotary speed to release each said mass ring for free relative translation about said spin tub to equalize said spin tub load.

3,367,210
BEATERS AND MIXERS
John H. Scott, 847 NE. 88th, Seattle, Wash. 98115
Filed Oct. 7, 1965, Ser. No. 493,660
2 Claims. (Cl. 74—665)



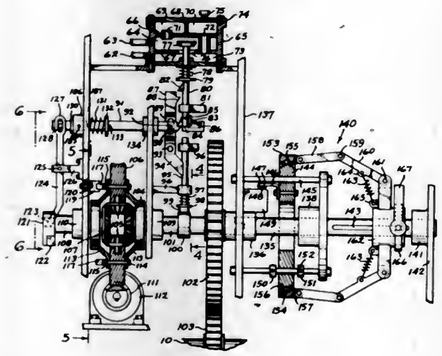
1. Driving gearing for a pair of coaxially arranged beater shafts; said gearing comprising paired pinion gears of equal diameter in coaxial alignment and equipped for receiving the inner ends of coaxial beater shafts therein, respectively, for driving said shafts, counter shafts mounted parallel with and at opposite sides of the axially aligned paired pinion gears, paired drive gears of equal diameter fixed on said counter shafts, respectively, a driven gear common to and in driving mesh with said drive gears for driving said drive gears and said counter shafts in unison in opposite directions, gear wheels of the same diameter fixed on said counter shafts in driving mesh with said paired pinion gears, respectively, to cause driving of the beater shafts applied thereto in unison, in opposite directions and paired idler gear wheels, freely rotatable on said counter shafts respectively, and meshing, respectively, with the pinion gears in pressure balancing relationship to their drive gears.

3,367,211
TRANSMISSION
August H. Borman, Detroit, Erkki A. Koivunen and Roderick G. Tipping, Livonia, and Nils P. Week, Allen Park, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 27, 1965, Ser. No. 490,308
4 Claims. (Cl. 74—677)



A transmission having a three element torque converter combined with a single, dual pinion, planetary gear set to provide two forward drive ranges and a reverse drive range. In the low forward drive range the converter and gear set operate in series and in the high drive range the converter and gear set operate in series in one arrangement and provide split torque drive in another arrangement. In the reverse drive range the converter and gear set operate in series with stator drive.

3,367,212
AUTOMATIC HYDRAULIC TRANSMISSION
Henry Hagen, 4445 Center St. NE., Salem, Oreg. 97301
Filed Feb. 2, 1966, Ser. No. 524,393
7 Claims. (Cl. 74—687)



1. In a drive system including an engine-powered drive shaft and an output driven shaft connected thereto through differential gearing, the combination therewith of

(a) at least one reciprocative hydraulic pumping member each having a hydraulic fluid inlet and an outlet,

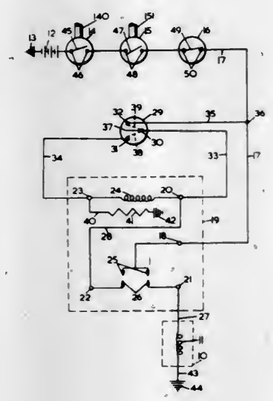
(b) means connecting each pumping member to the differential gearing for operation thereby,

(c) hydraulic valve means releasably sealing each pumping member outlet from each pumping member inlet,

(d) valve-operating cam means operable by the drive shaft,

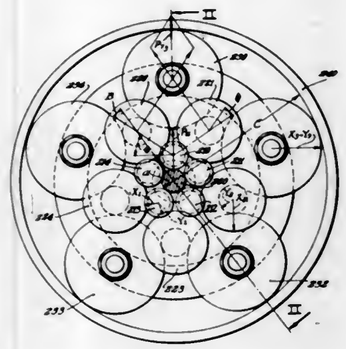
(e) cam follower means interengaging the valve means and valve-operating cam means,
(f) pawl means movable between a retracted position and an extended position wherein it engages the valve means releasably and holds the latter open,
(g) pawl-operating cam means,
(h) cam follower means interengaging the pawl-operating cam means and pawl means,
(i) reversible electric control motor means having an electric circuit,
(j) differential gearing means connecting the pawl-operating cam means simultaneously to the drive shaft and to the control motor means, and
(k) electric switch means in the electric circuit of the control motor means and operable to control the direction of rotation of the control motor means for adjusting the relative angular relationship between the valve-operating cam means and the pawl-operating cam means.

3,367,213
CONTROL OF CHANGE-SPEED GEARINGS
Randle Leslie Abbott, Leamington Spa, England, assignor, by mesne assignments, to Auto Transmissions Limited, London, England, a company of Great Britain
Filed Mar. 21, 1966, Ser. No. 535,878
Claims priority, application Great Britain, Mar. 24, 1965, 12,374/65
9 Claims. (Cl. 74—781)



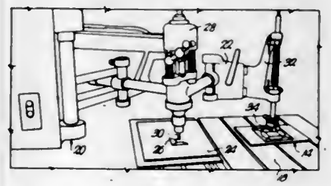
1. A control system, for an auxiliary two-speed gearing arranged to transmit drive between a fluid controlled automatic main change-speed gearing of a motor vehicle and a final gearing for the driven road wheels of the vehicle, including an electrical circuit for controlling the gear selection in the auxiliary gearing, said electrical circuit including a driver-actuated switch operable to cause said circuit to effect a gear-change in said auxiliary gearing, and a pressure operable electrical switch consisting of a fluid pressure operable device which is tapped to the fluid control circuit of the automatic gearing whereby the fluid pressure operable device will be operated by the pressure in said fluid control circuit when the highest ratio of the automatic gearing is engaged, and the pressure operable electrical switch further consisting of an inhibiting means actuated by the operation of the fluid pressure operable device to cause said electrical circuit to operate from a condition in which the engagement of the higher ratio of said auxiliary gearing is inhibited to a condition in which the higher ratio of said auxiliary gearing is not inhibited.

3,367,214
DOUBLE TOGGLE ACTION PLANETARY FRICTION DRIVE
Algirdas L. Nasvytis, Cleveland, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 237,629, Nov. 14, 1962. This application Feb. 17, 1966, Ser. No. 528,181
10 Claims. (Cl. 74—798)



1. In combination in a friction planetary drive, a sun cylinder member, a ring cylinder member, a set of intermediate planet members comprising a number *n* more than two cylinders equally spaced around said sun cylinder and in friction contact therewith, additional intermediate planet members drivingly interposed between the members of said set and said ring cylinder and equally spaced around said sun cylinder, said additional intermediate planet members including a second set of *n* intermediate planet members positioned relative to the members of said first set in friction drive relation thereto and a third set of *n* intermediate planet members positioned between said second set and said ring cylinder in friction drive relation with said ring cylinder and said second intermediate set.

3,367,215
ROTARY WRAPAROUND DIE CUT DIE AND METHOD OF PRODUCING SAME
Harold D. Rice, Leawood, and Lawrence R. Pulley, Shawnee Mission, Kans., assignors to Hallmark Cards, Incorporated, Kansas City, Mo., a corporation of Missouri
Filed Aug. 13, 1965, Ser. No. 479,475
19 Claims. (Cl. 76—107)



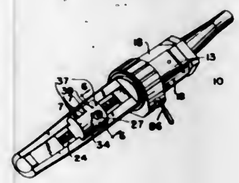
A process for preparing a die cut die having a V-shaped cutting rib where the outer sharp edge there is of precise height and very accurately conforms to a previously prepared design. A pantograph milling machine is used to form a V-shaped groove in a master sheet of bendable material conforming to the shape of the desired design. A metallic layer is then plated over the grooved sheet whereby the rib structure formed in the grooves presents sharp cutting edges upon removal of the plated layer from the sheet. The die cut die is usable in both flat and circular form but for the latter photographic and etching techniques are used to distort the original design before use thereof as a guide in formation of the groove in the master sheet.

3,367,216
PROCESS FOR COLD FORMING METAL
Roy H. Anderson and Douglas J. Lemery, Victoria, British Columbia, Canada, assignors to Atlas Chain Co., Ltd., Victoria, British Columbia, Canada
Filed June 30, 1966, Ser. No. 561,935
8 Claims. (Cl. 76—112)



8. A method of forming saw chain cutter links from metal strip stock comprising: stamping out portions of one edge of said strip to form saw tooth blanks having a desired rake angle in plan, advancing each tooth blank through a series of stations between clamping die halves having successive die cavities for first upsetting the blank by impact to thicken and foreshorten the same, then splitting the upset blank to the desired depth to form tooth sections and simultaneously spreading said sections, coining a radius between said tooth sections, then die forming the final configuration of the sections, and then stamping the chain link configuration including the formed tooth from the strip, all of said steps being performed while the metal is cold.

3,367,217
TAPER BORING OR TURNING TOOL UNIT
Hugh M. Franks, 4662 Ziegler, Dearborn Heights, Mich. 48125
Filed Oct. 21, 1965, Ser. No. 499,217
15 Claims. (Cl. 77—57)



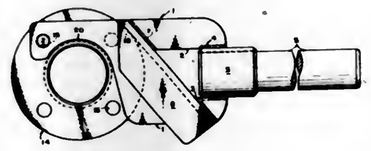
A boring bar is disclosed for the formation of tapered circular surfaces on a workpiece, which bar includes a relatively massive adapter member having means to rigidly secure the same on a machine tool part. An elongated boring bar body member is pivotally mounted on the adapter member to swing to a selected angular relation to the latter; and means are provided, in laterally spaced relation to the pivotal axis, to clamp the bar member rigidly in an adjusted position, bracing the bar strongly against movement away from that position. Thus, the need for an outboard support for the bar is eliminated in most instances.

The bar member rotatably journals an elongated screw on an axis paralleling the length of the bar member; and this screw mates with the helix of a slide guided for longitudinal movement in opposite directions guided by and along the bar member.

An annular collar surrounds the adapter member, being provided with an internal helix formation, which formation is operatively engaged by an actuator device, for example, a worm and gear unit, the gear part of which is fixedly connected to the screw coaxially thereof. Normally, when the screw is not rotatably driven, the collar rotates with the bar member. However, when a turning or forming operation is desired, the collar is manually held by the operator against rotation, with resultant relative movement of the actuator device and collar, so that the helix formation of the collar drives the worm of the actuator device. The worm gear of the device rotates the screw, causing axial movement of the tool-carrying slide.

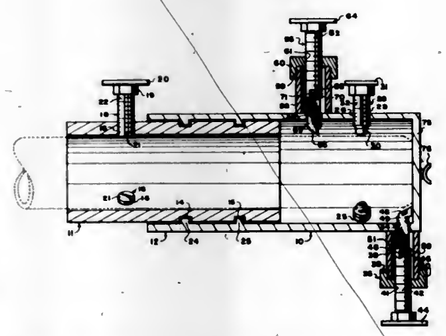
A more rapid drive of the slide is possible by decoupling the actuator device from the screw, and then driving the screw from the exterior of the adapter member, as through the agency of a bevel gear set, of which one gear is drivingly connected to the screw.

3,367,218
WRENCH FOR TURNING FLANGED COUPLINGS
Emil J. Koubele, Junction City, Oreg. (3947 Compton St., Chino, Calif. 91710)
Filed Aug. 4, 1966, Ser. No. 570,268
1 Claim. (Cl. 81—90)



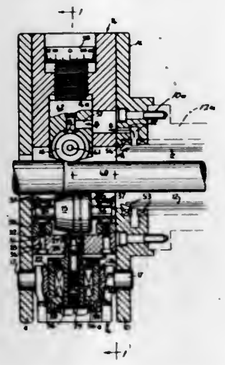
A one-piece wrench adapted for operative engagement with various sizes of flanged collars or pipe unions for screw-threading the same into secure engagement with, or removal from a pipe.

3,367,219
PIPE CUTTING AND BEVELING APPARATUS
Sidney G. Walters, P.O. Box 532, Thomaston, Ga. 30286
Filed Apr. 22, 1966, Ser. No. 544,432
3 Claims. (Cl. 82—4)



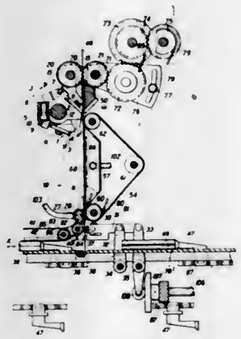
Pipe cutting and beveling apparatus for use in the field to selectively cut grooves in pipe sections and bevel the ends of pipes, comprising an open ended cylindrical guide for insertion about and stationary connection to the end of a pipe section to be cut, and a cylindrical cutting assembly rotatably mounted about the cylindrical guide and including inwardly projecting cutting members for engaging the pipe section.

3,367,220
MACHINE TOOL CUTTER HEAD
Charles W. Copeland, "Daneor" Biddulph Road, Mossley, Congleton, Cheshire, England
Filed May 25, 1966, Ser. No. 552,799
Claims priority, application Great Britain, May 28, 1965, 22,661/65
10 Claims. (Cl. 82—35)



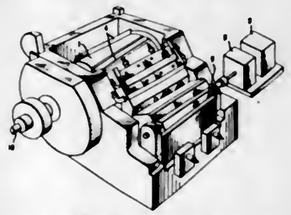
A cutter head for holding a workpiece in a machine tool and including a pair of annular, spaced apart plates between which cutting tool carriers are mounted for swinging between operative and inoperative positions.

3,367,221
PACKING MACHINES
Alfred Schmermund, 62 Kornerstrasse, Gevelsberg, Westphalia, Germany
Filed May 20, 1966, Ser. No. 551,708
Claims priority, application Germany, May 22, 1965, Sch 37,108
6 Claims. (Cl. 83—88)



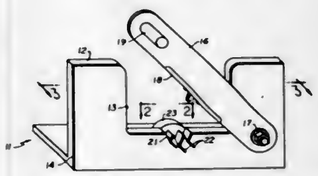
1. In a packing machine in which an article to be packed is embraced in a U-shaped manner by a wrapping having a long and a short portion of wrapping material in overlapping relationship and in which the two wrapping material portions are cut from a single web of said material, the combination of a rotatable cutter, a counter member positioned for cooperation with said cutter, a first cutter blade and a second cutter blade arranged on said cutter for alternately cutting, by pressure against said counter member, short and long portions of wrapping material from said web, means for feeding said web at a substantially constant speed between said cutter and said counter member, a suction belt movable at a substantially constant speed, a portion of said suction belt being arranged along the path of movement of said portions of wrapping material for taking over the feed of each portion of wrapping material after it has been cut from said web, means arranged near that end of said suction belt portion which is remote from said cutter for decelerating the movement of said long portion of wrapping material after it has been released from said suction belt so as to allow the next following short portion of wrapping material to overtake the trailing end of said long portion thereby to effect an overlap between said trailing end of said long portion and the leading end of said short portion.

3,367,222
CUTTING APPARATUS WITH CONTINUOUSLY ADJUSTED BED-KNIFE
Lester R. Mummery, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 15, 1966, Ser. No. 527,609
1 Claim. (Cl. 83—174)



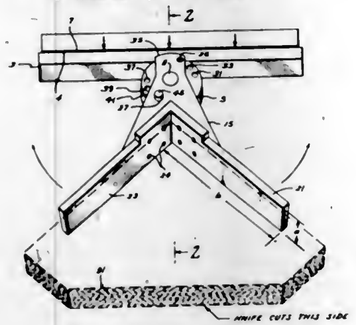
1. In an apparatus for cutting a tow of continuous synthetic filaments into flock, of the rotating reel type comprising a plurality of blades mounted on a rotor, an adjustable bed-knife across which the blades are revolved so as to make brushing contact for cutting tow fed across the bed-knife, wedge means for moving the bed-knife toward the revolving blades, and screw means for adjusting the position of the wedge means; the improvement, for maintaining the blades and bed-knife in contacting relationship during continuous operation, of a variable speed motor and gear means to reduce the motor speed by 2000 to 1 in combination with said screw means for advancing said bed-knife toward the revolving blades continuously during the cutting operation at a rate which will compensate for wear.

3,367,223
SEMICONDUCTOR LEAD CUTTER
George F. Caraisco and Victor P. Elischer, El Cerrito, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 7, 1966, Ser. No. 519,393
5 Claims. (Cl. 83—389)



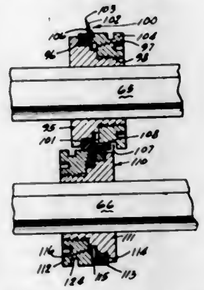
This invention is a hand tool for trimming semiconductor lead wires to uniform length without vibrational damage to the wafer-lead junctions. The device includes a base having a notched edge for receiving a predetermined length of the leads, a cutting arm pivoted to cut against the edge, and a complementary-notched damping block spring-mounted on the arm to seat against the leads during cutting.

3,367,224
ALIGNING AND POSITIONING DEVICE
Alphonse M. Thiel, Pasadena, Tex., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Dec. 1, 1965, Ser. No. 511,299
3 Claims. (Cl. 83—467)



Stacks of paper sheets may be held for repetitive cuts at an acute angle to the cutting blade of a paper cutting machine by a jig having guide arms positioned along adjacent edges of the paper stack, said guide arms being angularly adjustable with respect to a reference frame member.

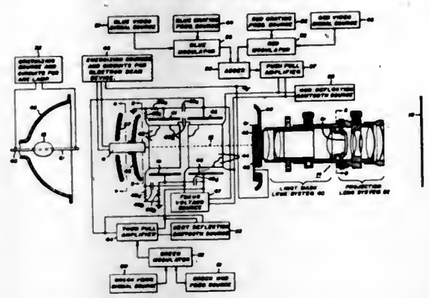
3,367,225
TRIMMER ASSEMBLY
Arthur Stanford, Bensenville, and Paul W. Norman, Glenview, Ill., assignors to General Binding Corporation, Northbrook, Ill., a corporation of Illinois
Original application May 26, 1959, Ser. No. 815,904. Divided and this application Sept. 10, 1963, Ser. No. 311,277
3 Claims. (Cl. 83—499)



1. A trimmer assembly for edge trimming of thin sheet material comprising:
- a casing having spaced parallel shafts mounted therein,
- mating movable slitter and anvil blocks mounted on said shafts for axial sliding movement therealong,
- a circumferential groove formed in each of said mating blocks,
- thin annular dished metallic slitter and anvil discs carried within the grooves formed in said slitter and anvil blocks, respectively,
- resilient means carried within the said groove in said anvil block between a wall thereof and the said anvil disc carried therein and biasing such disc into engagement with the convex surface of said slitter blade, and
- adjustable means positioning one of said blocks on its respective shaft,

whereby the interengagement between the peripheral edge of the slitter disc and the groove of said anvil block will cause said blocks to move axially on said shafts with one another.

3,367,226
COLOR PROJECTION SYSTEM USING DIFFRACTION GRATINGS
Henry J. Vanderlaan, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 10, 1966, Ser. No. 519,724
6 Claims. (Cl. 88—24)



1. In apparatus for projecting a color image corresponding to deformations contained in a light modulating medium in the form of two superimposed light diffraction gratings, a first grating having lines extending in one direction and a second grating having lines extending in another direction orthogonal to said one direction, the deformations of said first grating having an amplitude dependent upon the intensity of a first color component, the deformations of said second grating having an amplitude dependent upon the intensity of a second color component, the line to line spacing of said second diffraction grating being different from the line to line spacing of said first diffraction grating, the combination of:
- a source of light for producing said two color components of light,
- a first mask including a first set of bars and slots extending in said one direction and a second set of bars and slots extending in said other direction, said slots of said first set being transparent to said first color component and said bars of said first set being opaque to said first color component, said slots of said second set being transparent to said second color component, and said bars of said second set being opaque to said second color component,

means for imaging light from said source onto said first mask,
- a second mask including a first set of bars and slots extending in said one direction and a second set of bars and slots extending in said other direction, said bars of said first set being opaque to said first color component and said slots of said first set being transparent to said first color component, said bars of said second set being opaque to said second color component, and said slots of said second set being transparent to said second component,

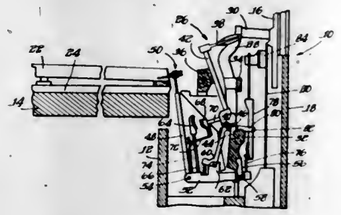
means for imaging light from each of the slots of said first set of said first mask onto a corresponding opaque bar of said first set of said second mask, and means for imaging light from each of the slots of said second set of said first mask onto a corresponding bar of said second set of said second mask,
- a projection means for projecting an image of said medium onto a screen,

said first and second light masks constituted and positioned with respect to said orthogonally arranged diffraction gratings of said light modulating medium to control conjointly therewith the intensity of each to said two color components projected by said other projection means.

3,367,227
RELEASABLE COUPLING FOR PIANO ACTION MECHANISM

Robert S. Hill, Holly Springs, Miss., assignor to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio

Filed Oct. 17, 1966, Ser. No. 587,232
7 Claims. (Cl. 84—240)

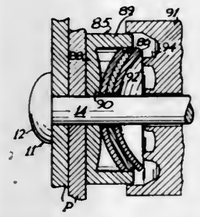


1. A coupling for use in transmitting pulling motion in a piano action mechanism, said coupling comprising: a reciprocable link having radial protuberances spaced axially apart thereon; a bushing of tough, elastic material confined on said link between said protuberances, said bushing including a medial body portion and reduced-diameter neck portions extending axially from opposite ends of said body portion; and a yoke engageable with said bushing to complete a motion-transmitting train from said link to a rigid member connected to said yoke, including upper and lower portions spaced to confine said body portion therebetween, said upper and lower portions being axially slotted to receive said neck portions.

3,367,228
FASTENER WITH IMPROVED LOCKING MEANS

John O. King, Jr., 110 Lake Forrest Lane, Atlanta, Ga. 30305

Filed Jan. 12, 1966, Ser. No. 520,167
3 Claims. (Cl. 85—7)



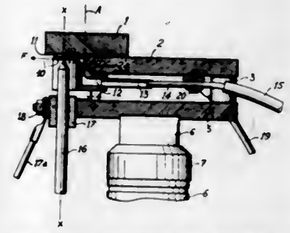
A threadless locking bolt in combination with a deformable, bolt engaging collar for use in securing together a plurality of workpieces having aligned openings therein to receive the bolt.

3,367,229
SPECTRUM ANALYSIS OF METALLIC SAMPLES IN OPEN AIR

Roger Berneron, Saint Germain-en-Laye, France, assignor to Institut de Recherches de la Siderurgie Francaise, Saint Germain-en-Laye, France, a professional institution of France

Filed May 21, 1963, Ser. No. 282,101
Claims priority, application France, June 4, 1962, 899,541
7 Claims. (Cl. 88—14)

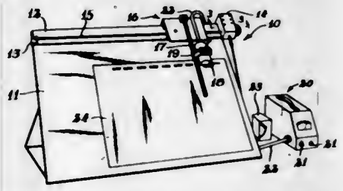
Spectrum analysis is carried out in the open air and undesirable light emission effects are avoided by causing a stream of a non-oxidizing gas to sweep the substantially plane undersurface of the sample which is burned in an electric arc by means of a counter electrode. The nozzle for blowing the gas across the surface of the sample is a narrow width, substantially semi-circular outlet surrounding the space immediately beneath the undersurface of the sample.



3,367,230
LIGHT DENSITY SCANNING DEVICE

Charles R. Williams, Wheaton, Ill., assignor to The Welch Scientific Company, Chicago, Ill., a corporation of Illinois

Filed Dec. 4, 1963, Ser. No. 327,905
11 Claims. (Cl. 88—14)

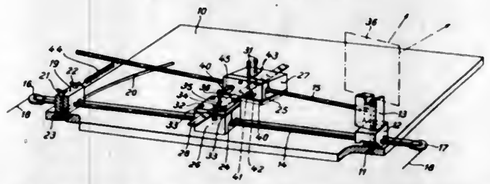


A light density scanner assembly for monitoring color density in printing. A memory control automatically assures proper attenuation of the amplifier simultaneously with selection of reflector head alignment for rapid scanning. Direct reading of the test results at the test surface is also available.

3,367,231
CONTROLLING MECHANISM FOR A SPECTROMETER

Günther Meinecke and Heribert Lüssem, Wetzlar, Germany, assignors to Ernst Leitz G.m.b.H., Wetzlar, Germany

Filed Jan. 14, 1964, Ser. No. 337,610
Claims priority, application Germany, Jan. 17, 1963, L 43,908
8 Claims. (Cl. 88—14)



A mechanism for rotating the grating of a spectrometer in response to the translational movement of a control member. A first rod rotates the grating about a vertical axis and a second rod is a track for the control member. A third rod connects the control member with a carriage which rides on the first rod, the three rods together defining a right-angled triangle. When the hypotenuse of the triangle lies along the first rod, the wave number of the light diverted along a particular line by the grating is linearly related to the displacement of the control member. When the hypotenuse of the triangle lies along the second rod, the wavelength of the light diverted in a particular direction by the grating is linearly related to the displacement of the control member. Means are provided for causing the hypotenuse to lie along the one of said rods selected by the operator.

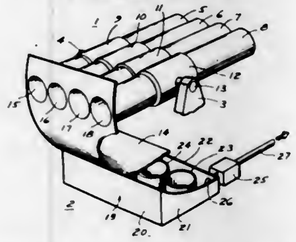
ERRATUM

For Class 88—24 see:
Patent No. 3,367,236

3,367,232
DEPTH CHARGE LAUNCHER FOR A ROCKET PROPELLED MISSILE

Henry Wilhelm Aldrin, Bofors, Sweden, assignor to Aktiebolaget Bofors, Bofors, Sweden

Filed June 14, 1966, Ser. No. 557,554
Claims priority, application Sweden, June 30, 1965, 8,614/65
7 Claims. (Cl. 89—1)

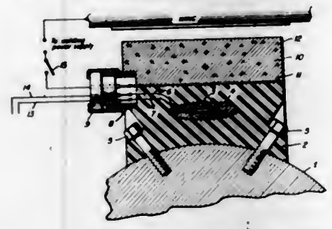


1. A launching assemblage for launching a rocket propelled missile, said assemblage comprising, in combination, a launching platform, a launching barrel open at both ends, mounting means supporting said barrel pivotal between a depressed position substantially parallel to said platform and a fully elevated position defining an angle of 90° with said platform, said platform including a loading opening for hoisting a missile from a position below the platform to a position above the same, said loading opening and said mounting means being disposed so that the loading opening and the barrel are in registry in a predetermined elevated position of the barrel for loading a missile into the same through said opening, a collar upwardly protruding from the platform and surrounding said loading opening, a continuous wall upwardly protruding from the platform and surrounding said collar spaced apart therefrom to define a space open at the top side, and shielding means secured to the loading end of the barrel surrounding the same, said shielding means being disposed and shaped to cover the open top site of said space in all angular positions of the barrel.

3,367,233
STORE SUSPENSION AND RELEASE SYSTEM

Stanford B. Silverschotz, Livingston, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Dec. 30, 1965, Ser. No. 517,859
9 Claims. (Cl. 89—1.5)

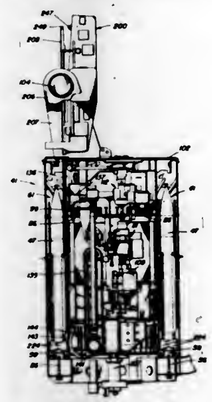


A method and apparatus for affixing and releasing wing mounted stores shaped to meet the aerodynamic requirements of the store and the wing and having a highly conductive portion with associated electrical circuitry, a less conductive portion, and a non-conducting portion containing an explosive surrounded by a detonator. The store on which the apparatus is mounted is attached to the wing by welding and released by detonating the charge to thereby sever the store from the apparatus.

3,367,234
GUIDED MISSILE LAUNCHING SYSTEM

Milton C. Neuman and John S. Scheurich, Sr., Minneapolis, and Richard C. Wilson, Champlin, Minn., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Oct. 5, 1965, Ser. No. 493,283
8 Claims. (Cl. 89—1.802)



A missile launcher having a magazine housing vertically supported missiles with a rotatable cover for the magazine. The rotatable cover carries a central post which depends into the magazine and has mounted thereon the missile hoisting mechanism and the elevating and training mechanism. The launcher arm is mounted on the rotatable cover and the arm, cover, the center post and its supported mechanism may be removed from the magazine as a unit.

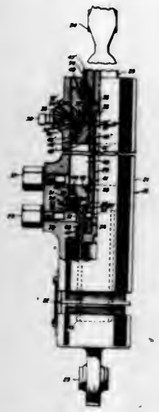
3,367,235
BREAKING LIQUID SPRING SUPPORT WITH DORMANT LOCKOUT

Zenas B. Andrews, Los Altos, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed May 13, 1966, Ser. No. 551,178
10 Claims. (Cl. 89—1.816)

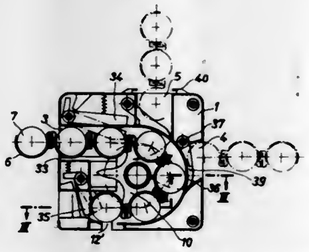
1. A double acting spring comprising an outer cylinder having a bore;
first attaching means on one end of said cylinder for connection to a load to be spring action controlled;
a rod slideably retained within said cylinder bore;
second attaching means on one end of said rod remote from said first attaching means;
piston means comprising first and second pistons each having heads and integral piston sleeves slideably retained within said cylinder bore, telescopically disposed about said rod and defining with said cylinder and said rod a chamber completely filled with fluid;
each piston head having at least one damping orifice therethrough;
said cylinder having an outer fluid filled chamber separated from said inner chamber by said piston means; and
high pressure seals disposed on either side of said piston sleeves, said piston means being engageable with said rod such that application of increased tension and

compression forces will cause movement of said piston means into said inner chamber thereby displacing fluid from said inner chamber to said outer chamber through said orifices whereby a damping effect is



produced as said piston means both frictionally slide between said high pressure seals and as said piston means reduce the volume within said inner chamber and effect an increase in pressure therein.

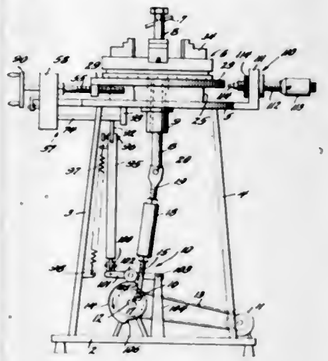
3,367,236
ROTARY AMMUNITION BELT FEEDER HAVING A PLURALITY OF BELT FEED APERTURES
Hartmut Menneking, Dusseldorf, Germany, assignor to Firma Rheinmetall G.m.b.H., Dusseldorf, Germany
Filed May 16, 1966, Ser. No. 550,479
Claims priority, application Germany, May 18, 1965, R 40,658
4 Claims. (Cl. 89—33)



An ammunition belt feeder for an automatic weapon and having a housing with a movable feed sprocket mounted therein for an ammunition belt and an intermittently-operated drive mechanism with a coupling for connecting and disconnecting the feed sprocket and at least two belt feed apertures in the housing and the direction of movement of the feed sprocket is constant.

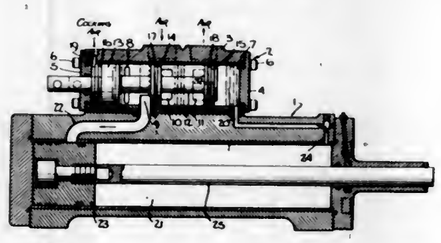
3,367,237
VERTICAL SHAPING MACHINE
Carl C. Farque, deceased, late of San Antonio, Tex., by Alice A. Farque, executrix, San Antonio, Tex., assignor, by mesne assignments, to Petty Geophysical Engineering Company, Inc., San Antonio, Tex., a corporation of Texas
Filed Dec. 6, 1965, Ser. No. 511,910
10 Claims. (Cl. 90—45)

1. In a machine tool including a frame, a cutting tool of the type having a cutting stroke and a return stroke for machining a workpiece, a feed table for supporting said workpiece, a power screw for moving said table with respect to said frame, and friction means for restraining said movement of said table to cause said workpiece to be held stationary during the cutting stroke, the improvement of indexing means comprising a driving gear for rotating back and forth, intermittent stepping means responsive to one direction of rotation of said driving gear for rotating said power screw to move said feed table in a first direction toward said tool prior to said cutting stroke, shifting means responsive to the movement of



said driving gear in said one direction for bodily shifting said power screw and said feed table in said first direction concurrently with the stepping movement of said feed table and to shift the same in a second direction away from said tool prior to said return stroke in response to the movement of said driving gear in the opposite direction, whereby the driving force for shifting said power screw is available in both said first and second directions of movement to overcome the starting friction of said feed table.

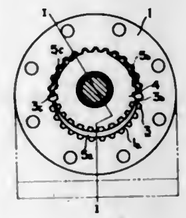
3,367,238
VALVE AND METHOD FOR OPERATING MECHANICAL TUYERE PUNCHER AND THE LIKE
Albert Charles Magee and James Neil Grassby, Sudbury, Ontario, Canada, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 15, 1964, Ser. No. 396,667
Claims priority, application Canada, Apr. 23, 1964, 901,089
15 Claims. (Cl. 91—36)



A spool valve which is individually mounted on a single stroke fluid motor and a valve arrangement which comprises a plurality of spool valves individually mounted on single stroke fluid motors are disclosed. The spool valve is constructed so that in the actuated position working

fluid enters the valve to fire the associated motor whereupon the valve is reset and working fluid is then conducted through the reset valve to the next actuated valve in the series to fire the associated motor. The valve arrangement comprises means for transferring working fluid from one valve to the next valve in the series and a control system to automatically and substantially simultaneously actuate all of the valves in the series.

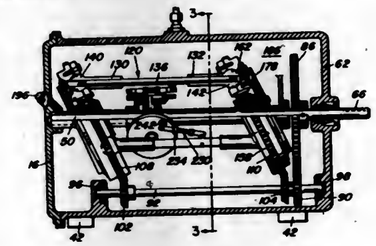
3,367,239
FLUID REDUCERS
Moriyuki Takagi, 31 Katayama, Shinza-machi, Kita Adachi-gun, Saitama-ken, Japan
Filed July 26, 1965, Ser. No. 474,706
Claims priority, application Japan, July 28, 1964, 39/42,506
2 Claims. (Cl. 91—56)



In a fluid reducer drive arrangement an internal involute gear and a meshing involute pinion are provided in engagement such as to form two sections in the fluid chamber the rotary member being driven by the fluid flow from one section to the other.

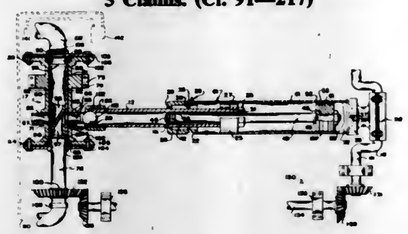
3,367,240
ROTARY ENGINE
Anthony E. Keppler, 2341 N. Commonwealth, Chicago, Ill. 60614
Filed June 9, 1965, Ser. No. 462,627
1 Claim. (Cl. 91—175)

1. A fluid-actuated hydraulic engine comprising a housing adapted to contain hydraulic fluid under pressure and having fluid input and fluid discharge means;
a primary shaft comprising an elongated output shaft journaled and rotatably supported on opposed walls of said housing,
an end of said output shaft extending through a wall of said housing for connection to a device to be coupled to said engine and to be driven thereby;
a pair of parallel laterally spaced floating rings, said floating rings comprising gears axially supported on said output shaft and carried on ball races for rotation of said rings on said output shaft;
principal planes defined by said floating rings intersecting said output shaft at equal angles other than 90°;
a primary gear fixed on said output shaft and axially supported thereon and transversely thereof for rotation therewith;
a secondary shaft parallelly disposed with respect to said output shaft and constituting a drive shaft for rotating said floating rings,
gear means fixed on said drive shaft and meshing with said primary gear of said output shaft to mechanically and positively couple said secondary shaft to said output shaft;
a pair of laterally spaced bevel gears fixed on said drive shaft for positive rotation therewith,
each member of said pair of bevel gears meshing with respective said laterally spaced floating rings riding on said output shaft, whereby rotation of said output shaft causes rotation of said drive shaft and said floating rings coupled thereto;
a sleeve coaxial with and disposed as a bushing about said output shaft,
said sleeve being fixed to and extending transversely of and inwardly of a wall of said housing;
a stationary bevel gear fixed immovably on said sleeve;
a spider connected to said output shaft, arms of said spider extending radially and transversely of said output shaft and constituting stud shafts;
a movable bevel gear rotatably supported on each said stud shafts and meshing with said stationary bevel gear fixed on said sleeve;
a plurality of elongated cylinder and piston assemblies supported on and between said spaced floating rings and displaced radially outwardly of said output shaft and extended generally parallel thereto;
each said cylinder and piston assemblies comprising laterally spaced coaxial tubular cylinder sections and piston means coaxial with and slidably supported in said spaced cylinder sections for reciprocal movement therein,
joinder means at outer ends of said cylinder sections and adapted to connect said cylinders to said laterally spaced floating rings in fluid-sealing engagement therewith,



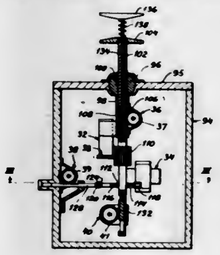
said outer ends of said cylinders being in communication with fluid supply and exhaust ports in said floating rings for supplying pressurized fluid to displace said piston means and for exhausting fluid from said outer ends of said cylinders;
valve means controlling and regulating admission of non-compressible fluid into and exhaust of said fluid from said cylinder sections during reciprocal movement of said piston means in said cylinder sections;
sequentially operable control means for regulating programmed operation of said valve means to effect and to coordinate said movement of said piston means;
linkage means attached to each said piston means intermediate ends thereof and to a corresponding said moveable bevel gear, carried on said arms of said spider, connection of said linkage means to said moveable bevel gear being at an eccentric position on a principal face of said gear;
movement of said piston means in response to fluid pressure applied thereagainst producing revolution of each said moveable bevel gear and rotation of said spider associated therewith to drive said output shaft and said principal gear carried thereby to rotate said second shaft and, in turn, said floating rings coupled thereto;
whereby during rotation of said floating rings said cylinder and piston assemblies carried thereby undergo lateral displacement and reciprocal lateral movement augmenting reciprocal movement of said piston means within said cylinder sections.

3,367,241
BI-FLUID HYDRAULIC TRANSMISSION
Henry F. Shannon, 794 Kamloops Ave., Penticton, British Columbia, Canada
Filed Feb. 14, 1966, Ser. No. 527,321
5 Claims. (Cl. 91—217)



1. Transmission apparatus for operably connecting a reciprocable element and a source of hydraulic fluid comprising a hydraulic piston and cylinder assembly operably connected at one end to the source of hydraulic fluid, means for fixedly securing the cylinder of said assembly at said one end against linear movement relative to the reciprocable element, resilient compressible means operably connecting the piston of said assembly to the reciprocable element for reciprocal movement therewith, a valve at the cylinder operable for controlling the direction of flow of hydraulic fluid therein and thereout, valve operating means connected to the reciprocable element for operating the valve, said operating means being arranged to synchronize the flow of fluid into and out of the cylinder with corresponding movement of the reciprocable element away from and towards the cylinder.

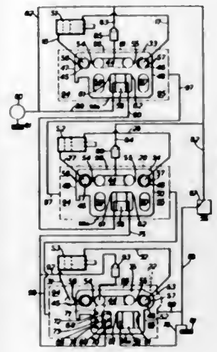
3,367,242
CONTROL DEVICES FOR HYDRAULIC SYSTEMS
Leif Erik Sorensen, 131 Ryes-gade, Copenhagen, Denmark, and Svend Djernas, Nykobing Falster, Denmark; said Djernaes assignor to said Sorensen
Filed Nov. 23, 1965, Ser. No. 509,308
11 Claims. (Cl. 91—413)



A control unit for simultaneous multiple parts operation in different directions has a single control lever movable in these directions, a continuously variable control device for each direction that controls a hydraulic driving device provided for each of the different directions.

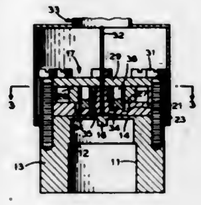
3,367,243
SLIDE VALVES
John C. E. Flint, Chalford, England, assignor, by mesne assignments, to Dowty Hydraulic Units Limited, Cheltenham, England
Filed Nov. 19, 1965, Ser. No. 508,676
Claims priority, application Germany, Jan. 6, 1965, 649/65
13 Claims. (Cl. 91—414)

A slide valve of banked type wherein all the displaceable valve members control respective services and are each of rectangular cross section. At least one of these members is movable to a "float" position to enable the service controlled thereby to free-stroke, that member



then having little or no restrictive effect upon the normal operation of the other valve members in the bank.

3,367,244
PRESSURE-SENSITIVE DEVICES
Ian G. Charter, Epsom, England, assignor to The Solartron Electronic Group Limited, Hampshire, England
Filed July 22, 1965, Ser. No. 474,111
Claims priority, application Great Britain, July 23, 1964, 29,689/64
14 Claims. (Cl. 92—13)

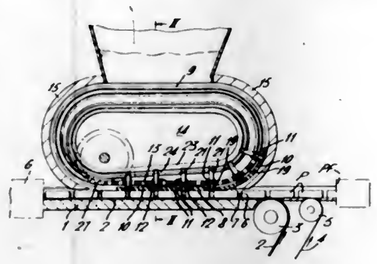


A pressure-sensitive device is disclosed wherein a portion of a backing member which is to act as a stop is made flexible. An adjustable stress is provided to the flexible portion of the backing member until this portion assumes a predetermined configuration. A groove may be formed in the backing member to alter the stress distribution and, hence, the configuration of the flexible portion.

3,367,245
APPARATUS FOR PRODUCING COMPOSITE FILTER PLUGS
Peter Edward Wisdom, London, England, assignor to The Molins Organisation Limited, London, England, a corporation of Great Britain
Filed Apr. 13, 1965, Ser. No. 447,640
Claims priority, application Great Britain, Apr. 16, 1964, 15,800/64
5 Claims. (Cl. 93—1)

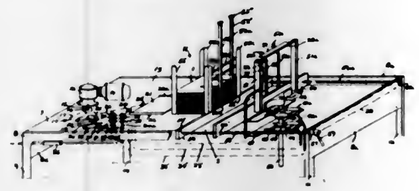
Apparatus for producing composite filter rod including powdered material is arranged to produce a succession of filter plugs on a moving continuous wrapper and deposit powdered material in regularly-spaced gaps between successive plugs, thereafter folding and securing the wrapper around the plugs and powdered material. The means for

depositing the powdered material comprises a pocketed belt, each pocket being filled as it traverses an upper run



and emptied as it passes along a lower run; positive ejection from the pockets is provided by reciprocable plungers.

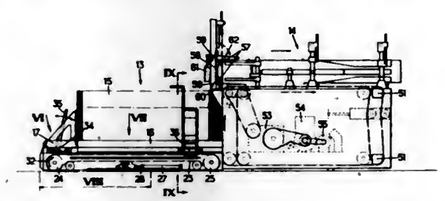
3,367,246
SEMI-AUTOMATIC MACHINE FOR ASSEMBLING PARTITIONS
Raymond Louis Roger Lucas, Prechac, France (% Off. Tech., 133 Bis. Rue Mouneyra, Bordeaux, Gironde, France)
Filed Apr. 23, 1965, Ser. No. 450,486
Claims priority, application France, Apr. 28, 1964, 90,853
8 Claims. (Cl. 93—37)



In assembling slotted partition dividers, one of the elements is stacked horizontally while another element is held vertically and intermittently lowered. When the slots of the vertical element are in alignment with lowest horizontal element, the latter is fed into engagement with the vertical element.

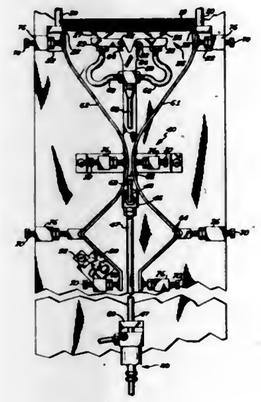
3,367,247
MACHINE FOR AUTOMATICALLY SETTING UP CARTONS
Michel Dubesset, Compiegne, France, assignor to Societe anonyme dite: Ateliers de Construction de Compiegne, Compiegne, France
Filed July 30, 1965, Ser. No. 475,994
Claims priority, application France, June 18, 1965, 21,475, Patent 1,455,164
8 Claims. (Cl. 93—53)

A device for unfolding and setting up cartons which comprises a series of square plates mounted on three endless chains one of which is horizontally spaced from the other two in the direction of movement. Each of these plates takes the carton positioned at the end of a stack and lifts it vertically to the top of the device, then moves it horizontally while it is being opened up. Opening guides receive a folded carton and suction means which holds the rear face of the carton being set up. Swinging means actuated by jacks successively open up the carton and bend a rear and a front flap inwardly to form a bottom and then bend another front flap toward the opposite side, the remaining horizontal and vertical flaps being



then bent in the desired direction by suitably positioned ramps in a conventional manner.

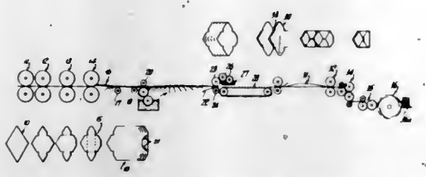
3,367,248
CARTON ERECTION APPARATUS
Albert F. Rhino, Crystal Lake, and Clarence G. Austin, Jr., Woodstock, Ill., assignors, by mesne assignments, to Haskon, Inc., Wilmington, Del., a corporation of Delaware
Filed Dec. 23, 1965, Ser. No. 516,002
8 Claims. (Cl. 93—53)



1. A carton erection apparatus comprising, a basket adapted to hold a plurality of flattened carton blanks in a stacked relationship, a plurality of suction cups each pivotally mounted on a frame, means for moving the frame in a reciprocal movement toward and away from the basket in a straight line, guide plate means positioned on each side of the straight line of reciprocal movement of the frame, said guide plate means each having identical arcuate surfaces with an end portion having two straight sides joined at a right angle, means mounting the guide plate means such that the arcuate portions are spaced apart substantially the width of the basket adjacent the basket and curved toward one another intermediate the extent of the guide plate means to provide a narrow portion terminating in a square configuration portion defined by the straight sides, said suction cups on the frame being adapted to remove a flattened carton blank from the basket and open the carton blank upon movement of the frame as the edges of the carton blank engage the arcuate surfaces of the guide plate means over bending the carton blank beyond the normal square cross-sectional configuration of the carton blank at the narrow portion of the

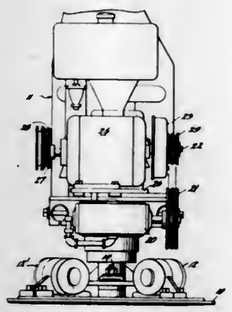
guide plate means and moving the carton blank into the square configuration portion at the end of the guide plate means, and means controlling the application of a vacuum pressure to the suction cups and to release the same as the carton blank reaches the end of the guide plate means.

3,367,249
METHOD OF MAKING ENVELOPES
Helmut Hornung, Scarsdale, N.Y., assignor to F. L. Smithe Machine Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 15, 1965, Ser. No. 439,816
18 Claims. (Cl. 93—61)



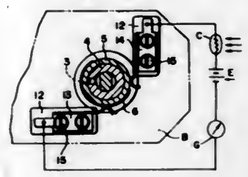
In the manufacture of envelopes adhesive is applied at two successive stations to a stream of blanks moving in lapped relation. Where the seal flaps are trailing adhesive is applied to the bottom flaps which are first deflected in a direction opposite to the movement of the stream to expose marginal edges. Where the seal flaps are leading, adhesive is applied to the side flaps and the position of each blank is reversed end-to-end prior to securing the bottom flap.

3,367,250
CONCRETE SURFACING MACHINE
Robert F. Ytterberg, Rye, N.Y., assignor to Kalman Floor Company, Inc., White Plains, N.Y., a corporation of New York
Filed Jan. 24, 1966, Ser. No. 522,528
7 Claims. (Cl. 94—45)



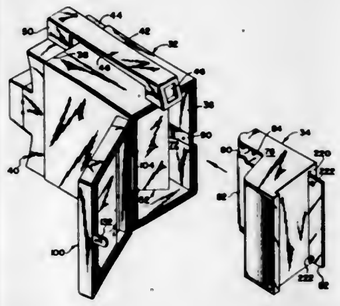
An improved concrete surfacing apparatus is provided comprising a gasoline operated engine for rotating a trowelling member, an electric generator or alternator driven by the engine to produce a voltage proportional to the speed of the engine, and electrically operated vibrator means mounted on the trowelling member to produce a vibration of the trowelling member having a variable frequency and amplitude of vibration which is proportional to the generator voltage output. The trowelling member is thereby caused to vibrate in synchronism with its adjustable speed of rotation. The trowelling member may consist of a single disc, or a combination of discs, or a plurality of blade elements.

3,367,251
SWITCHING DEVICE FOR PHOTOGRAPHIC CAMERAS HAVING BUILT-IN EXPOSURE METER
Koichi Furuta, Tokyo, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed Feb. 23, 1965, Ser. No. 434,598
Claims priority, application Japan, Feb. 29, 1964, 39/11,180
3 Claims. (Cl. 95—10)



Switching device for the photocell circuit of a camera actuated by the film advancing lever during preparation for and during film advancing movement and return thereof to its initial or home position.

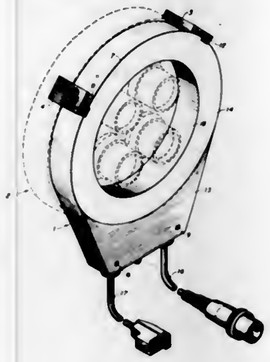
3,367,252
PHOTOGRAPHIC APPARATUS
George J. Linder, Jr., Mineola, N.Y., assignor to Camera Corporation of America, Hicksville, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 171,988, Feb. 8, 1962. This application Aug. 16, 1965, Ser. 480,046
21 Claims. (Cl. 95—13)



2. Photographic apparatus for exposing successive portions of a photosensitive material to a subject image, and developing each such portion prior to locating the next successive portion in a position for exposure to the same or another such image completely within said apparatus comprising, in combination:
- a housing;
- an access door removably and pivotally mounted on said housing;
- a mounting assembly for removably and pivotally mounting said access door on said housing;
- an image transfer assembly fixedly positioned within said housing for transferring a virtual image to a photosensitive material;
- a removable unitary self-contained disposable cartridge positioned within said housing in a cooperative relationship with said image transfer assembly, and comprising:
  - a supply of photosensitive material;
  - a floating photosensitive material or film locating assembly positioned to cooperate with said access door;

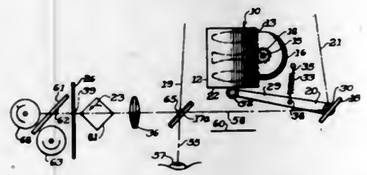
- a plurality of resilient over-center floating assemblies for mounting said floating door in a floating relationship with said access door; and
- a tearing assembly positioned in cooperative relationship with said floating door for severing the successive portions of said photosensitive material subsequent to the development of each such portion.

3,367,253
MULTIPLE IMAGE FLASH CAMERA
Roger J. Kuhns, Lincoln, and Frederick W. Macone, Carlisle, Mass., assignors to Avant Incorporated, Lincoln, Mass., a corporation of Massachusetts
Filed Oct. 23, 1965, Ser. No. 503,553
9 Claims. (Cl. 95—18)



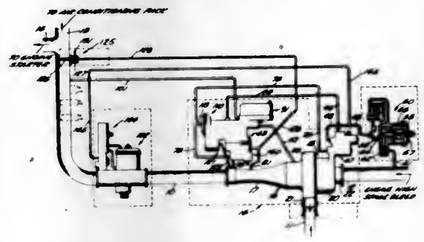
1. In a camera having a multiple lens system occupying a portion thereof and for producting a plurality of simultaneously exposed prints, the improvement comprising:
- a source of illumination having an elongated light-emitting surface at least partially surrounding said multiple lens system.

3,367,254
AUTOMATICALLY ADJUSTABLE RANGEFINDER
Malcolm G. Townsley, Park Ridge, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed July 6, 1965, Ser. No. 469,640
10 Claims. (Cl. 95—44)



1. A rangefinder for photographic cameras and the like having an adjustable objective, said rangefinder comprising:
- a fixed mirror structure and an adjustable mirror disposed in pre-determined spaced apart relationship for receiving light reflections from a subject;
- said adjustable mirror mounted for adjusting movement with said objective;
- a pair of time sequential electrical signal emitting light sensitive members mounted to receive light reflections from said fixed mirror and said adjustable mirror, respectively;
- optical means in the path of both of said light reflections before said electrical means to modify said light reflections wherein said electrical means produce an electrical wave signal characteristic of received light reflections wherein said signals from each of said stations is in a given phase;
- a phase detector mounted to receive said electrical signals emitted by said light sensitive members and adapted to emit a signal corresponding to the phase relationship of the electrical signal patterns emitted; and
- a motor connected to said objective and having electrical circuit means actuated by the signal of said phase detector.

3,367,255
CABIN AIR FLOW CONTROL SYSTEM
Leslie S. Terp, Scottsdale, Ariz., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Feb. 15, 1966, Ser. No. 527,422
14 Claims. (Cl. 98—1.5)

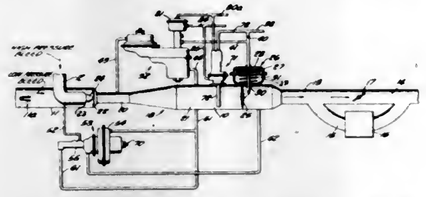


1. A system for controlling air flow from a plurality of sources at different pressures to an enclosure, comprising:
- (a) a main duct with a plurality of inlets, each communicating with a different source, and an outlet communicating with the enclosure, said main duct having a Venturi section;
- (b) ejector means within said main duct adjacent said plurality of inlets, said ejector means being constructed and serving to utilize air from a higher pressure source to augment air flow from a lower pressure source; and
- (c) valve means adjacent said ejector means for controlling the flow from all sources to said main duct, said valve means having a single actuator responsive in part to pressure conditions at the Venturi section for performing all functions.

3,367,256
CABIN AIR FLOW CONTROL SYSTEM
Richard W. Townsend, Scottsdale, and Charles M. Rowland, Phoenix, Ariz., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Feb. 15, 1966, Ser. No. 527,606
17 Claims. (Cl. 98—1.5)

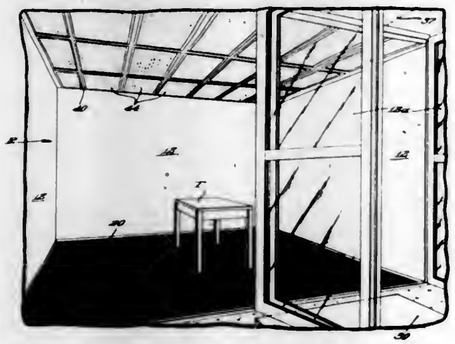
1. A system for controlling air flow from a plurality of sources at different pressures to an enclosure comprising:
- (a) a main duct with a plurality of inlets communicating with the plurality of sources and an outlet communicating with the enclosure, said main duct having a Venturi section;
- (b) ejector means positioned within said main duct at the inlet to said Venturi section, said ejector means including a nozzle and being provided to utilize air from the higher pressure source to augment air flow from a lower pressure source; and

(c) valve means responsive in part to variations in the pressure differential between the throat and outlet



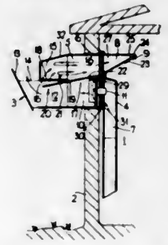
of the Venturi to control flow of air from the higher pressure source through said ejector means.

3,367,257
AIR CONTROL FOR WHITE ROOM
George K. Raider, Melrose Park, Edmund J. Little, Chicago, Jacob M. Johnsen, Wheaton, and Yoshio Nakazawa, Evanston, Ill., assignors to The Pyle-National Company, Chicago, Ill., a corporation of New Jersey
Filed Mar. 23, 1965, Ser. No. 441,984
7 Claims. (Cl. 98—33)



1. In combination:
means forming a white room having a floor,
a ceiling and side walls,
a T-bar suspension on said ceiling forming a frame below the level of said ceiling,
a plurality of unitary panel units in said frame,
each panel unit comprising upper and lower panel members spaced from one another and together with side panel members forming an outlet plenum chamber,
said upper panel member having an opening formed therein for admitting air from the space above said panel units into the interior of the outlet panel unit,
a perforated trough carried by said upper panel member and positioned below each said opening, a valve plate carried by said upper panel member and positioned above said opening,
valve adjustment means extending between said troughs for adjusting said valve plate relative to said opening,
said lower panel member having a plurality of diffusion passages formed therein for diffusing air out of the outlet panel unit and into the white room,
a corresponding plurality of grid modules forming a floor frame above the level of said floor and together with the floor forming a return plenum,
each module comprising a control plate having a valve opening therein,
a valve on said valve plate for adjustably opening and closing said opening to return air from the white room into the return plenum,
and a grid member above said control plate forming a support surface,
whereby supply air as well as return air can be throttled to 100% shut-off and the system can be balanced to produce uniform laminar air flow through the white room.

3,367,258
VENTILATION APPARATUS FOR ROOMS OF A BUILDING
Arthur Erfeling, Altenwalde, Germany, assignor to Lohmann-Apparatebau K.G., Cuxhaven, Germany
Filed Apr. 12, 1967, Ser. No. 630,315
Claims priority, application Germany, Dec. 20, 1966, L 43,657; Feb. 15, 1967, L 55,748
10 Claims. (Cl. 98—33)



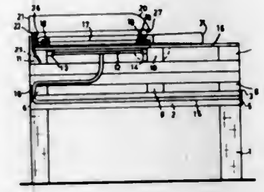
Rooms, especially stables are provided with a vertical used-air duct connected at its upper end to a horizontal used-air duct extending to the outside air. A horizontal fresh-air duct is arranged above the horizontal used-air duct. Both horizontal ducts are connected by a connection duct. An axial-blow fan is arranged in the horizontal used-air duct within the range of the wall. A double flap can be adjusted between two end positions, in which either both horizontal ducts are closed while the connection duct is open (circulation) or the connection duct is closed while both horizontal ducts are open (fresh-air supply).

3,367,259
AIR MIXING APPARATUS
Harlow D. Savage, Jr., 20 Westmont St., West Hartford, Conn. 06117
Filed Dec. 6, 1965, Ser. No. 511,864
11 Claims. (Cl. 98—38)



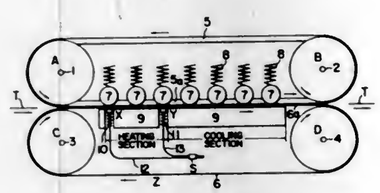
1. An apparatus for mixing air received from different sources for introduction to a distributing system which induces the flow of air, said apparatus comprising a housing defining a mixing chamber having at least two inlet openings and an outlet opening communicating with the system, and a rotor freely journaled by said housing between said inlet openings and said outlet opening for rotation about an axis extending transversely of the path of air flow from said inlet openings to said mixing chamber, said rotor being provided with blade means arranged in the path of air flow from either and both of said inlet openings to effect rotation of said rotor and by such rotation to effect mixing of air from said inlet openings in said chamber.

3,367,260
DEVICE FOR THE INDUSTRIAL FABRICATION OF WAFFLES OR THE LIKE
Jean Claude Freyburger, 16 Rue Mathias Schiff, Nancy, France
Filed June 24, 1966, Ser. No. 560,293
Claims priority, application France, June 24, 1965, 22,143
4 Claims. (Cl. 99—374)



Device for the industrial fabrication of waffles and the like by gas heating in which the molds have room for at least four conventional waffles, an enclave being provided in which are located means for evacuating the burnt gases, there being a gas burner corresponding to each mold and each mold being individually slidable from a forward position in which the mold can be opened for charging and discharging to a rearward cooking position in which the mold is enclosed in an enclosure above the burner.

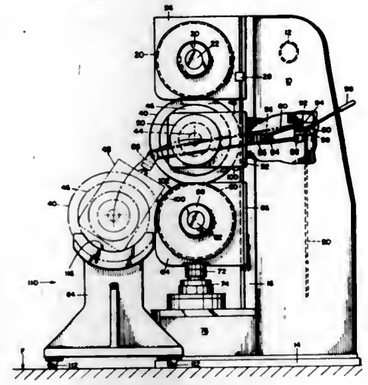
3,367,261
APPARATUS FOR CONTINUOUS HEAT-SEALING OF THERMOPLASTIC SHEETS
Kimifumi Kashiwagi, 36 1-chome, Minamisenju, Arakawa-ku, Tokyo-to, Japan
Filed Aug. 16, 1965, Ser. No. 479,918
1 Claim. (Cl. 100—93)



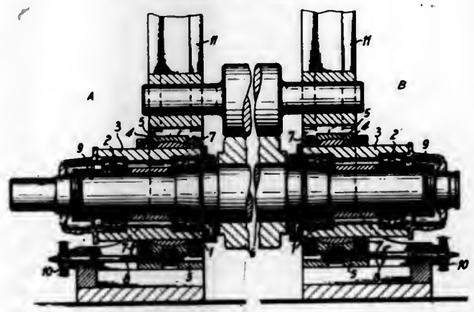
Apparatus for automatically heat-sealing thermoplastic sheets having two endless belts in face-to-face relation which are pressed together and a guide member under one belt having electric contacts towards the upstream junction of the belts and an extended cooling zone downstream of the belt.

3,367,262
CALENDER ROLL-OUT MECHANISM
Cyril J. Stevens, West Springfield, and Vernon L. Wilkinson, Westfield, Mass., assignors to B. F. Perkins & Son Inc., Holyoke, Mass., a corporation
Filed Sept. 9, 1965, Ser. No. 486,107
4 Claims. (Cl. 100—162)

A calender with means for moving one or more filled resilient rolls into and out of stacked relation to the plurality of stacked rolls of the calender.



3,367,263
CALENDER
Horst Quenter, Neuss, Rhine, Germany, assignor to Firma Joseph Eck & Sohne, Dusseldorf-Heerdt, Germany, a corporation of Germany
Filed Oct. 18, 1965, Ser. No. 497,187
Claims priority, application Germany, Nov. 24, 1964, E 28,206
5 Claims. (Cl. 100—168)

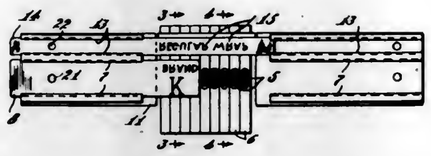


A calender for effecting a progressive change in the camber of a dead or compression-loaded roll, comprising a calender roll having a shaft extending from each end thereof. Journal bearings are provided for the shafts of the calender roll and bearing housings receive the corresponding of the journal bearings. The bearing housings are non-displaceable relative to the shafts of the calender roll. A displaceable bearing support is mounted on and concentrically surrounds each of the bearing housings. Means are provided for axial displacing of the bearing supports in order to permit adjustment complementary to the deflection of the calender roll.

3,367,264
APPARATUS FOR PRINTING TAGS AND TICKETS
Carl E. Rydman, Worcester, Mass., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Nevada
Continuation-in-part of application Ser. No. 437,495, Mar. 5, 1965. This application July 20, 1967, Ser. No. 654,782
5 Claims. (Cl. 101—110)

In apparatus for printing tags, labels, and other articles, a printing head having wheels which may be set

to print different indicia and also having interchangeable printing plates for concomitantly printing other indicia



on the same articles, the plates sliding over the wheels and bearing on blank spaces on the peripheries of the wheels.

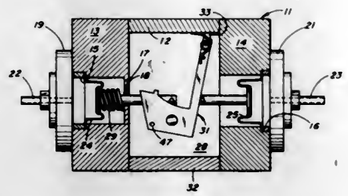
ERRATUM

For Class 102—24 see:
Patent No. 3,367,282

3,367,265
PRESSURE OPERATED ARMING MECHANISM

Clinton J. Sewell, Rockville, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Jan. 26, 1967, Ser. No. 612,298
5 Claims. (Cl. 102—81)



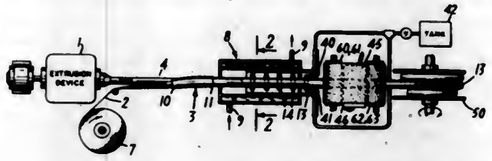
The arming device includes a pivoted L-shaped shutter having an explosive charge normally spring urged to a position where the charge is out of alignment with a firing pin. The base of the shutter is provided with a flat surface upon which normally presses a crosspin mounted in a pressure responsive shaft and an arcuate surface over which the crosspin is located in response to a first pressure signal. A second pressure responsive shaft acts on the shaft in a manner that when a second pressure signal is applied it rotates the shutter to a position where the charge and firing pin are aligned. The shutter base is provided with a protuberance intermediate of its flat and arcuate surfaces which limits shutter movement only upon application of a particular sequence of pressure signals.

3,367,266
DETONATING AND DEFLAGRATING FUSE

George L. Griffith, Coopersburg, Pa., assignor, by mesne assignments, to Commercial Solvents Corporation, a corporation of Maryland

Application Oct. 23, 1965, Ser. No. 503,796, now Patent No. 3,327,582, dated June 27, 1967, which is a continuation-in-part of application Ser. No. 177,583, Mar. 5, 1962. Divided and this application Sept. 1, 1966, Ser. No. 596,028
7 Claims. (Cl. 102—27)

A flexible, continuous length of explosive fuse is provided, composed of a wrapper of flexible material enclosing a cracked and discontinuous column of solid explosive. The column is made up of a plurality of irregularly shaped matching particles arranged in matching

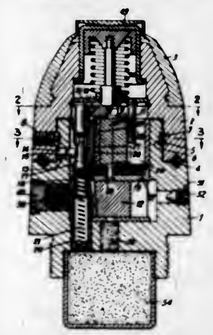


positions such that the composite corresponds to a continuous column of explosive before cracking.

3,367,267
NON-GYRATING PROJECTILE FUSE

André Combourieux, Geneva, Switzerland, assignor to Industrial Holding Establishment, Vaduz, Liechtenstein

Filed Jan. 5, 1966, Ser. No. 518,937
Claims priority, application Switzerland, Jan. 8, 1965, 277/65
1 Claim. (Cl. 102—78)

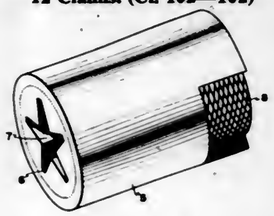


An impact nongyrating projectile fuse having a firing hammer and a hammer bolt associated therewith. Trajectory safety means including a spring actuated rocker-arm to control the arming of the fuse. Locking means are provided to prevent both the operation of such rocker-arm before firing and the movement of the hammer bolt. The locking means consist of a single rod actuated by inertia which is mounted to slide axially in the body of the fuse and such rod is the only inertia actuated part for preventing the movement of the hammer bolt.

3,367,268
HYBRID ROCKET PROPELLENT GRAIN

Lawrence Spenadel, Elizabeth, Herman Bieber, Kenilworth, and William J. Sparks, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Oct. 5, 1959, Ser. No. 845,055
12 Claims. (Cl. 102—102)

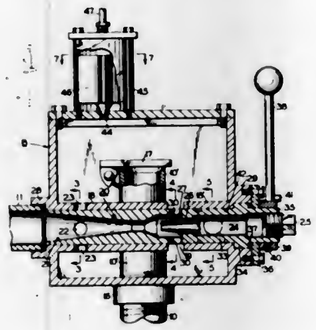


1. A hybrid rocket propellent grain which comprises a solid polymeric cellular rubbery substance forming an intercellular matrix containing a powdered solid fuel imbedded in the matrix, cells of said intercellular matrix containing liquid oxidizing agent, and reinforcing fiber imbedded in the matrix.

3,367,269
BOOSTER ASSEMBLY FOR LOW PRESSURE PUMP

Walter V. Nelson, 680 Maple St., and William H. Martinsen, 488 W. 6th Ave., both of Junction City, Oreg. 97448

Filed Sept. 23, 1966, Ser. No. 581,518
6 Claims. (Cl. 103—5)

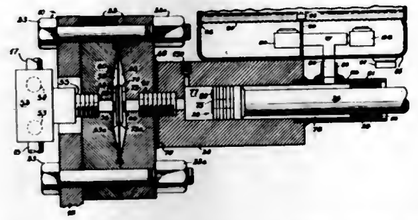


1. In a water supply system in which a motor-driven pump operates to draw water from a source and to deliver the water under pressure, a booster assembly for optionally increasing the pump discharge pressure including an enclosed suction flow box interposed in the suction line between the water source and the pump, an outlet for said suction line located within said box, a check valve in said suction line outlet, an outlet port for said box connected with the suction side of the pump, a valve housing in said box connected at one end to said box outlet port, a valve member mounted in said housing in said box for rotation on a substantially horizontal axis, said valve member having an interior channel, a venturi-shaped portion in said channel discharging into said box outlet port, said housing and said valve member provided with an open passageway leading from the interior of said box into said valve member channel at the intake section of said venturi-shaped portion, a nozzle mounted in said channel with its discharging tip extending into the intake section of said venturi-shaped portion, a chamber in said channel behind said nozzle, a nozzle supply pipe leading into said box and terminating in said valve housing at the wall of said channel chamber, an inlet port in said wall of said channel chamber adapted to be brought into registration with the termination of said nozzle supply pipe when said valve member is in one position, a discharge line leading from said pump to a storage tank, a branch pipe leading from said discharge line to said nozzle supply pipe in said box, and manual control means on said box connected to said valve member for rotating said valve member selectively either into a first position in which said inlet port of said valve channel chamber will be in registration with said nozzle supply pipe, or into a second position in which said valve will close off said nozzle supply pipe outlet, whereby the moving of said valve into said first position with the water supply system in operation will produce a jet effect by said nozzle thereby increasing the pump discharge pressure, and the moving of said valve into said second position will render said nozzle inactive and discontinue the pressure boosting jet.

3,367,270
FLUID POWER TRANSFER APPARATUS

Paul W. Schlosser, Chicago, Ill., assignor to Panther Pumps & Equipment Company, Inc., Chicago, Ill., a corporation of Illinois

Original application Dec. 11, 1964, Ser. No. 417,537, now Patent No. 3,254,845, dated June 7, 1966, which in turn is a continuation-in-part of Ser. No. 336,432, Jan. 8, 1964. Divided and this application June 6, 1966, Ser. No. 582,173
24 Claims. (Cl. 103—44)

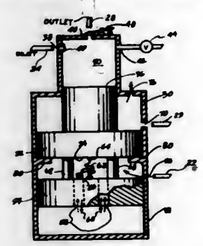


The present invention relates to fluid power transfer apparatus such as a pump, having a diaphragm which carries a valve for closing a port, the valve being disposed between the diaphragm and the port.

3,367,271
AUTOMATIC PUMP

Robert E. Wilson, Santa Monica, Calif., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Mar. 7, 1966, Ser. No. 534,966
12 Claims. (Cl. 103—48)



This invention relates to a piston-operated pump. The pump includes two pistons interconnected by a lost motion connection. The first piston does the pumping. The second piston is freely movable relative to the first piston. The second piston covers and uncovers the motive fluid inlet and outlet ports, in response to movement of the first piston. The pump operates automatically and continuously when once started.

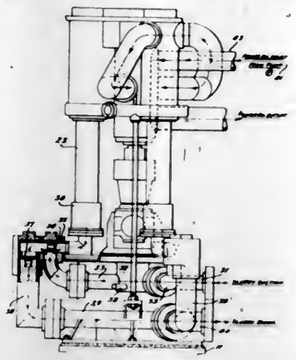
3,367,272
HYDRAULIC POWER CONVERTER

James E. Smith, 302 Plantation Drive, Lake Jackson, Tex. 77566

Continuation-in-part of application Ser. No. 507,167, Nov. 10, 1965. This application Jan. 3, 1967, Ser. No. 606,748
9 Claims. (Cl. 103—49)

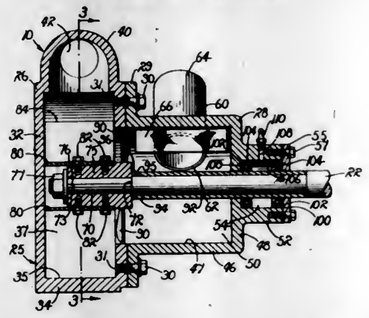
An improvement in a hydraulic power converter having a rotating distributor member and a series of power pistons communicating with the distributor member so that a pressurized fluid admitted to the distributor member is passed to the power cylinders in a continuous flow and the power cylinders react against a trapped fluid which is intercommunicated among the power cylinders

whereby a pumped fluid taken into the discharge chambers of the power cylinders is discharged from the converter at a high pressure in a continuous smooth nonpulsating flow. The rotatable member is of incrementally



progressively decreasing outside diameter to define a series of spaced exterior shoulders between the ports and a replaceable sleeve bearing member having opposing shoulders between the O-rings are compressed to seal around the ports in the distributor member.

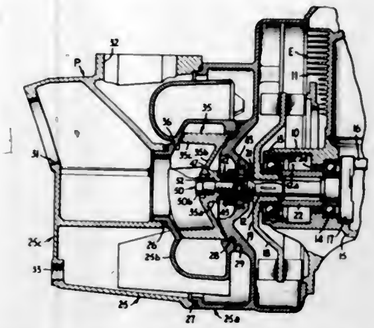
3,367,273
ROTARY FLUID PUMP
Walter Dodson, 5446 E. Dakota, Frenso, Calif. 93727
Filed Feb. 15, 1966, Ser. No. 527,433
3 Claims. (Cl. 103—88)



A rotary fluid pump characterized by improved leak resistance having a housing providing an inlet and an outlet, an impeller in the housing, powered means connected to the impeller for driving the impeller to pump fluid from the inlet to the outlet and to produce relatively low and high pressure zones within the housing, the powered means communicating between the exterior and interior of the housing only at the low pressure zone and having provision for improved sealing at the point of such communication, and a baffle mounted within the housing adjacent to the inlet to minimize vortexing of fluid therein.

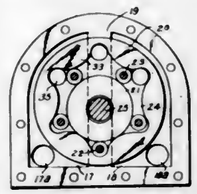
3,367,274
ROTARY PUMP
Ralph S. Lombard, Stamford, Conn., assignor to Textron, Inc., Providence, R.I., a corporation of Rhode Island
Filed Aug. 26, 1966, Ser. No. 575,322
6 Claims. (Cl. 103—103)

1. A rotary pump for liquids which may contain solids, said pump comprising a casing having an impeller chamber with intake and discharge passages and a bore extending into said chamber, a shaft extending through said bore and adapted to be driven, said shaft having a tapped axial hole in its end and a shoulder spaced from the end, an impeller accommodated in said chamber and having a hub portion with a bore including an inner cylindrical portion fitting the portion of said shaft between said end and said shoulder and a tapered outer portion extending beyond the end of said shaft, a tapered bushing of hard elastomeric material seated in said tapered bore portion and having a central hole, a screw extending through said



bushing into said threaded hole in the shaft, said screw having a head portion bearing on an outer end of said bushing to press said bushing axially inwardly in said tapered bore of said impeller hub and thereby provide a driving connection between said rotor and shaft through said bushing, said driving connection being normally positive but permitting limited yielding to cushion the impact and avoid the breakage of parts in the event of a solid wedging between said impeller and casing.

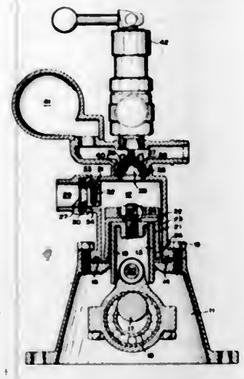
3,367,275
FLUID PUMP OR MOTOR
Reginald A. Workman, R.R. 1, West Huntington, Ontario, Canada
Filed Aug. 18, 1965, Ser. No. 480,725
10 Claims. (Cl. 103—120)



A rotary, fluid moving or actuated apparatus, having positive displacement. Internal co-operating elements using rollers permits a relatively wide speed range. Apparatus may contain elements to provide infinitely variable displacement during operation.

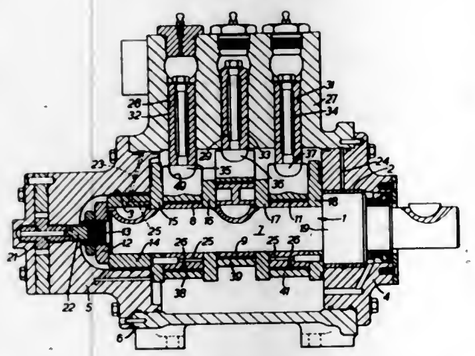
3,367,276
RECIPROCATING PUMP
Seitaro Hatsuta, 16 3-chome, Tonda-cho, Takatsuki-shi, Osaka-fu, Japan
Filed Aug. 31, 1966, Ser. No. 576,366
2 Claims. (Cl. 103—153)

1. An improvement of reciprocating pump having a pump chamber and a crank chamber secured to said pump chamber, characterized by a piston mechanism comprising, a cylindrical member having a bottom flange portion disposed at a connecting portion of said pump chamber with said crank chamber, said cylindrical member provided with a cylindrical inner surface having uniform diameter and tapered outer circumferential surface becoming smaller toward its tip, a piston connected with a crank mechanism disposed in said crank chamber in such a way that said piston is slidably engaged with the inner cylindrical surface of said tapered cylindrical member, an elastic cap member secured at its head portion to the tip portion of said piston by a fastener member in such a way



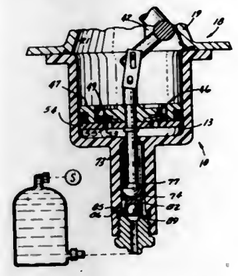
that an inside surface of a mouth of said elastic cap member slidably engages with said tapered outer circumferential surface of said cylindrical member, thereby, during the reciprocating motion of said piston mechanism, said inside surface of a mouth of said elastic cap member continuously contacts with said tapered outer surface of said cylindrical member so that leakage of fluid into said crank chamber from said pump chamber is prevented when moving fluid from a suction side to a discharge side.

3,367,277
HYDRAULIC DISPLACEMENT DEVICES
Thomas D. H. Andrews and Robert C. Eeles, Cheltenham, England, assignors to Dowty Technical Development Limited
Filed Nov. 15, 1965, Ser. No. 507,850
Claims priority, application Great Britain, Nov. 23, 1964, 47,492/64
4 Claims. (Cl. 103—169)



A pump or motor for operation at high pressure with liquid of low lubricity. The pump or motor comprises one or more assemblies each having an eccentric bearing member, a connecting rod having a big end bearing member rotatably mounted on the eccentric bearing member, a cylinder bore, a piston reciprocable in the cylinder bore whose length is substantial compared with the amplitude of reciprocation, a large cylindrical gudgeon pin secured to the piston externally of the cylinder, and a hydraulic pressure feed through the piston from the cylinder to the gudgeon pin to provide a hydrostatic bearing between the connecting rod and the gudgeon pin which will maintain or tend to maintain the piston and gudgeon pin in a state of hydrostatic balance.

3,367,278
PUMP
Eugene L. Kilbourn, Marengo Township, Calhoun County, Robert E. Buckner, Battle Creek, and Norman W. Klootwyk, Marshall, Mich., assignors to S. H. Leggitt Company, Marshall, Mich., a corporation of Michigan
Filed May 12, 1965, Ser. No. 455,250
9 Claims. (Cl. 103—178)



1. In a combined pump and flow control valve construction, the combination comprising:
a cylinder having inlet and outlet openings and a wall reciprocable within said cylinder;
actuating means for reciprocating said wall;
lift valve means associated with said wall for allowing liquid flow from one side of said wall to the other side;
check valve means associated with said cylinder to allow liquid flow therethrough in the same flow direction as said lift valve means;
a source of liquid connectible to said cylinder inlet;
separate flow control valve means continuously movable with said wall for controlling the flow of liquid through said cylinder inlet as a function of the position of said wall, said flow control valve means comprising a valve member and a cooperating valve seat, said valve member having a sealing face adapted to sealingly engage the valve seat, the valve seat being disposed between the sealing face and the reciprocable wall;
whereby manipulation of said actuating means opens and closes said flow control valve means and reciprocates said wall.

3,367,279
ROD COMPENSATOR FOR SUBSURFACE WELL PUMPS
Talmadge L. Crowe, Houston, Tex., assignor to Baker Oil Tools, Inc., Commerce, Calif., a corporation of California
Filed Apr. 29, 1966, Ser. No. 546,352
15 Claims. (Cl. 103—202)

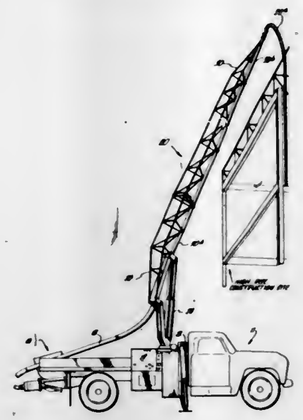
1. In apparatus wherein a pump is disposed in a well bore and is reciprocated by a string of sucker rods for elevating the well production to the top of the well bore, the combination therewith of a compensator forming part of the sucker rod string and comprising an upper device connected to an adjacent sucker rod member and a lower device connected to the pump, said upper and lower devices being shiftable relative to each other, lock means

carried by one of said devices and releasably coupled to the other of said devices for transmitting longitudinal motion between said devices to effect operation of said pump, and means responsive to movement of the sucker



rod string for effecting shifting of said lock means with respect to said other of said devices to move said devices longitudinally with respect to each other to vary the overall length of said upper and lower devices.

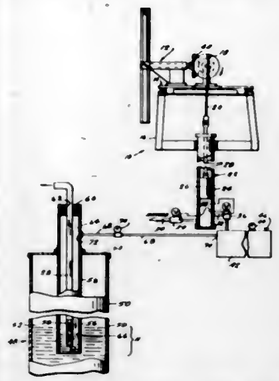
3,367,280
PUMP
Richard D. Bennett, Pasadena, and Marvin D. Bennett, Wilmington, Calif., assignors to Royal Industries, Inc., Pasadena, Calif., a corporation of California
Filed Mar. 7, 1966, Ser. No. 532,192
8 Claims. (Cl. 103—218)



A pump for pumping moist compressible materials such as plaster, concrete, mortar and the like and particularly a mobile concrete pump including a boom for conveying the pumped materials to work locations beyond the "local" work locations.

The pump when embodied with a motor vehicle includes a boom that may be constructed of detachable sections for transport purposes and is self-supporting when assembled. The boom is controllable, and rotatable in both a horizontal and vertical sense for conveying the pumped material through the boom sections. The pump includes means for stabilizing against lateral sway when the boom is in use.

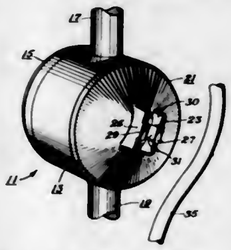
3,367,281
APPARATUS FOR PUMPING WATER FROM WELLS USING WIND POWER
Raymond Gray, P.O. Box 82, Cherokee, Tex. 76832
Filed Mar. 23, 1966, Ser. No. 536,720
5 Claims. (Cl. 103—234)



Apparatus for pumping water from a well having a bore partly filled with water, so as to have a water level intermediate the extent of the bore, said apparatus comprising: a first, larger diameter pipe received in the well and having an open lower end thereof substantially below said water level; a second, smaller diameter pipe received in the well within said first pipe; the external diameter of the second pipe being smaller than the internal diameter of the first pipe, thereby defining an annulus between the first and second pipes; said second pipe having an open lower end thereof below said water level and above the lower end of said first pipe; said second pipe extending up out of the well beyond the upper end of the first pipe; means sealing said annulus at the upper end of said first pipe; means at the upper end of the well bore supporting the first and second pipes in the well; a pressure vessel communicated to a supply of pressurized air; a pipe communicating the pressure vessel and the annulus near the upper end of the first pipe; a pressure regulator interposed in said pipe for supplying constant pressure air to said annulus for forcing the water in said annulus down, and the water in said second pipe up and out of the well.

A system for using a windmill to power a compressor connected to the pressure vessel is described.

3,367,282
SHAPED CHARGE UNIT BODY AND METHOD OF MAKING SAME
Archie M. Franks and Harrold D. Owen, Fort Worth, Tex., assignors to Gearhart-Owen, Inc., Fort Worth, Tex.
Filed July 12, 1965, Ser. No. 471,238
6 Claims. (Cl. 102—24)

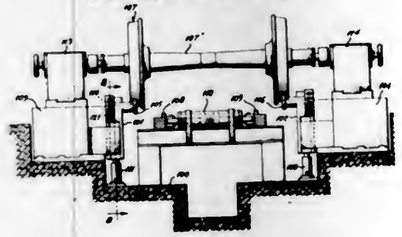


1. The method of forming a Primacord retainer on a shaped charge unit body, said method comprising the steps of:

(a) die-casting an aluminum shaped charge unit body which integrally includes a pair of spaced apart ribs extending outwardly therefrom, said ribs having mutually opposed substantially parallel walls and oppositely facing outer walls which mutually converge; and then

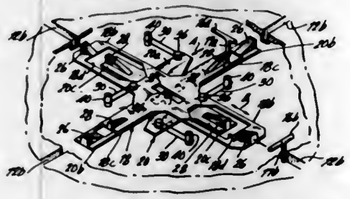
(b) deforming said ribs to cause the mutually opposed walls thereof to converge toward each other at least near their outer extremities, with the deforming of said ribs being effected by a forming tool having a channel therein the walls of which engage said outer walls to exert a lateral deformative force on said ribs as said forming tool is forced downwardly against said ribs.

3,367,283
RAILWAY AXLE POSITIONING DEVICE
Pierre Ladoues, 183 Rue Saint Genes (Gironde), Bordeaux, and Henri Lacoste-Tuzan, Prechac-sur-Adour (Gers), France
Filed Aug. 23, 1965, Ser. No. 481,592
Claims priority, application France, Nov. 4, 1960, 843,083, Patent 1,278,741
3 Claims. (Cl. 104—32)



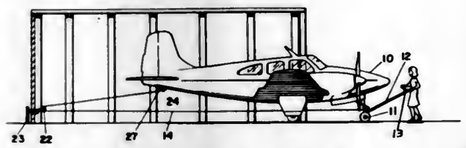
A device for positioning the axles of wheels of a railway vehicle in a vertical plane through the center of a reprofiling bench. The device includes retractable track means, forming an extension of the conventional tracks, and pairs of roller means mounted on a horizontal axis symmetrical with respect to a vertical plane through the center of vertically movable receiving means to receive one of the wheels of the axle between each pair of rollers. The receiving means are vertically moved to contact and rotate the wheel thus causing the axis of the axle to move to a position coincident with the vertical axis of the symmetry of the slide means.

3,367,284
TRACK INTERSECTION UNIT
Frederic A. Lunzer, New York, N.Y., assignor to Ideal Toy Corporation, New York, N.Y., a corporation of New York
Filed June 28, 1966, Ser. No. 561,222
8 Claims. (Cl. 104—60)



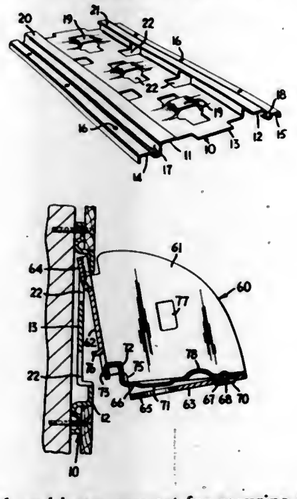
1. A track intersection for toy vehicles of the type having a vehicle guide comprising an intersection member having first and second tracks crossing each other, said first track having a first guide groove for receiving the vehicle guide of a first vehicle and said second track having a second guide groove for receiving the vehicle guide of a second vehicle, first and second coordinating members slidably mounted on said intersection member, said first coordinating member including a first contact disposed along said first guide groove and adapted to be engaged by said first vehicle and a first obstruction disposed along said second guide groove and adapted to block movement of said second vehicle along said second track, said second coordinating member including a second contact disposed along said second guide groove and adapted to be engaged by said second vehicle and a second obstruction disposed along said first guide groove and adapted to block movement of said first vehicle along said first track, said contacts and obstructions being constructed and arranged relative to said guide grooves such that engagement of said first contact by the first vehicle removes said first obstruction from the path of the second vehicle moving along the second track.

3,367,285
TOWING ARRANGEMENT FOR AIRPLANES
Charles L. Lovercheck, 632 W. 7th St., Erie, Pa. 16502
Filed July 28, 1965, Ser. No. 475,372
8 Claims. (Cl. 104—173)



This invention has to do with a tow-bar for an airplane where the tow-bar is of the conventional type that attaches to the nose wheel of a tricycle gear type airplane. A winch is supported on the tow-bar and the winch is connected to a cable which is in turn connected to some point at a remote position from the aircraft so that by operating the winch, the cable will exert a force on the nose wheel and either push or pull the aircraft towards the point where the end of the cable is attached.

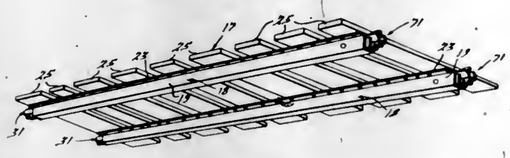
3,367,286
LOAD CONTROL SYSTEMS
George Jantzen, New York, N.Y., assignor to M. Steinthal & Co. Inc., New York, N.Y., a corporation of New York
Filed Sept. 1, 1965, Ser. No. 489,096
9 Claims. (Cl. 105—369)



A track and beam support for securing loads in trucks etc. The hardware engages the track through apertures

which extend into spaced opposed support shoulders and rests upon one of the shoulders.

3,367,287
FREIGHT HANDLING APPARATUS
Richard G. Dunlop, Livonia, Mich., assignor to Evans Products Company, a corporation of Delaware
Filed Sept. 7, 1965, Ser. No. 485,359
7 Claims. (Cl. 105—371)



This application discloses a truck decking member that is supported upon spaced belt rails affixed to opposite side walls of the truck. The decking member is a unitary assembly made up of spaced cross members carrying end fittings at each end and effecting a detachable connection to the respective belt rail. Supporting members extend perpendicularly to the cross members and are rigidly affixed to the cross members.

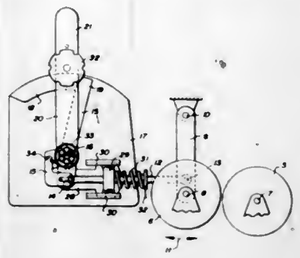
3,367,288
CONFECTIONERY MOULD IMPRESSOR
Hans Arthur Faerber, Castle Cove, New South Wales, Australia, assignor to Nid Pty. Limited, Alexandria, near Sydney, Australia, a corporation of Australia
Filed Oct. 20, 1965, Ser. No. 498,284
4 Claims. (Cl. 107—3)



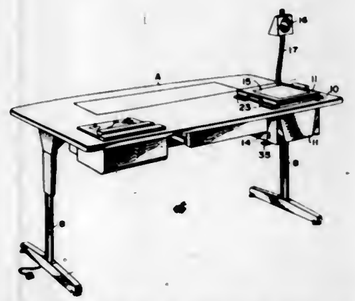
A moulding platen assembly comprising a platen body having a plurality of grooves in its under surface, an air pervious sheet extended over the under surface of the platen body, and a plurality of pattern pieces arranged in groups and held in a predetermined array by back bars extending from piece to piece in each group. The back bars are received in the grooves of the platen body and have a width less than the width of the pattern pieces so that the back surfaces of the pattern pieces project laterally beyond the back bars and contact the perforated sheet.

3,367,289
APPARATUS FOR ADJUSTING ROLLERS FOR DOUGH SHEETING AND MOULDING
Jan Bloemhof, 13336 58th St., Edmonton, Alberta, Canada
Filed May 31, 1966, Ser. No. 553,886
4 Claims. (Cl. 107—12)

1. In combination with a pair of dough shaping rolls mounted on parallel shafts, the axis of one shaft being fixed and having a frame connected to the other shaft, such frame being pivotally mounted to allow the spacing between the rolls to be varied, apparatus for adjusting the spacing between the rolls to allow the rolls to be used for both dough moulding and dough sheeting comprising a push rod connected at one end to the pivotally mounted frame, a first lever connected pivotally intermediate its ends and coupled at one end to the other end of the rod, a stop positioned to engage with the opposite end of the first lever to stop movement of the first lever in one direction, a second lever connected pivotally intermediate its ends, means coupling the first and second levers together when the second lever is moved past the stop in the direction opposite to the direction of restricted movement of the first lever and wherein the levers are disengaged when the second lever is moved in the said one direction and the first lever is stopped, spring means coupled at one end to the push rod and at its opposite end to the second lever whereby movement of the second lever in the said one direction with the first lever stopped will increase tension on the spring and wherein movement of the said second lever in the said opposite direction past the stop will decrease the tension on the spring with respect to the rod and means for locking the said second lever when moved to a desired position in either direction.



3,367,290
TABLE AND CABINET COMBINATION
Chester J. Barecki, Grand Rapids, Mich., assignor to American Seating Company, Grand Rapids, Mich., a corporation of Delaware
Filed Jan. 25, 1967, Ser. No. 611,684
6 Claims. (Cl. 108—50)



In a teacher's console, a projector may be used in elevated position while the teacher is standing or in lowered position when the teacher is sitting. The cabinet of the instrument is provided with side panels slidably mounted in an opening in the console table, and pivotally-mounted handles are equipped with latch means for maintaining the cabinet in raised position, for removing the cabinet, or for releasing the latch and lowering the cabinet, and also equipped with resilient or cushioning means to aid in the operations.

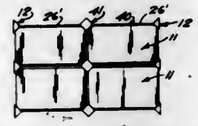
3,367,291
SHELVING STRUCTURE
Robert J. Evans, Aurora, Ill., assignor to Aurora Equipment Company, Aurora, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 349,624, Mar. 5, 1964. This application Oct. 23, 1965, Ser. No. 511,560
11 Claims. (Cl. 108—64)

1. In a knock-down shelving structure,

shelves disposed in end-to-end relation each having cut-away corners with contiguous corners on adjacent shelves defining post receiving pockets,

a series of three-sided triangular upright corner posts disposed in said pockets having portions operatively associated with said cut-away corners,

each of the posts comprising a single strip of material with opposite ends of the strip being disposed in spaced opposed relation defining an upright cavity therebetween,



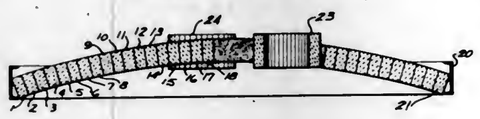
the posts being arranged in pairs having the upright cavities disposed in confronting relation,

means joining sides of said posts with said cut-away corners enabling each of said posts to support shelves on its opposite sides,

upright panel means having ends retainingly disposed within said upright cavities, and

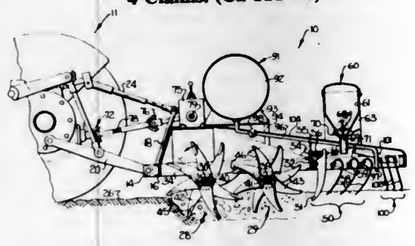
an intermediate post having V-shaped sides with ends butt engaged and attached with said panel means and with said last mentioned sides having vertically spaced key-hole slots for attachment with shelving.

3,367,292
ELECTRIC FURNACE ROOF CONSTRUCTION
Roger W. Woodruff, Bethel Park, and Ben Davies, Pittsburgh, Pa., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Feb. 9, 1966, Ser. No. 526,091
5 Claims. (Cl. 110—99)



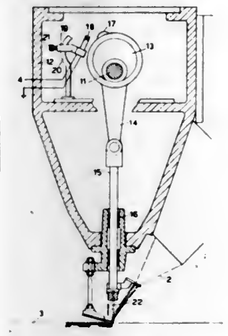
A basic electric furnace roof or a like dish-shaped dome-type furnace roof substantially entirely made of direct-bonded brick having a porosity over 20%, permeability of less than 1.5 units as hereinafter defined, a modulus of rupture at 2300° F. substantially twice that at room temperature and a density of not more than 175 p.c.f.

3,367,293
LANDSCAPING IMPLEMENT
Clyde D. Cox, 1375 Amelia Ave., Rock Hill, S.C. 29730
Filed May 31, 1966, Ser. No. 553,905
4 Claims. (Cl. 111—6)



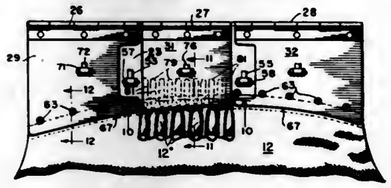
A landscaping implement supported from a tractor vehicle and having power driven ground pulverizing means, harrow means, grass seed distributing means, fertilizer distributing means and rake means for performing the corresponding operations in the same sequence as done manually in preparing ground as a lawn and in a uniform manner over a swath having a width at least as large as the distance by which the wheels of the tractor vehicle are spaced apart.

3,367,294
TUFTING MACHINES PATTERN CONTROL ARRANGEMENT
Ronald Ellison, John Pritchard, and Norman Pickles, Blackburn, England, assignors to Ellison Tufting Machinery Limited, a British company
Filed Apr. 29, 1966, Ser. No. 546,226
1 Claim. (Cl. 112—79)



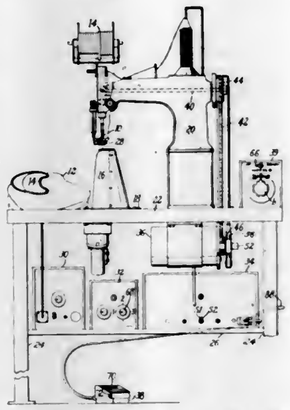
An improved pattern control for tufting machines of the type which is effective to cause pattern changes during tufting operation, the improvement being circuitry that correlates the occurrence of any pattern change to the loop-forming movements of the tufting needles and is effective to insure the completion of loops before a change in pattern is permitted.

3,367,295
TEMPLATE
August D. Piccinini, 3023 E. Madison St., Baltimore, Md. 21205
Filed Aug. 26, 1965, Ser. No. 482,676
10 Claims. (Cl. 112—146)



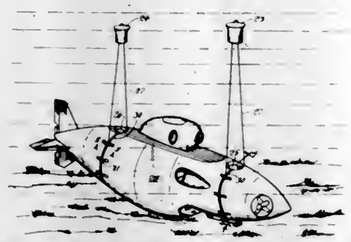
A template for sewing two pieces of material of unequal length, having a lower plate, an intermediate plate hinged to the lower plate for holding the shorter piece of material against the lower plate, a three section upper plate hinged to the lower plate, the end sections of which are flat and adapted to hold the longer of the two pieces against the intermediate plate with the edges of the longer piece of material coincident with the edges of the shorter piece of material and the center section of which is provided with pins for producing puckers in the longer piece of material to take up the excess length of the longer piece over the shorter piece, shaped edges on the lower, intermediate and upper plates forming a guide for sewing the two pieces of material together and pressure devices for holding the plates in clamped position on the two pieces of material.

3,367,296
DRIVING AND STOPPING MECHANISMS
Ray W. Harruff, Xenia, Ohio, assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Oct. 12, 1964, Ser. No. 403,077
7 Claims. (Cl. 112—219)



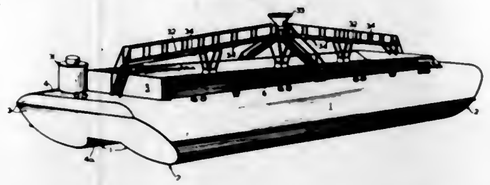
A driving and stopping mechanism for driving a machine such as a sewing machine and stopping the machine in either of two positions such as with the needle in the work in the lowermost position or completely out of the work in the uppermost position including a motor, a dynamic braking circuit for the driving motor, a magnetic device for bringing the sewing shaft to rest in either predetermined position and a control circuit for assuring the actuation of the magnetic device only after the speed of the shaft has been reduced for a predetermined period of time by the braking circuit.

3,367,297
RESCUE AND SALVAGE DEVICES FOR SUBMERSIBLE VESSELS
Arthur J. Berger, 123 N. Highland Place, Croton On Hudson, N.Y. 10520
Filed Aug. 19, 1966, Ser. No. 574,286
3 Claims. (Cl. 114—16.7)



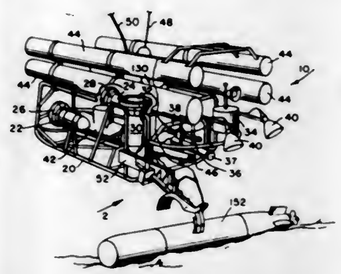
An apparatus for raisng a submersible vessel having a pair of streamlined hull-mounted fairings, one forward and one aft, each provided with a central groove and a pair of releasable buoys. The hull also has affixed thereto a pair of lifting eyes each disposed in a well having therein said buoys. Each buoy carries therein a pair of payout reels mounted on a single shaft on which is wound a unitary loop of cable that passes through the lifting eye. Further, the fairing includes spaced apart guide loops which are releasably attached to the hull. When the buoys are released a surface vessel can pass lifting cables through the lifting-eyes or around the submersible and exert a lifting force thereon to raise the submersible.

3,367,298
BOTTOM DUMP HOPPER BARGE
Raymond A. Jessup, Killara, New South Wales, Australia, assignor to Dredging Industries (Aust.) Pty. Limited, Killara, New South Wales, Australia, a company of Australia
Filed Aug. 25, 1966, Ser. No. 575,137
Claims priority, application Australia, Aug. 25, 1965, 63,217/65
7 Claims. (Cl. 114—36)



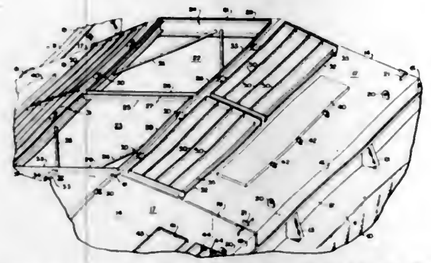
1. A bottom dump hopper barge comprising at least two tubular pontoons supported in spaced relationship—to constitute the sides of the barge—by a bow structure, a stern structure and at least two hollow bulkheads; the bottom of the barge being formed of bottom wall plates fixed longitudinally to the pontoons and to the bow and stern structures and at least two tubular door members hinged to structural members in juxtaposition to the bottom wall plates; at least two hydraulic units mounted in the hollow bulkheads and operatively connected to the door members; a coaming structure fixed to the pontoons and to the bow and stern structures.

3,367,299
UNDERWATER RECOVERY VEHICLE
Jack L. Sayre, Jr., Duarte, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 1, 1966, Ser. No. 569,523
1 Claim. (Cl. 114—51)



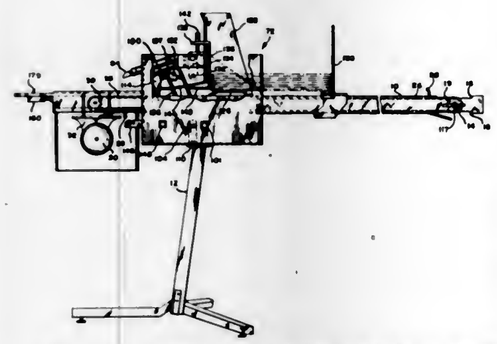
1. Apparatus for recovering an object disposed on the floor of the sea including a vehicle adapted to be tethered to a surface vessel by an extensible cable and an electrical control conduit, the vehicle having propulsion means for maneuvering it in a desired search zone and controlled from the surface vessel, said vehicle having sonar apparatus for initially locating the object and a TV camera for viewing the object when the vehicle approaches it to viewing distance, and including a TV screen on the surface vessel for viewing the object, the improvements, in combination, comprising:
(a) An elongated detachable arm carried by the vehicle extending in a generally horizontal direction,
(b) means for rotating the arm about its longitudinal axis and about a transverse horizontal axis,
(c) means carried by the arm for securing it to the object,
(d) means for detaching the arm from the vehicle, and
(e) means for raising the detached arm and the object secured thereto the surface of the sea independent of the vehicle.

3,367,300
HATCH COVER
Fernando A. Curth, St. Louis, Mo., assignor to Bunge Corporation, a corporation of New York
Filed Oct. 12, 1966, Ser. No. 586,203
3 Claims. (Cl. 114—201)



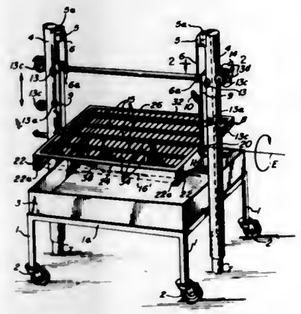
1. Hatch covers for bulk cargo vessels having a hatch and a coaming surrounding said hatch, said hatch covers spanning said hatch and resting adjacent to each other on said coaming, said hatch covers each comprising, in combination, two upward sloping sides resting on said coaming, a horizontal center between said sides, said sides and said center being of substantially the same widths, said center containing a least one central opening extending substantially the length and width of said center, loading covers hinged on each side of said central opening to close over said at least one central opening, said loading covers having closely spaced longitudinal framing members extending from back to front of each loading cover on the undersides of said loading covers, said loading covers being opened to rest on the inner halves of said sloping sides to present said longitudinal framing members as safe footing extending on each side of said at least one central opening, said sloping sides having inspection openings in their outer halves, and covers for said inspection openings.

3,367,301
ADHESIVE APPLYING APPARATUS
Thomas L. Foley and Harold J. Schlotter, Keokuk, Iowa, assignors to Hoerner-Waldorf Corporation, a corporation of Delaware
Filed Mar. 2, 1965, Ser. No. 436,495
7 Claims. (Cl. 118—3)



An apparatus for applying liquid adhesive to the closure flaps of both sides of a collapsed carton, the adhesive applicators being adjustable to accommodate various widths and lengths of cartons. Collapsed cartons are moved along a frame, adhesive applications apply a strip of adhesive along flap hinge lines, the applicators moving into and out of application position in timed adjustment. A limit switch stops carton movement after adhesive application until the carton to which adhesive has been applied is removed.

3,367,302
PRETZEL GLAZING APPARATUS
Karl Heinrich Schloder and Karl Georg Schloder, both of 29 Herrenstrasse, Moosberg, Germany,
Filed Apr. 23, 1964, Ser. No. 362,155
Claims priority, application Germany, July 5, 1963, Sch 33,512
10 Claims. (Cl. 118—30)

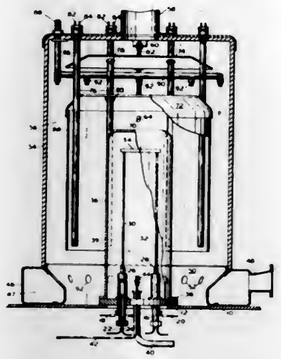


1. The apparatus for dipping pretzel dough to apply a glazed surface thereto prior to baking comprising, a base, an upwardly opening tank for the glazing solution supported on said base, a grate spaced above said tank and having a supporting surface for receiving the pretzel dough, an elevator mechanism connected to said base and rotatively supporting said grate above the tank for selectively raising and lowering said grate relative to said tank, depending flanges on opposite edges of said grate spaced from said supporting surface and adapted to receive a combination shaping and baking board for the pretzel dough, said flanges adapted to support said board in spaced relationship with respect to said grate supporting surface whereby the board may be moved relative to said grate supporting surface to place it in juxtaposition with said supporting surface such that upon rotation of said grate and shaping board the pretzel dough will be transferred from one to the other.

3,367,303
CHEMICAL EQUIPMENT
Charles R. Bostic, Overland, Walter M. Davis, St. Louis, and Harry M. Stevens, Crystal Lake, Mo., assignors to Monsanto Company, a corporation of Delaware
Filed May 29, 1963, Ser. No. 284,087
8 Claims. (Cl. 118—49.5)

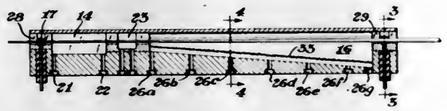
1. Temperature control means for an apparatus for deposition of a material on a hot body within a closed vessel, said temperature control means comprising enclosure means for surrounding said vessel, said enclosure means having an interior surface operatively disposed in spaced relationship to said vessel tubular baffle means operatively disposed intermediate said interior surface and said vessel, means for introducing a heat transfer fluid into the space between said interior surface and said vessel at a controlled rate, means for withdrawing said fluid from said space, heater means disposed within said space and in operative heat transfer relationship with said

fluid, and fluid circulating means for operatively circulating said fluid through and about said tubular baffle means while it is transitorily in said space, whereby the temperature differential of the fluid entering and being withdrawn from said space, the rate at which said fluid



is passed into and withdrawn from space, the heat output from said heater means, and the rate at which heat is transferred to said walls from said hot body can be correlated to maintain said walls within said narrow temperature range.

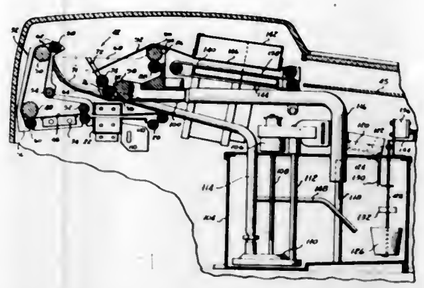
3,367,304
DEPOSITION CHAMBER FOR MANUFACTURE OF REFRACTORY COATED FILAMENTS
William B. Robbins, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
Filed Mar. 13, 1967, Ser. No. 622,596
6 Claims. (Cl. 118—49.5)



Chamber for coating filamentary materials by gaseous reaction or deposition. The chamber is elongated in direction of filament travel and is designed to keep a constant temperature gradient at the filament surface through the chamber. This is accomplished by varying the spacing of adjacent filaments along the length of the chamber, varying the cross-sectional area of the chamber along its length, and/or varying the velocity of feed gas along the length of the chamber to compensate for changing surface area of the filament as coatings build upon on the filament surface.

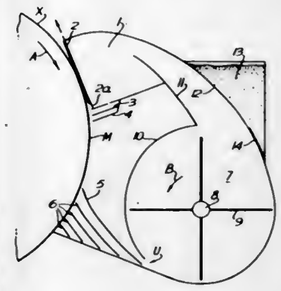
3,367,305
DEVELOPING SYSTEM FOR ELECTROSTATIC COPYING MACHINE
Vernon L. Marquart, Scottsdale, and Marvin W. Teutsch and J. Kirk Swigert, Phoenix, Ariz., assignors to Nuclear Corporation of America, Phoenix, Ariz., a corporation of Delaware
Filed Dec. 6, 1963, Ser. No. 328,741
3 Claims. (Cl. 118—612)

1. Apparatus for developing a latent electrostatic image carried by a sheet of photoconductive copy material including in combination: a tray for holding fluid developer; means forming a weir in said tray; a reservoir containing a supply of liquid developer; means for supplying liquid developer from said reservoir to said tray at one side of said weir to provide fluid developer in said tray at the level of said weir; means including hold down rolls



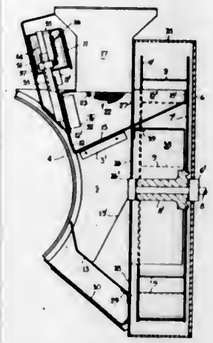
having a nip below said level for guiding copy material through said tray towards said weir; said weir forming means providing a surface having ribs extending in the direction of movement of said copy material for guiding said copy material from said nip to said weir; and means on the other side of said weir for returning fluid developer to said reservoir.

3,367,306
CASCADE DEVELOPING APPARATUS
Louis Frederick William Lawes, Walton-on-Thames, Nicholas Gilbert Shreeve, Weybridge, and Nandor Mihalik, Surrey, England, assignors to Arlside Limited, Maidenhead, England, a corporation of the United Kingdom
Filed Nov. 29, 1965, Ser. No. 510,321
Claims priority, application Great Britain, Dec. 3, 1964, 49,193
13 Claims. (Cl. 118—637)



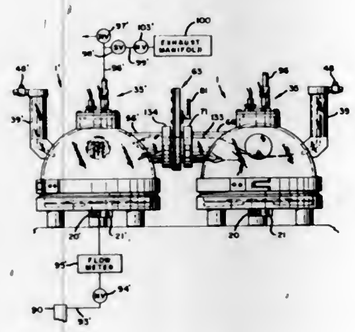
Cascade developing apparatus for developing electrostatographic images on an electrostatographic surface which is other than horizontal including a storage hopper for developer composition having means for discharging the developer composition by gravity onto said image-bearing electrostatographic surface, means for varying, over a range, the rate of discharge of said composition from said hopper, a chamber for collecting all the developer composition falling from the developed electrostatographic surface, and scavenging means within said chamber for sweeping up all the developer composition falling into the chamber and throwing it all back up to the storage hopper. The scavenging means is constructed so that it retains no developer composition.

3,367,307
ELECTROSTATOGRAPHIC DEVELOPING APPARATUS
Louis Frederick William Lawes, Walton-on-Thames, Surrey, and Nicholas Gilbert Shreeve and Nandor Mihalik, Weybridge, Surrey, England, assignors to Arlside Limited, Maidenhead, England, a British company
Filed June 1, 1966, Ser. No. 554,591
Claims priority, application Great Britain, June 2, 1965, 23,539/65
8 Claims. (Cl. 118—637)



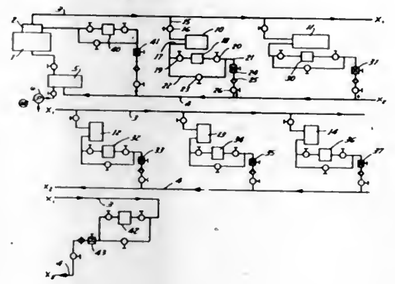
In electrostatographic copying apparatus, developer apparatus for cascading developer material over a surface to develop a latent image thereon, and for recirculating said developer material for subsequent re-use, comprises a continuously operative conveyor which returns cascaded material to a hopper; the hopper has a shutter which is opened only intermittently, to allow developer material to cascade therefrom over said surface when there is an image thereon which is to be developed.

3,367,308
EXPOSURE SYSTEM FOR ANIMALS
Phillip D. Quattrone, Sunnyvale, and Robert W. Staley, San Jose, Calif., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Apr. 26, 1966, Ser. No. 546,148
25 Claims. (Cl. 119—15)



11. Apparatus for exposing an animal to a test atmosphere comprising a hermetically sealed test capsule having inlet and outlet openings for gas flow therethrough, a passage for transferring an animal to and from said capsule, a transfer valve hermetically sealed to said capsule and having a transfer opening aligned with said transfer passage, a movable member in said valve, and means for moving said movable member between one position in which said transfer opening is open to said transfer passage and another position in which said transfer opening is hermetically sealed.

3,367,309
HIGH-PRESSURE DRY STEAM SYSTEM AND METHOD OF CONTROLLING THE SAME
Erwin L. Plagman, Jr., 3016 Heresford Drive, Parma, Ohio 44134
Filed May 10, 1966, Ser. No. 549,046
8 Claims. (Cl. 122—1)

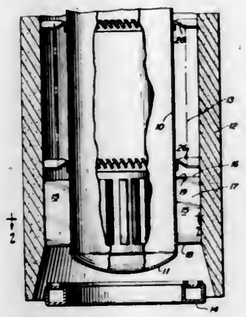


1. In a steam system:
a steam generator having an output within a predetermined range of combined pressure and steam temperature;
a plurality of steam consuming devices connected thereto for receiving steam therefrom and having a total rated capacity not exceeding the rated capacity of the generator;
each of said devices having an outlet;
steam trap means connected to the outlets, respectively, each trap means being capable of discharging all of the condensate of the steam utilized by its associated device while preventing the escape of steam from its associated device;
characterized in that each of said trap means includes flow limiting means permitting discharge of condensate up to, but not substantially exceeding, the rated capacity of the associated device when the trap means are fully open; and
said flow limiting means of all of the trap means in the system are related to the generator so that their combined effect is to restrict the rate of discharge of condensate from the entire system to a rate such that the system remains within the output capacity of the generator and thereby prevents carryover of wet steam and water from the generator into the system.

3,367,310
ABSORPTION REFRIGERATION GENERATOR
Eugene P. Whitlow, St. Joseph, and John H. Hyma, Benton Harbor, Mich., assignors to Whirlpool Corporation, a corporation of Delaware
Filed June 9, 1966, Ser. No. 556,426
6 Claims. (Cl. 122—367)

1. A fuel fired absorption refrigeration generator having a combustion zone of substantially minimum volume for efficient and substantially complete combustion of said fuel as indicated by a low carbon monoxide content of flue gases exiting from said zone, comprising: a shell having an outer surface portion; means defining a combustion

zone at said outer surface portion having an entrance and an exit; a gas burner adjacent said zone entrance arranged to direct its flame and flue gases therefrom into and through said zone toward said exit; and spaced fins on said shell portion extending across said zone so that said flame and flue gases are positioned between said fins, the

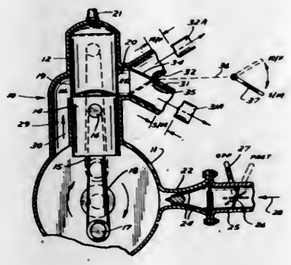


total cross sectional area of said combustion zone between said fins being determined by the formula

$$A = \frac{CO_2 \text{ Percent} - K}{0.16}$$

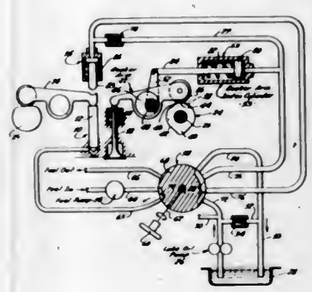
in which A equals said area in square inches, the CO_2 percent is by volume in said flue gases at substantially said combustion zone exit under conditions of substantially complete combustion in said zone, and K is a selected number in the range 2½–3½ inclusive.

3,367,311
TWO-CYCLE ENGINE EXHAUST SYSTEM
William L. Tenney, Crystal Bay, Minn. 55323
Filed Feb. 16, 1966, Ser. No. 527,893
14 Claims. (Cl. 123—65)



Two-cycle internal combustion engine having a cylinder with an exhaust port, and having two or more exhaust channels selectively connectable to the exhaust port. One (or more) of the exhaust channels are of different configurations and dimensions so as to provide different conditions of resonance in the channels. By selective connection of a particular exhaust channel to the exhaust port, while the engine operates in a certain speed range, the exhaust gases passing from the exhaust port through the selected exhaust channel will be reflected as waves, back toward the exhaust port at a frequency in keeping with the rate (or frequency) of opening of the exhaust port, so that at least a portion of such waves reach the exhaust port while it is open, for improving engine performance. Several embodiments of the invention are illustrated.

3,367,312
ENGINE BRAKING SYSTEM
Einar Jonsson, Palos Verdes, Calif., assignor to White Motor Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 28, 1966, Ser. No. 523,742
10 Claims. (Cl. 123—97)

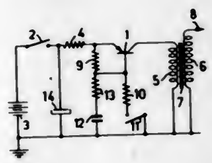


1. In an internal combustion engine wherein means including a rotary cam and a follower cooperative therewith opens an exhaust valve, the improvement for normal power operation and braking operation of the engine selectively, comprising:

said cam being shaped with an outer radial zone having a first rise and an inner radial zone having a second rise spaced circumferentially from the first rise; and

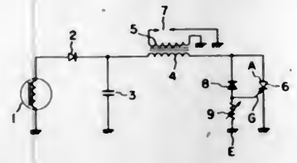
means to shift the responsiveness of the exhaust valve between the two radial zones for actuation of the follower by the two rises selectively.

3,367,313
DEVICE FOR PRODUCING HIGH-VOLTAGE PULSES
Johannes Gerardus Wouterus Bom, Willem Ebbinge, Leendert Johannes Hofland, and Gerhard Josef Tobisch, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 17, 1965, Ser. No. 440,578
Claims priority, application Netherlands, Mar. 17, 1964, 64—2,796
7 Claims. (Cl. 123—148)



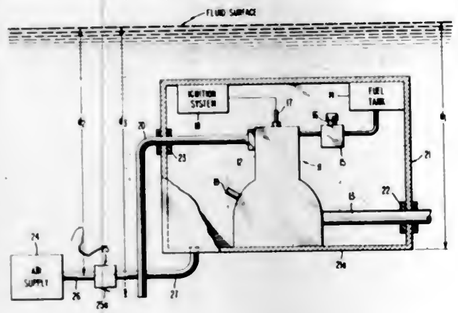
A transistor ignition system for an internal combustion engine includes an engine-driven switch connected in the base circuit of the transistor so as to interrupt current flow in the primary winding of an ignition coil connected in the emitter-collector circuit of the transistor. An RC network connected to the base electrode and a resistor in series with the emitter electrode cooperate upon opening of the switch to maintain a flow of base current thereby to prevent high voltage surges across the transistor during the turn-off period.

3,367,314
NON-CONTACT IGNITION DEVICE
Yoshiaki Hirosawa, Tokyo, Takaya Senzaki, Yamatomachi, Kita-adachi-gun, Saitama Prefecture, Japan, assignors to Kabushiki Kaisha Honda Gijutsu Kenkyusho, Saitama Prefecture, Japan, a corporation of Japan
Filed Sept. 8, 1965, Ser. No. 485,859
Claims priority, application Japan, Sept. 16, 1964, 39/52,993
3 Claims. (Cl. 123—148)



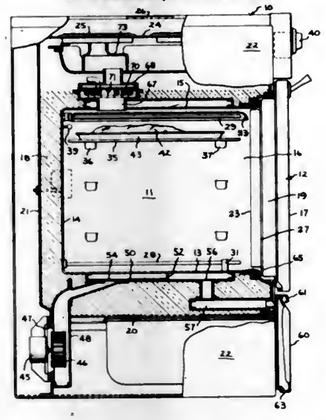
The invention comprises an electrical ignition system for internal combustion engines wherein an A.C. generator source charges a condenser through half-wave rectifier means and an SCR is switched on to discharge the condenser via the primary ignition coil thereby producing a firing spark. The switching circuit for the SCR comprises a constant voltage diode and a resistor connected in series therewith, the combination being in parallel with the SCR. A connection from the junction of the diode and resistor extends to the gate of the SCR so that when a predetermined voltage level in the half-wave signal is reached, the diode current causes a pulse to the gate for firing the SCR which in turn provides the discharge path for the condenser.

3,367,315
SUBMARINE INTERNAL COMBUSTION ENGINE
Harry E. Whittle, 1208 Malinda Road, Oreland, Pa. 19075
Filed Mar. 29, 1967, Ser. No. 626,838
10 Claims. (Cl. 123—198)



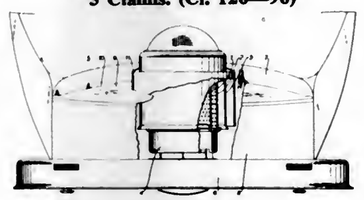
An apparatus to permit operation of an internal combustion engine in a fluid environment wherein a conventional internal combustion engine is disposed in a fluid tight chamber. The exhaust pipe of the engine is extended through the chamber downwardly into the fluid. A pressurized source of air is connected to the chamber through a regulator valve which maintains the pressure within the chamber equal to or somewhat less than the pressure of the fluid at the end of the exhaust pipe regardless of the depth at which the chamber is positioned within the fluid while at the same time continuously providing an adequate supply of air to permit the internal combustion engine to operate.

3,367,316
OVEN FOR CLOSED DOOR BROILING
Christian A. Eff, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Apr. 18, 1966, Ser. No. 543,210
5 Claims. (Cl. 126—21)



A closed door broiling oven having an oven cavity with a radiant heat broiling means and means for sealing the oven door during a broiling operation. The oven also has an exhaust vent with an oxidation unit combined therewith. There is a restricted air opening beneath the door for creating a chimney effect for the exhaust vent. An oven temperature control is combined with the oven and it includes a temperature sensor adjacent one wall of the oven. External, forced air cooling means are provided for extracting heat from the walls of the oven cavity and also reducing the temperature of the sensor to prevent it from cycling. Finally the oven is provided with a blanket of thermal insulation surrounding the cooling means and an external oven housing or body structure.

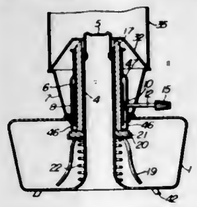
3,367,317
LIQUID FUEL BURNING HEATERS
Hugh Charles Hebard, Flackwell Heath, High Wycombe, and Bertram Stanley Dearing, Ickenham, England, assignors to Aladdin Industries Limited, Greenford, England
Filed Apr. 15, 1965, Ser. No. 448,489
Claims priority, application Great Britain, Apr. 21, 1964, 16,468/64
5 Claims. (Cl. 126—96)



1. In a liquid fuel-burning heater having an enclosure, a cover on said enclosure, a reflector extending upwardly from said enclosure, a radiant burner having a lower portion shrouded by said enclosure and an upper portion extending through an aperture in the cover of said enclosure in front of said reflector, said enclosure being cut away adjacent to said reflector to form a narrow slot following the profile of said reflector for admitting burner combustion air into the chamber defined by said enclosure, and means at said aperture defining an annular draft inducing passage having its lower end open to said chamber within said enclosure and extending in surrounding

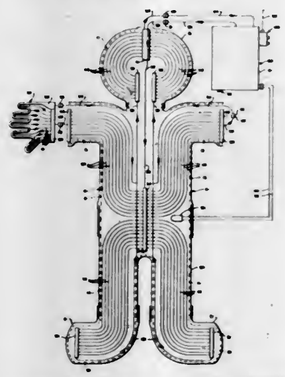
relation to said burner to dispose its upper open end adjacent the top of said upper portion of the burner whereby a draft is induced by burner heat to draw air into said enclosure through said slot and upwardly from said chamber through said passage, the upper open end of said passage and said slot being disposed at closely adjacent vertical levels in the heater so that the effect of air pressure variations due to external drafts is substantially the same at said slot and said upper end of the passage.

3,367,318
PETROLEUM HEATER
Yujiro Murakami, Moriguchi-shi, Toshio Nozaki, Toyonaka-shi, Kunihito Mori, Hirakata-shi, Yukio Hirauchi, Yamatokoriyama-shi, and Manabu Takata, Toyonaka-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed July 1, 1966, Ser. No. 562,185
8 Claims. (Cl. 126—96)



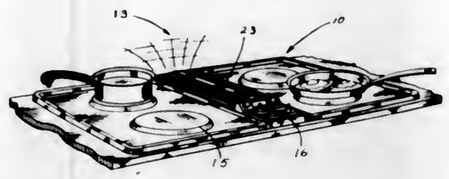
A petroleum heater having a pair of cylinders coaxially disposed at the center of an oil tank with means to move one of the cylinders with respect to the other, a burning wick member being disposed between the cylinders and fixed to the above-mentioned movable cylinder. A mounting ring for at least one suction wick member is also provided which is slidably mounted around the inner cylinder and which is urged in a direction so that the wick members contact. Means are also provided for overcoming the force of the resilient means and urging the mounting ring in an opposite direction for interrupting contact between the respective wick members.

3,367,319
APPARATUS FOR HEATING A DIVER CLOTHED IN A SUIT AND IMMERSED IN COLD WATER
William J. Carter, Jr., Williamsville, N.Y., assignor to The Firewel Company, Inc., Buffalo, N.Y., a corporation of Ohio
Filed Nov. 9, 1966, Ser. No. 593,026
15 Claims. (Cl. 126—204)



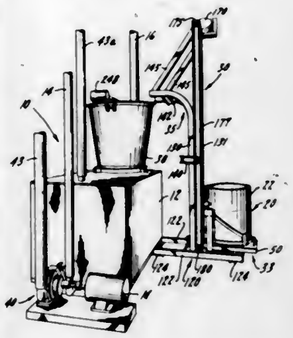
1. Apparatus including a suit for heating a diver immersed in cold water, which comprises means confining a liquid body of acid, pump means expelling increments of such acid from said body, means mixing said increments of acid with a liquid with which said acid acts exothermically, and means conducting such mixed increments into said suit and in heat exchange relation with the body of the diver.

3,367,320
SELF-VENTILATING COOKING RANGE
Louis J. Jenn and Thomas R. Field, Indianapolis, Ind., assignors to Jenn-Air Corporation, Indianapolis, Ind., a corporation of Indiana
Filed July 28, 1966, Ser. No. 568,522
7 Claims. (Cl. 126—300)



An apparatus for capturing and exhausting grease laden or odoriferous vapors produced when cooking on surface heating elements of a cooking range, and including provision for establishing a negative pressure region immediately above the surface heating elements and substantially coextensive therewith, and for removing such vapors from the region through a suitable plenum housing and from thence to appropriate venting apparatus.

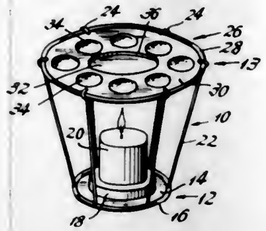
3,367,321
INK HANDLING AND METERING DEVICE
Albert M. Bridell, 1313 W. Lake St., Chicago, Ill. 60607
Filed Jan. 3, 1966, Ser. No. 518,187
7 Claims. (Cl. 126—343.5)



A container of solidified material, such as ink, is elevated and dumped into a melting pot by handling mechanism. The material is liquefied in the melting pot and distributed therefrom by a conduit.

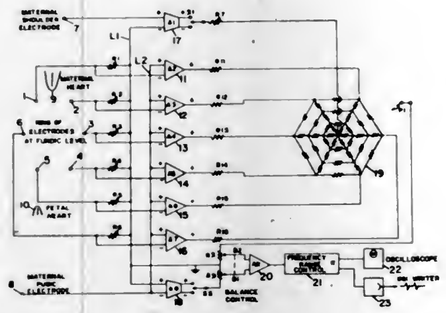
3,367,322
DEVICE FOR HEATING WAX BASE MATERIALS
Irene L Koenig, 131 Cleveland Ave., Bridgeport, Conn. 06606
Filed Apr. 25, 1966, Ser. No. 556,249
9 Claims. (Cl. 126—343.5)

1. A device for heating and maintaining in a liquid state a plurality of discrete quantities of wax base material comprising in combination an upright stand having a base portion and an uppermost supporting means, means located substantially centrally of said stand for holding a quantity of combustible material, and a palette supported in upwardly spaced relationship to said combustible material by said uppermost supporting means, said palette being formed of heat conducting material and having a central heat receiving portion and an annular wax base



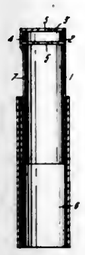
material holding portion surrounding said heat receiving portion, said annular holding portion having a plurality of depressions formed therein each adapted to hold a quantity of said wax base material of a different color whereby heat from said combustible material is conducted through said palette from said central portion to said depressions to melt the wax base material therein and maintain the latter in a liquid state.

3,367,323
FETAL ELECTROCARDIOGRAPH AND METHOD
Graham T. Schuler, Ottawa, Ontario, Canada, assignor to National Research Council, Ottawa, Ontario, Canada, a corporation of Canada
Filed Mar. 17, 1965, Ser. No. 440,404
Claims priority, application Canada, Nov. 17, 1964, 916,635
6 Claims. (Cl. 128—2.06)



An electrocardiograph for obtaining an enhanced fetal heart beat signal in the presence of the maternal heartbeat signal wherein the signals obtained from a series of surface electrodes positioned in a ring about the mother's torso at the fundic level are fed to a resistance network from which an output signal is taken that would be the same as the signal from a theoretical depth electrode placed within the maternal body. This signal and a signal obtained from an electrode placed in the pubic area of the mother both taken with reference to a voltage reference point on the resistance network are subtracted algebraically giving an output signal having an increased fetal ECG signal component and a decreased maternal ECG component.

3,367,324
DEVICE FOR TESTING LUNG FUNCTION
Edward Francis De Bono, Whittlesford, England, assignor to Airmed Limited, Harlow, England
Filed July 10, 1964, Ser. No. 381,789
Claims priority, application Great Britain, July 20, 1963, 28,801/63; Sept. 26, 1963, 37,842/63
3 Claims. (Cl. 128—2.08)



The device is designed for testing lung function by measuring the flow-rate of air at the mouth, and includes a whistle having a mouthpiece and a calibrated leak opening arranged to allow a proportion of the air flow at the mouth to pass through the mouthpiece without passing through the whistle so that a certain total air flow-rate within the capacity of human lungs is required to cause the whistle to sound, the leak opening being adjustable and marked with a calibrated scale, the whistle proper having a tubular body with the calibrated leak opening in its tubular wall cooperating with a calibrated scale, the mouthpiece being an open tube having telescopic engagement with the tubular body so that it occludes the leak opening to an extent which can be adjusted by sliding movement of the mouthpiece relatively to the body to vary the air-flow required to sound the whistle, and the whistle proper consisting of a tube closed at one end by two end plates separated by a space, each end plate having a central orifice.

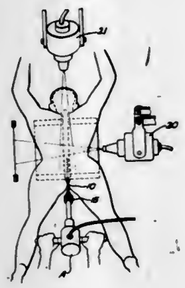
3,367,325
AIR CONCENTRATING, DISTRIBUTING AND BATH WATER BUBBLING DEVICE
William J. O'Keefe, Palos Verdes, Calif. (P.O. Box 3593, Torrance, Calif. 90500)
Filed Apr. 8, 1965, Ser. No. 446,526
5 Claims. (Cl. 128—66)



The above designated appliance has to do with a portable multipurpose air concentrating and distributing pad which functions to turbulate water within the confines of

tub, bucket, or suitable container. It is basically a bubbler and is submerged in warm water to afford the user comforting relaxation, relief from aching and painful feet and other pains where one's doctor recommends water turbulation or therapy as a treatment. It is made of space age plastics, more specifically, is molded in a heat injection power press. It has a replaceable air delivery hose, is powered from the exhaust side of conventional home-type vacuum cleaners and can be used with almost all makes of vacuum cleaners on today's market. Merely detach the usual vacuum hose, transfer it to and connect it with the discharge neck of the vacuum cleaner. Then, connect the valved funnel-equipped end of the air intake and delivery hose to the vacuum cleaner hose and use in the manner illustrated in FIG. 1.

3,367,326
INTRA SPINAL FIXATION ROD
Calvin H. Frazier, 650 Rambler Road, Merced, Calif. 95340
Filed June 15, 1965, Ser. No. 464,139
8 Claims. (Cl. 128—92)



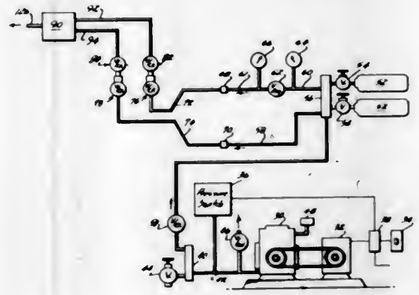
An improved tapered intra-medullary spinal fixation rod having a drill tip at the tapered end and the method of using the rod to support a human spine by drilling the rod through successive vertebrae.

3,367,327
FOOT RESTRAINING MEANS FOR WHEEL CHAIR PATIENTS
Roman Rybczynski, 9674 Sierra St., Fontana, Calif. 92335
Filed Mar. 8, 1965, Ser. No. 437,791
9 Claims. (Cl. 128—134)



1. Means for limiting relative movement of a foot of a patient with respect to a pedal on a wheel chair comprising in combination: a foot support member having a shoe supporting surface on such a wheel chair; means on said support member defining with said shoe supporting surface an opening; and a shoe for the patient's foot provided with rigid means thereon insertable into said opening by manipulation of the shoe for interlocking engagement with said foot support member for restraining relative movement of the shoe with respect to the foot support member.

3,367,328
FULL PRESSURE SUIT ACTIVATION SYSTEM WITH EJECT CAPABILITIES
Daniel D. Mangieri, Commack. N.Y., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 24, 1965, Ser. No. 435,097
4 Claims. (Cl. 128—142.5)



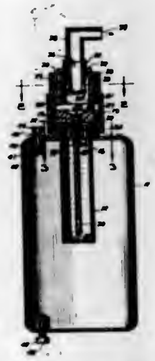
A system for supplying air pressure to a pressure suit and breathing mask of the demand type in an ejection training device which includes a simulated cockpit structure and a seat which is movable with respect to the cockpit structure to simulate ejection of a seat from an aircraft cockpit, said system comprising an air pressure manifold mounted on the cockpit structure and having a plurality of outlets, means for supplying said manifold with air at a predetermined high pressure, a first pressure reducing regulator valve connected to one of said manifold outlets to receive air at said high pressure, said pressure reducing valve providing air at a first reduced pressure, a second pressure reducing regulator valve, first conduit means connected to said first regulator valve for conveying air at said first reduced pressure to said breathing mask and to a second pressure reducing regulator valve, said second pressure reducing regulator valve providing air to said pressure suit at a second reduced pressure which is less than said first reduced pressure, second conduit means including a rate of flow restrictor connected to another of said manifold outlets and communicating with air pressure storage bottles mounted on said seat for storing air at said high pressure, the first and second conduit means each including a separable connector having two parts separable in response to movement of the seat to simulate ejection and each including check valve means to prevent loss of air while separated, a third pressure reducing regulator valve connected to receive air at said high pressure from said storage tank and to provide at its outlet air at a third reduced pressure which is less than said first reduced pressure and greater than said second reduced pressure, a check valve connected between the outlet of said third regulator valve and said first conduit means, said check valve being oriented to permit flow from the storage tank to the mask and third regulator valve when the parts of said separable connectors are separated, and a vent valve mounted on the seat for venting air from the pressure suit at a manually selected rate when the seat is in normal position in the cockpit structure and which is closed automatically when the seat moves to simulate ejection.

3,367,329
SURGICAL BANDAGE AND METHOD OF FABRICATION
Norman R. Dibelius, Ballston Spa, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 27, 1965, Ser. No. 483,072
7 Claims. (Cl. 128—156)



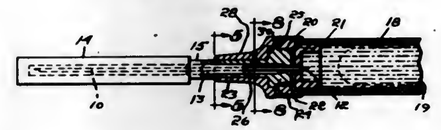
An improvement in surgical bandages is described wherein a thin non-porous membrane impervious to liquids and infectious organisms and permeable to oxygen gas, nitrogen gas and water vapor is employed. The membrane has bonded thereto at least one sheet of stretchable porous material to support the membrane and to conform the membrane to body surfaces, when the bandage is applied over a wound forming a completely enclosed region upon adherence of the bandage to the skin. A method for the preparation of the improved bandage is also described.

3,367,330
AEROSOL TYPE DISPENSER FOR FLUIDS
Stanis A. Sierpin, 2266 E. Kirby, Detroit, Mich. 48211
Filed July 6, 1965, Ser. No. 469,570
6 Claims. (Cl. 128—173)



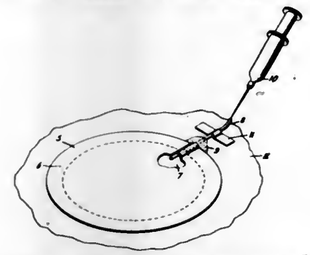
1. An aerosolator comprising a closed cylinder having flexible resilient side walls and a neck;
a plug in the neck having a bore open to the cylinder and at one end terminating in a first orifice;
a liquid container in the cylinder, vented therein, projected into said bore and secured to said plug;
a carburetor plug in the open end of said container defining with said bore a chamber of first turbulence, and having a bore terminating in a second orifice communicating with the said chamber;
a liquid tube in said container at one end extending into the carburetor plug bore;
there being a pair of capillary air passages extending through said carburetor plug communicating with said chamber;
a housing projected over said neck having a bore defining with said neck plug a saturation chamber communicating with said first orifice, and having a dispensing outlet;
there being a series of airbleed inlet passages in said housing communicating with the saturation chamber.

3,367,331
DEVICE FOR LOCKING A HYPODERMIC NEEDLE HUB TO A SYRINGE
Richard A. Brookfield, 90 Spring Lane, Canton, Mass. 02021
Filed Apr. 7, 1965, Ser. No. 446,200
7 Claims. (Cl. 128—221)



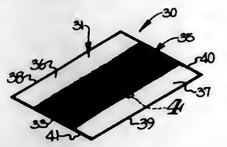
Locking device for locking a needle to a hypodermic syringe, the needle having a plastic hub of a multilateral cross sectional shape, the device having a member provided with a passage having an outwardly opening socket shaped and dimensioned to slidably receive a hub and a member having an inturned locking edge, the device having two positions established by turning one member relative to the other, in one position the socket being open and in the other, the edge so intersects it that it bites into a hub seated in the socket.

3,367,332
PRODUCT AND PROCESS FOR ESTABLISHING A STERILE AREA OF SKIN
James N. Groves, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 27, 1965, Ser. No. 483,073
9 Claims. (Cl. 128—268)



The construction of, and several uses for, a new nonporous skin cover, or surgical bandage, are described, this cover being capable of retaining liquids and of selectively passing gases and vapors, while maintaining a sterile treatment zone between the cover and the body surface to which it is applied.

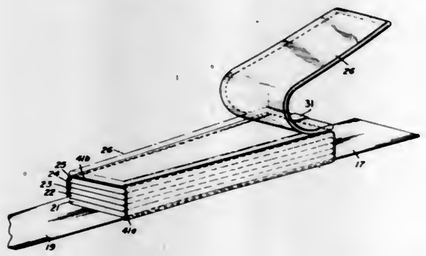
3,367,333
PILE DIAPER
Stanley C. Scheler, Charlotte, N.C., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed July 12, 1965, Ser. No. 471,216
19 Claims. (Cl. 128—284)



1. A diaper adapted to be worn having hydrophilic fibers for the desired absorbency therein and being characterized by a pile area disposed in an intermediate portion of the diaper between non-pile areas, said diaper comprising a base of pliable material, and pile yarns pene-

trating through a portion of the base and forming raised pile on one surface of said base portion and being interknit and forming stitch loop chains on the other surface of said base portion to anchor the pile yarns in the base, and said pile yarns and base portion defining a pile area disposed in the central portion of the diaper when the diaper is in use.

3,367,334
SANITARY NAPKIN
Samuel R. Testa, Irondequoit, N.Y.
(91 Birch Hills Drive, Rochester, N.Y. 14622)
Filed Mar. 31, 1965, Ser. No. 444,167
8 Claims. (Cl. 128—290)



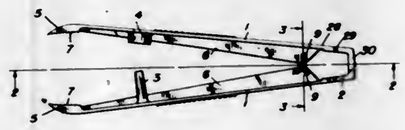
There is disclosed a sanitary napkin for feminine hygiene, comprising a plurality of separate sections piled one on top of another, with the topmost section being placed next to the body while the remaining sections constitute a reserve supply for successive use, each topmost section being removed and discarded after a suitable interval. A moisture barrier sheet is folded over all but the topmost section, thus protecting the reserve supply sections from moisture, both on the face areas thereof and at the lateral edges thereof.

3,367,335
SURGICAL KNIFE WITH REPLACEABLE BLADE
Abraham W. Ward, 1125 Greenwich St., San Francisco, Calif. 94109, and Raymond T. Whipple, 673 Bille Road, Paradise, Calif. 95969
Filed Oct. 22, 1965, Ser. No. 501,370
3 Claims. (Cl. 128—305)



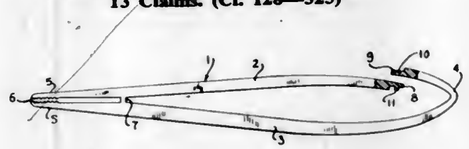
A surgical knife is disclosed as including a stem having a longitudinal slot in the outer end thereof, and a cross pin extending across the slot near the inner end of the slot. A sleeve is telescoped on the stem and is spring biased outwardly to enclose the open sides of the slot. A knife blade is provided with a base portion which fits within the slot and has a laterally extending notch engageable with the cross pin, the base portion continuing at an angle as a shank portion with a blade portion at the outer end of the blade extending at substantially right angles to the shank portion. By retracting the sleeve against the bias of the spring, blades can be interchangeably engaged with the cross pin in the slot, and be held in position by allowing the sleeve to be biased to its outer position.

3,367,336
DISPOSABLE MEDICAL FORCEPS
Arthur Eizenberg, Tarzana, Calif., assignor to Pharmaseal Laboratories, Glendale, Calif., a corporation of California
Filed July 26, 1965, Ser. No. 474,577
5 Claims. (Cl. 128—321)



A disposable, one-piece plastic forceps having a longitudinal triangular rib along an inside surface of each clamping arm. These ribs have opposed spaced apart apexes near a U-shaped plastic hinge. The apexes come together upon partially closing of the forceps to spring the U-shaped hinge outwardly and prevent it from breaking.

3,367,337
SURGICAL CLAMP
Stephen L. Javna, 33 Edgewood St., Tenafly, N.J. 07670, and Richard B. Berlin, 166 Norma Road, Teaneck, N.J. 07666
Filed Jan. 15, 1965, Ser. No. 425,847
13 Claims. (Cl. 128—325)



1. A surgical clamp, comprising: a unitary member having a pair of elongate, resilient, longitudinally bowed arms connected at one end by a hinge portion and terminating in a pair of cooperating gripping jaws at the other end thereof, and a fulcrum joining said arms at a point spaced from both ends thereof, one of said arms being split at a point between said fulcrum and said hinge portion to form two joinable free ends.

3,367,338
SURGICAL APPLIANCE
Bee Carl Crandall, 1261 Randall Drive, Memphis, Tenn. 38116
Filed Oct. 23, 1965, Ser. No. 503,053
6 Claims. (Cl. 128—350)

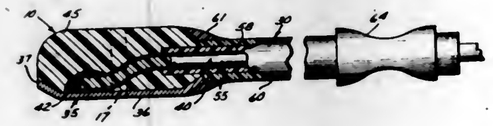
1. In a surgical device, a metallic annular rim having an aperture therein, an external radial flange along each edge thereof, a nipple adapted for connection to a drainage tube surrounding said aperture, a circular metallic outer wall having an inwardly reverted flange overlying one of said external radial flanges and closing one side of said rim to define a circular receptacle, a concaved circular inner wall having a reverted flange overlying the other of said radial flanges, and having a central opening

therein, a concaved compressible resilient pad conforming to said inner wall, a sheet of resilient material overlying said pad and secured thereto, said pad and sheets



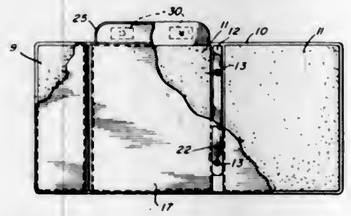
having central openings therein aligned with said opening in said inner wall, said sheet having an annular extension foldable against said rim and resilient means securing said extension to said rim.

3,367,339
IMPLANTABLE NERVE STIMULATING ELECTRODE AND LEAD
Robert W. Sessions, 1309 Lloyd Ave., Lombard, Ill. 60148
Filed Oct. 9, 1964, Ser. No. 402,865
4 Claims. (Cl. 128—418)



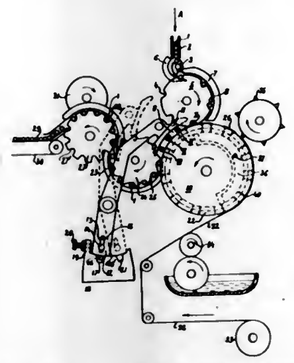
A nerve stimulating circuit means including an electrode and a flexible conductor connected thereto and extending therefrom. The electrode and the conductor being constructed of material suitable for implantation in a living body. The electrode and conductor means of the present invention can be used in various parts of the body for stimulation of various nerves, however, it has particular utility when secured to myocardium for heart stimulation.

3,367,340
BACKING STRIP-STUD COMPONENT FOR FLEXIBLE FOLDERS
Robert C. David, Deerfield, and Herbert Gratz, Elmhurst, Ill., and Robert H. Miller, 5415 Grand Ave., Western Springs, Ill. 60558; said David and said Gratz assignors to said Miller
Continuation of application Ser. No. 391,685, Aug. 24, 1964. This application Mar. 16, 1967, Ser. No. 643,758
2 Claims. (Cl. 129—39.5)



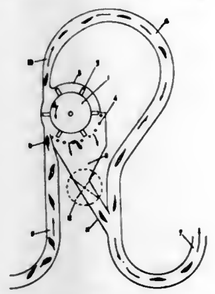
A folder device having top, bottom and overlapping sections and a single backing strip which forms a spine member, the strip having at least one stud cast integral therewith, the stud being adapted to retain removable filler sheets.

3,367,341
APPARATUS FOR CONNECTING ALIGNED CIGARETTES AND FILTERS
Antonín Skála, Prague, Czechoslovakia, assignor to Zavody V.I. Lenina Plzen, narodni podnik, Plzen, Czechoslovakia
Filed May 6, 1965, Ser. No. 453,644
Claims priority, application Czechoslovakia, May 6, 1964, 2,627/64
11 Claims. (Cl. 131—94)



In a device for connecting groups of aligned cigarettes and filters or of other rod-shaped objects by means of wrappers there are cooperating first, second, and third drum means for progressively transporting individual groups of objects to be connected. The first and third drum means are provided with axially extending and circumferentially spaced grooves, and the second drum means has at least two circumferentially extending parallel and endless grooves. The second drum means also cooperates with guide means to form an adjustable chute and to cause each of the referred to groups to perform a revolution, while passing through the chute.

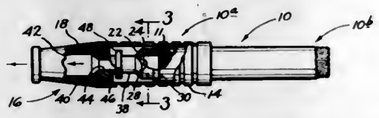
3,367,342
METHOD AND APPARATUS FOR THRESHING LEAVES, E.G. TOBACCO LEAVES
James G. Lewis, Wrington, England, assignor to The Imperial Tobacco Company (of Great Britain and Ireland) Limited, Bedminster, Bristol, England, a company of England
Filed Feb. 21, 1966, Ser. No. 529,147
Claims priority, application Great Britain, Mar. 18, 1965, 11,455/65
10 Claims. (Cl. 131—145)



1. A method of threshing leaves to separate the stem and lamina thereof comprising directing the leaves through a duct, orienting said leaves in the duct with the stems generally parallel to each other and with the tips extending foremost by passing an accelerating current of air through said duct, and passing said directed leaves
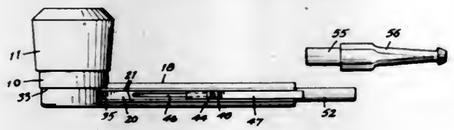
into a threshing drum, whereby the action of the accelerating current upon the leaves assists in turning the stems rearward so that the leaves enter the thresher drum with the tips of the leaves foremost.

3,367,343
SMOKE-FILTERING DEVICE
Robert G. White and Ross W. Gifford, Portland, Oreg., assignors to Scott F. Reekie, Joseph T. Chiodo, and Robert G. White, all of Portland, Oreg.
Filed Oct. 11, 1965, Ser. No. 494,390
5 Claims. (Cl. 131—187)



A cigarette holder comprising a mouthpiece element and a cylindrical, flanged, metallic sleeve mounted about said element and projecting axially out from one end thereof. The element includes an open mouthed cup including a cylindrical wall, a base and a flange bounding said wall where the mouth of the cup is located, and the sleeve fits snugly about the flange to be positioned by the flange element. One end of the sleeve projects toward the lightable end of a cigarette inserted into the holder, to encircle the downstream end of such cigarette when such is in place. Radially extending constricted bores are provided in the wall of the cup, which smokes flows through to impinge against the inside of the sleeve.

3,367,344
SMOKING PIPE
Stephen Peter Chernock, 1553 Boston Post Road, Milford, Conn. 06460
Filed June 28, 1965, Ser. No. 467,401
5 Claims. (Cl. 131—207)



A smoking pipe having a tubular stem provided with an axial passage therethrough, a bowl secured at the forward end of said stem including a peripheral wall defining a well space and having a radial passage extended between said well space and the exterior of said bowl, and a removable bit at the rearward end of said stem, having a smoke passage therethrough, said axial passage of said stem adapted upon removal of said bit to have an elongated filter element inserted forwardly therein and removed rearwardly therefrom, said stem being connected to said bowl by a connector member having an axial passage therethrough and including a shank portion secured within the forward end portion of said stem and a stud portion projecting forwardly from said stem and secured within said radial passage of said bowl, a cap member in which the forward end of said filter element may be grippingly engaged in sealed relation being slideable longitudinally in said passage of said stem and having a tubular forwardly extending shank portion adapted in a forward position of said cap member to be supported in slideable sealed relation in said passage of said connector member, said cap member having a finger engageable actuating means extended to the exterior of said stem through a longitudinal slot therein, and by means of which, upon removal of said bit, said cap member may be manually moved from said forward position in sealed relation in said passage of said connector member to a rearward position whereby said filter element is propelled rearwardly to a projected position relatively to the rearward end of said stem.

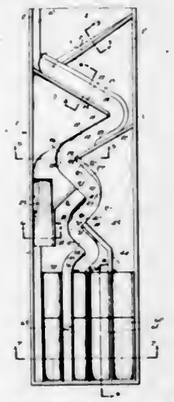
3,367,345
APPARATUS AND METHOD FOR PROTECTING OLD HAIR WHILE STRAIGHTENING NEW HAIR
Ora Lee Riley, 1014 E. Carson St., Pittsburgh, Pa. 15203
Filed Jan. 6, 1965, Ser. No. 423,789
4 Claims. (Cl. 132—7)



A method for treating kinky hair of Negroes and the like involving protecting old hair growth that has been chemically straightened while straightening new kinky hair growth, comprising wrapping a block of old hair growth with a strip of non-absorbent, crepe paper in the lengthwise direction of stretch of the crepe paper, then croquignole rolling the wrapped hair down to the new kinky hair growth, pulling the end of the crepe paper right up to the new growth, and applying a chemical straightening solution to the new kinky hair growth while smoothing the new kinky hair until straightened.

The invention also pertains to the specific crepe paper which is stretchable and non-absorbent to the straightening cream, with crinkles at right angles to the longer side of a rectangular piece of crepe paper, whereby the paper may be wrapped around the block of hair and rolled into a croquignole in the direction of stretch of the crepe paper.

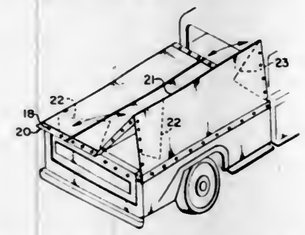
3,367,346
COIN SORTER
Ronald C. Gdanski, 3 Park Ave. E., Grimsby, Ontario, Canada
Filed Oct. 26, 1966, Ser. No. 589,714
Claims priority, application Canada, Oct. 17, 1966, 973,214
15 Claims. (Cl. 133—3)



Sorter for coins and similar circular articles, fed at random, and of differing diameters. The articles slide

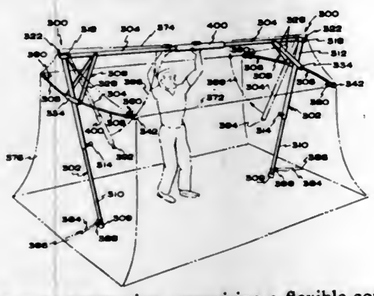
flat along a series of inclined channels, alternating in direction to form a zig-zag, the channels in the same inclined plane. The width of the channels are successively reduced, and a ramp is provided at each corner of the zig-zag to lift the largest size of article reaching that corner. This size then slides into a collecting station, the smaller articles passing to further successive sorting positions.

3,367,347
TRUCK BED COVER AND TENT
Robert L. Smith, 482 Center St., Apt. A, Chula Vista, Calif. 92010
Filed July 5, 1966, Ser. No. 562,634
10 Claims. (Cl. 135—1)



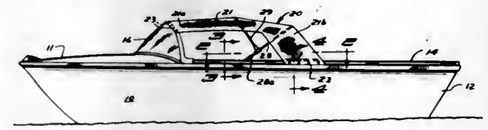
1. A cargo cover for vehicles having a cargo container area with upright walls and said cargo cover being capable of conversion into a camping tent comprising,
cover means for covering said container area;
support frame means being capable of being selectively erected at spaced apart intervals on said container for supporting said cover means;
a plurality of fastening means mounted on spaced apart locations on said upright walls;
said cover means being provided with a plurality of fastening components for cooperating with said fastening means and releasably securing said cover over said container; and
said cover being provided midway its width with longitudinal fastening means that extend substantially the length of said cover for holding, when fastened, the cover area to that area substantially equal to said container area and when unfastened allowing said cover to unfold increasing said area of said cover to that area required for use as a tent on said cargo container.

3,367,348
TENT SUPPORT AND METHOD OF ERECTION
Arthur J. Kirkham, 5534 Avalon Drive, Murray, Utah 84107
Filed Aug. 25, 1966, Ser. No. 575,099
8 Claims. (Cl. 135—4)



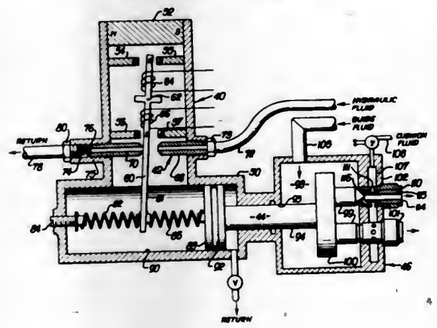
1. In a tent construction comprising a flexible covering and a support structure, said support structure including a ridge member associated with an upright member for relative pivotal movement, the improvement comprising
yoke means pivotally associated with the ridge member and comprising means diagonally spanning between the ridge member and the upright member and terminal means joined to said diagonal means so as to be slidably interposed between the upright member and the flexible covering for displacement between erected and collapsed positions, said terminal means including a pair of elongated members generally oppositely disposed in transversely extending relation such that said elongated members and the flexible covering are essentially relaxed when said terminal means are in the collapsed position and said elongated means are stressed and said flexible covering is forced generally taut when said terminal means are in the erected position.

3,367,349
BOAT CANOPY HOLDING MEANS
Maurice H. O'Link, St. Cloud, Minn., assignor to Stearns Manufacturing Company, St. Cloud, Minn., a corporation of Minnesota
Filed Mar. 14, 1966, Ser. No. 534,011
2 Claims. (Cl. 135—6)



An adjustable structure to accommodate and secure various sized canopies to a boat and consisting of a rail adjustably secured to the gunwale of a boat carrying slidable means for securing the supporting struts of a boat canopy and carrying slidable locking means securing the canopy.

3,367,350
FLUID EJECTOR
Donald C. Howland, Costa Mesa, Calif., assignor, by mesne assignments, to Cadillac Gage Company, Warren, Mich., a corporation of Michigan
Filed May 3, 1963, Ser. No. 277,823
4 Claims. (Cl. 137—81.5)



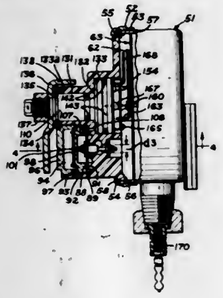
1. In combination with a reaction motor for providing a propelling rocket jet, a thrust control system for directing said rocket jet by injection of guide fluid and cushion fluid, in accordance with a control signal, comprising:
a plurality of guide fluid ejector valves adapted to be mounted contiguous to said rocket jet whereby to inject a controlled stream of guide fluid through an ejection port thereof, into said rocket jet for diverting at least a portion of said rocket jet in accordance with said control signal;

means for supplying each of said guide fluid ejector valves with guide fluid;

means defining an annular passage exterior of, and substantially concentric to said ejection port of each of said guide fluid ejector valves, said annular passage being in annular communication with said ejection port; and

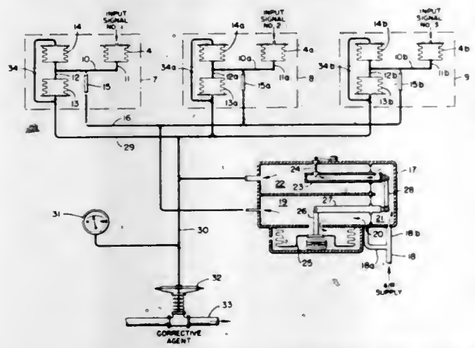
means for supplying said annular passage of each of said guide fluid ejector valves with said cushion fluid.

3,367,351
CONTROLLER
William H. Smyers, Jr., Dayton, Ohio, assignor to Koehler-Dayton, Inc., Dayton, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 356,426, Apr. 1, 1964. This application July 26, 1966, Ser. No. 568,030
18 Claims. (Cl. 137—83)



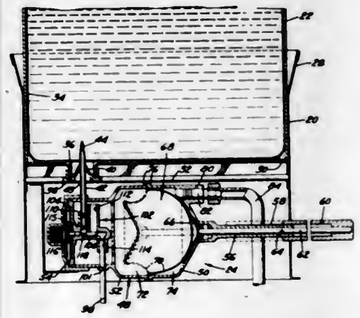
A control device adapted to vary the fluid pressure in a conduit as a result of a cam member being moved between a pair of opposed orifices which bleed air from the conduit. The cam member is moved by a needle on a Bourdon gage, and variation in the pressure in the conduit effects the positioning of a pilot valve. The spring element and lead conduit from the sensing element of the Bourdon gage contains a filler material so that the gage is insensitive to changes in the temperature around the gage and lead conduit.

3,367,352
LOWEST CONTROL SIGNAL SELECTOR
Donald W. Treble, Sudbury, Ontario, Canada, assignor to Bailey Meter Company, a corporation of Delaware
Filed Feb. 7, 1964, Ser. No. 343,365
Claims priority, application Canada, Nov. 26, 1963, 889,910
4 Claims. (Cl. 137—86)



1. Apparatus for producing a pneumatic control pressure corresponding to a particular one of a plurality of input signals, comprising in combination, a plurality of control couples each comprising a nozzle and vane, means for relatively positioning the nozzle and vane of each couple in accordance with changes in the magnitude of a separate one of the input signals, a conduit connecting all of the nozzles of said control couples in parallel to a common source of pneumatic pressure, a restriction in said conduit between the source of pneumatic pressure and said nozzles, a negative feedback bellows operatively connected to each of said control couples responsive to the pressure in said conduit between said restriction and said nozzles relatively moving the nozzle and vane away and toward each other in response to increases and decreases respectively in said pressure whereby the pressure in said conduit between said restriction and said nozzles is determined by the control couple having the greatest distance between its nozzle and vane, each of said control couples is provided with a positive feedback reset bellows responsive to the pressure in said conduit downstream of said restriction for relatively moving the nozzle and vane toward and away from each other in response to increases and decreases respectively in the pressure in said conduit, a booster relay connected between said conduit downstream of said restriction and said feedback bellows to thereby provide an amplified fluid pressure for operating said feedback bellows.

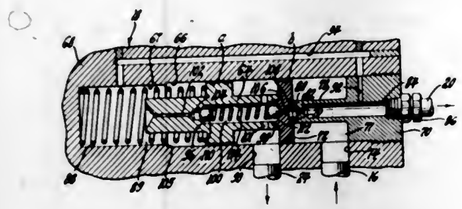
3,367,353
FERTILIZER DISPENSER FOR SPRINKLER SYSTEMS
Edwin J. Hunter, Riverside, Calif., assignor, by mesne assignments, to Toro Manufacturing Corporation, South Minneapolis, Minn., a corporation of Minnesota
Filed Mar. 15, 1966, Ser. No. 534,502
10 Claims. (Cl. 137—101.31)



Apparatus for injecting a small, measured quantity of liquid fertilizer into the irrigation water of an automatic sprinkler system each time that the system is turned on. The liquid is in a container and flows by gravity into a solution chamber when the system is shut off. A water-pressure-actuated valve closes off the container from the solution chamber and allows the liquid in the chamber to drain into the irrigation water pipe when the system is turned on. Water pressure acting against a flexible diaphragm in the solution chamber expels the liquid from the chamber.

3,367,354
VALVE
Raymond A. Gallant, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 9, 1964, Ser. No. 409,627
7 Claims. (Cl. 137—108)

A surge pressure relief valve is incorporated in a flow control valve of a hydraulic system to interrupt and di-



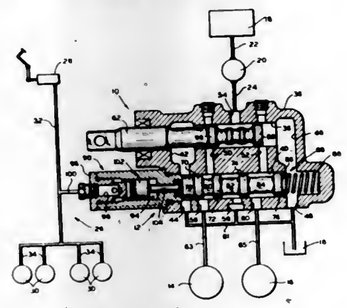
rectly bypass surge pressure upstream of the flow control valve before transmittal to the downstream side.

3,367,355
APPARATUS FOR OFFSHORE LOADING AND UNLOADING OF SHIPS
Clifford E. Anderson, Houston, Tex., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Sept. 16, 1963, Ser. No. 308,953
7 Claims. (Cl. 137—209)



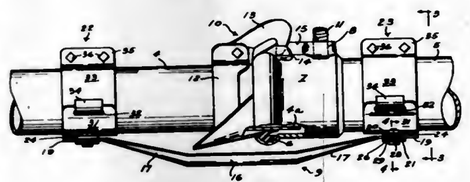
1. In apparatus for offshore loading and unloading of ships with fluids, a pipeline extending from shore along the sea bed to a position at a substantial distance from the shore to provide an adequate depth of water for the draft of relatively large ships, a gate valve in the pipeline positioned on the sea bed generally adjacent the end of the pipeline and in an area generally beneath the ship to be loaded and unloaded, said gate valve comprising a housing having a longitudinally extending fluid passage therethrough and connected at one end to the pipeline, a gate mounted within said housing for sliding movement across and away from the fluid passage for opening and closing the passage, a stem connected at one end to the gate for operating the gate, the opposite end of the stem extending from the housing, a cylinder surrounding the extending end of the stem, and a piston movable back and forth in the cylinder and connected to said stem for opening and closing the gate, a flexible hose communicating with the pipeline adjacent the gate valve and of a length sufficient to extend at least to the surface of the sea, means adjacent the surface of the sea to support the flexible hose whereby a ship or the like may easily connect to said hose for receiving or discharging fluids, a hydraulic fluid control unit at a position remote from the valve and out of the sea for controlling the opening and closing of the gate valve, a pair of hydraulic control pilot lines extending from said cylinder along the sea bed to the fluid control unit for supplying fluid to and returning fluid from the cylinder, said fluid unit comprising means to reverse the flow of fluid in said pilot lines for alternate opening and closing of the gate valve, and means to supply hydraulic fluid under pressure to said cylinder through said pilot lines.

3,367,356
REVERSIBLE VALVE
William C. Erdman, Wayne R. Howard, and Kenneth C. Hybarger, Jackson, Mich., assignors to Clark Equipment Company, a corporation of Michigan
Filed Oct. 20, 1965, Ser. No. 498,445
3 Claims. (Cl. 137—270)



1. A valve comprising a body, a bore in the said body, first, second, third, fourth, fifth and sixth ports in the said body in communication with the said bore, and a spool disposed in the said bore, the said spool being movable between first and second positions and disposable with one end thereof toward one end or the other of the said bore, the said spool having first, second, third and fourth lands, the said lands and ports cooperating so that the said second and third ports are in communication with each other and the said fifth and sixth ports are in communication with each other when the said spool is in the said first position and the said one spool end is disposed toward either one end or the other of the said bore, the said first and third ports are in communication with each other and the said fifth and sixth ports are in communication with each other when the said spool is in the said second position and the said one spool end is disposed toward the said one end of the said bore, and the said second and third ports are in communication with each other and the said fourth and sixth ports are in communication with each other when the said spool is in the said second position and the said one spool end is disposed toward the said other end of the said bore.

3,367,357
IRRIGATION PIPE COUPLER SHOE AND CONNECTOR
Marion Miller, Spokane, Wash., assignor to Anderson-Miller Manufacturing Company, Spokane, Wash., a corporation of Washington
Filed Oct. 22, 1965, Ser. No. 500,773
4 Claims. (Cl. 137—344)



1. Means for supporting and guiding irrigation pipe at the joints between pipe sections comprising:

a clamp on each pipe section;

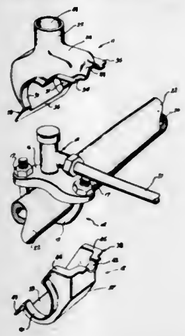
a shoe extending beneath the sections and clamps from one clamp to the other;

means pivotally connecting the shoe to each clamp for limited angular movement in a horizontal direction with respect to the pipe section on which the clamp is located; and

latch means on top of the pipe sections at the joint cooperating with said shoe to transfer pull forces from one pipe section to the other;

said shoe having an intermediate ground engaging portion with upwardly sloping ends leading to the means pivotally connecting the shoe to the clamp.

3,367,358
PIPE JUNCTURE COVERING DEVICE AND APPLYING METHOD
Philip B. Rentschler, 214 3rd St., Jackson, Mich. 49201
Filed Nov. 17, 1965, Ser. No. 508,300
10 Claims. (Cl. 137—375)



1. An anti-corrosive material receiving system for a pipe juncture comprising, in combination

(a) a housing assembly surrounding said pipe juncture and having upper and lower housing members,

(b) a transmission main passing through said housing assembly,

(c) a transmission service line connected with said transmission main and passing from said housing assembly,

(d) said lower housing member having at least three positioning means two of which are to locate off said transmission main and one of which is to locate off said transmission service line and forming part of a pocket in a non-contacting relationship to said pipe juncture,

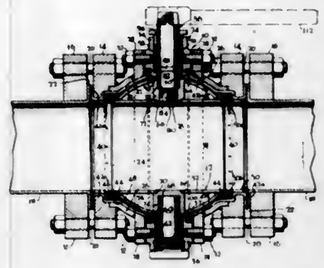
(e) said upper housing member having at least three positioning means two of which are to locate on said transmission main and one of which is to locate off said transmission service line and forming part of a pocket in a non-contacting relationship to said pipe juncture,

(f) securing means to hold said upper and lower housing members to form said housing assembly, and

(g) an inlet means to permit anti-corrosive material to pass into said housing assembly.

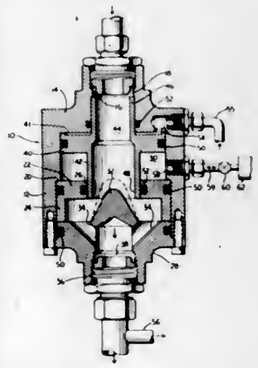
3,367,359
BALL VALVE ASSEMBLY WITH CORROSION RESISTANT LINING
Herbert G. Johnson, 17 N. Drexel Ave., Havertown, Pa. 19083
Filed Jan. 5, 1966, Ser. No. 518,876
11 Claims. (Cl. 137—375)

1. A fully lined ball valve assembly for handling corrosive fluids under pressure, comprising in combination, a ball casing having fluid passages and a complete inner lining of corrosion resistant material, a valve ball having a complete lining on its outer surface and fluid passage of corrosion resistant material, means in said casing and within its lining forming an annular recess around the fluid passages at the ends of the fluid passage of the



ball, annular corrosion resistant sealing ring means in said recess, and an inner liner of corrosion resistant material disposed within said sealing ring means and admitting pressure fluid behind said sealing rings to press them against the surface of the ball valve in its swept zone.

3,367,360
FLUID PRESSURE REGULATOR
Frederick R. Hickerson, Box 540, R.D. 4, Newton, N.J. 07860
Filed July 16, 1965, Ser. No. 472,493
5 Claims. (Cl. 137—505.22)

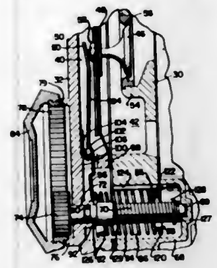


A fluid pressure regulator having a piston subject on opposite sides to outlet pressure and a reference pressure to automatically move to a position of balance of pressure by varying the flow through the regulator outlet.

3,367,361
PRESSURE REGULATOR
Michael J. Caparone, Arcadia, and Theodore J. Dykzeul, Rolling Hills, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Application Nov. 29, 1962, Ser. No. 243,968, now Patent No. 3,159,346, dated Dec. 1, 1964, which is a continuation of application Ser. No. 862,694, Dec. 29, 1959. Divided and this application Sept. 28, 1964, Ser. No. 399,678
12 Claims. (Cl. 137—505.38)

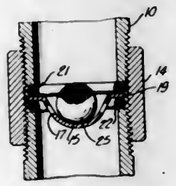
1. A pressure regulator comprising a housing having an inlet and an outlet interconnected together by a valve seat, a valve member for opening and closing said valve seat, a

diaphragm interconnected to said valve member for controlling movement of said valve member, spring means tending to move said valve member to its open position, and means external of said housing for adjusting the force of said spring means to vary the pressure at said outlet, said adjusting means including a pinion gear



for varying the position of one end of said spring means, a ring gear means having its outer periphery rotatably mounted to said housing and having its inner periphery disposed in meshing relation with said pinion gear whereby rotation of said ring gear means relative to said housing rotates said pinion gear and, thus, adjusts the force of said spring means.

3,367,362
FLUID FLOW CONTROL DEVICE
Allan C. Hoffman, 2891 Rumsey Drive, Riverside, Calif. 92506
Filed Mar. 15, 1965, Ser. No. 439,605
9 Claims. (Cl. 137—517)

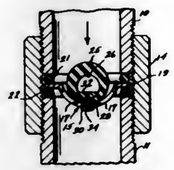


The invention is a fluid flow control device or valve. It takes the form of a resilient ball of spherical shape cooperating with a seat of spherical configuration of larger diameter. The valve may be mounted in any flow channel, sealed to the side of the channel. The pressure of the moving fluid compresses or deforms the ball while it engages the seat of spherical configuration. The seat has orifice means so that the valve exercises a controlling function as the ball deforms in response to the pressure. In this manner, any of various kinds and types of flow characteristics can be realized.

The flow control device may include additional means of spherical configuration caging the ball and these means may be arranged to exercise a flow controlling function in one direction and a check valve function in the opposite direction.

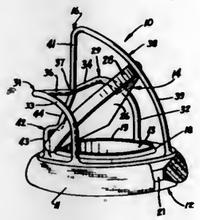
3,367,363
FLUID FLOW CONTROL DEVICE
Allan C. Hoffman, 2891 Rumsey Drive, Riverside, Calif. 92506
Continuation-in-part of application Ser. No. 439,605, Mar. 15, 1965. This application Oct. 24, 1965, Ser. No. 504,857
13 Claims. (Cl. 137—517)

1. A flow control device for use in a passageway comprising a member having orifice means, the said member including at least a portion providing a surface which is a portion of a sphere, a deformable, generally spherical ball member positioned adacent to the orifice means, the diameter of the ball being less than that of the spherical portion of the orifice member, the interior surface of the spherical part of the orifice member being unobstructed



so that the ball engages the said surface in tangential relationship, the deformable member being deformable in response to fluid pressure whereby to cooperate with the orifice member to exercise control of the flow of fluid through the device as the deformable member deforms in cooperation with the orifice means, and means securing the ball members to the orifice member.

3,367,364
PROSTHETIC HEART VALVE
Anatolio B. Cruz, Jr., Quezon City, Philippine Republic, and Robert L. Kaster, Minneapolis, Minn., assignors to The Regents of the University of Minnesota, Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 19, 1964, Ser. No. 404,860
9 Claims. (Cl. 137—527.8)



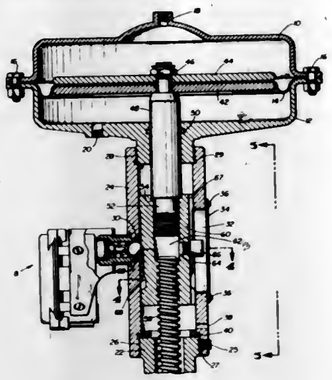
A heart valve having a circular base formed with a circumferential groove receiving a suture ring. The base has a central circular passage and an upright annular ridge forming a valve seat for a meniscus disc. Secured to the top of the base is a cage in the form of arcuate struts which guide the movement of the disc toward and away from the valve ridge beyond the center line of the passage. One of the struts has a knee portion above a sector of the ridge forming a pocket with a ridge for accommodating a peripheral sector of the disc.

3,367,365
VALVE
Morris H. Stevens, Little Rock, Ark., assignor to Orbit Valve Company, Little Rock, Ark., a corporation of Oklahoma
Filed May 25, 1966, Ser. No. 552,771
5 Claims. (Cl. 137—553)

1. In a valve including an upper end threaded valve stem, valve core and valve body, a guide slot and fixed stem follower means cooperatively situated relative to the stem and the body to permit both linear and/or rotary movement to actuate the valve core, the improvement comprising

a transducer housing having a movable pressure fluid actuated linear force means, said housing affixedly attached to the top of said valve body coaxial with

said valve stem upper end, said force means including an end adaptor threaded to match and receive said valve stem, and



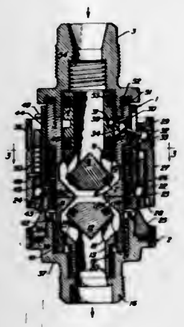
means to prevent rotation of said linear force means and adaptor relative to said housing.

3,367,366

DISCONNECT WITH MINIMUM INCLUSION

John V. Oliveau, Greenwich, Conn., and Henry B. Klatte, Yonkers, N.Y., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Oct. 11, 1965, Ser. No. 494,668
5 Claims. (Cl. 137—614.05)



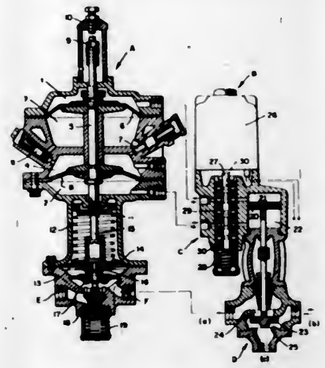
1. A disconnect for a fluid supply line that minimizes both air entrapment and fluid loss, which comprises in combination, an upstream body section with a fluid inlet thereto and a fluid outlet port encompassed by a valve seating portion, a hollow upstream valve member concentrically and slidably positioned within said body section and having a downstream plug portion adapted to move against the seating portion of said body section, a downstream body section with fluid inlet port thereto in axial alignment with said upstream body section and encompassed by a valve seating portion, a downstream discharge end portion from said downstream body section, a hollow downstream valve member concentrically and slidably positioned within last said body section and having an upstream plug portion adapted to move against the seating portion of said downstream body section, spring means between last said body section and said downstream valve member at the downstream end of the latter biasing said plug portion in a normally closed position, said plug portions and said body sections having flat faces to meet one another and exclude air upon making a coupling, movable ball lock means carried in one of said disconnect sections and adapted to engage ball-groove means in the other body sections, a lock sleeve slidably encompassing at least a portion of said upstream body section and in addition having means for contacting said ball lock means whereby the longitudinal positioning of said lock sleeve will optionally hold said disconnect body sections in engagement with each other as well as optionally permit the disengagement thereof, and lever arm means extending from a recess in the wall of said upstream valve member through pivot support means in said upstream body section to recess means in the side of said lock sleeve member, whereby movement of said lock sleeve will slide said upstream valve member and provide a seating of the plug portion thereof with said seating portion of the upstream body section when the latter is being disengaged and conversely said lock sleeve will open the plug portion from such body section as the latter comes into contact with the downstream body section and is locked therewith by the movable ball lock means.

3,367,367

APPARATUS THAT AUTOMATICALLY CONTROLS THE CORRELATION BETWEEN TIME AND AIR-PRESSURE

Kazuhiro Moriyama and Toshimitsu Hori, Tokyo-to, Japan, assignors to Ishikawajima-Harima Jukogyo Kabushiki Kaisha, Tokyo-to, Japan, a company of Japan

Filed Nov. 25, 1963, Ser. No. 325,822
4 Claims. (Cl. 137—614.11)



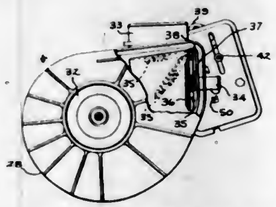
1. In an apparatus for delivering a fluid to a given location while controlling the time required for a pressure of the fluid to rise to a given extent, delivery conduit means through which a fluid is delivered to a given location, delivery valve means coacting with said delivery conduit means for opening and closing the latter, so that when said delivery valve means is open the fluid will flow through said delivery conduit means to said location, first pressure-responsive means communicating with said conduit means and controlling the pressure of the fluid flowing therethrough, pressure means acting on said first pressure-responsive means for controlling the pressure which said first pressure-responsive means maintains in the fluid flowing through said delivery conduit means, working chamber means, supply means communicating with said working chamber means for supplying a working pressure fluid thereto, second pressure-responsive means communicating with said working chambers means for responding to the supply of working fluid thereto and for moving in response to an increase in the volume of said working chamber means during supply of working fluid thereto, motion transmitting means coacting with said second pressure-responsive means and with said pressure means for increasing the pressure of said pressure means and thus increasing the pressure transmitted by said first pressure-responsive means to the fluid in said delivery conduit means as the volume of said working chamber means increases, and control means acting on said pressure-responsive means for controlling the rate at which the latter moves in response to flow of working pressure fluid into said working chamber means, so that said control means regulates the time required for the pressure of the fluid flowing through said delivery conduit means to rise to a given value.

3,367,368

OUTLET VALVE FOR DISHWASHER PUMP

Thomas E. Jenkins, Louisville, Ky., assignor to General Electric Company, a corporation of New York

Filed May 12, 1966, Ser. No. 549,675
7 Claims. (Cl. 137—625.44)



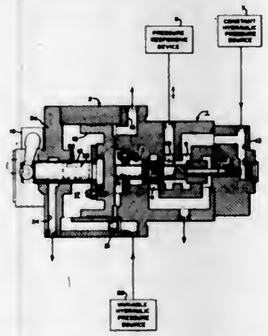
A valve for controlling the flow of pressurized fluid through an outlet in a pump housing. The valve includes a valve element pivoted to the housing adjacent the outlet for movement within the housing between a first position opening the outlet and a second position closing the outlet. Biasing means including a first spring normally bias the valve element toward the first position. Means comprising a short-travel solenoid move the valve element part of the way from the first toward the second position. Fluid flow through the housing moves the valve element the rest of the way to the second position. Energy storing means including a second spring energized by movement of the valve element from the first toward the second position are also provided to assist the biasing means in returning the valve element from the second to the first position upon termination of fluid flow through the housing.

3,367,369

HYDRAULIC TRIP AND RESET RELAY

James B. Wagner, Lynnfield, Mass., assignor to General Electric Company, a corporation of New York

Filed Dec. 27, 1965, Ser. No. 516,261
3 Claims. (Cl. 137—625.66)



A hydraulic relay has a movable piston controlling a pilot valve. The piston includes a restricted passage which is controlled by piston movement to give positive tripping and resetting at two different pressure levels.

3,367,370

PLASTIC PIPE CONSTRUCTION

Charles J. Sherlock, New Brighton, Minn., assignor to Western Packing and Supply Company, Chicago, Ill., a corporation of Illinois

Filed Feb. 9, 1966, Ser. No. 526,225
9 Claims. (Cl. 138—104)



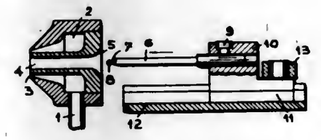
A transmission system for handling materials moving underground comprising a plastic pipe having metallic material of relatively high electrical or electronic conductivity and sensitivity secured to the pipe body. When the pipe is installed in the ground, the metallic material will be automatically buried in association with the pipe body. Detecting means suitable for sensing the presence of the conductive material can then be employed for locating the pipe whereby digging operations or other activities can be engaged in without the danger of damaging the pipe.

3,367,371

DEVICE FOR INTRODUCING A WEFT THREAD INTO A SHED

Hubert Peter van Mullekom, Deurne, North-Brabant, Netherlands, assignor to N.V. Machinefabriek L. te Strake, Deurne, North-Brabant, Netherlands, a Dutch company

Filed Feb. 16, 1966, Ser. No. 527,654
Claims priority, application Netherlands, Feb. 23, 1965, 65—2,271
6 Claims. (Cl. 139—127)

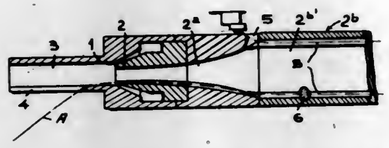


A device for introducing a weft thread into a shed, comprising a nozzle for blowing a stream of air, a passage having an outlet end adjacent the stream of air issuing from the nozzle, and having an inlet end into which secondary air is drawn by the jet action of the stream of air issuing from the nozzle in order to entrain an end of the weft thread presented at the inlet end of the passage, and to carry such end of the thread through the passage to a point at which such end of the thread is entrained by the stream of air issuing from the nozzle to cause a length of the weft thread to be drawn through the passage and blown into the shed, a needle having a notch in its point, and mechanism for guiding the needle for axial movement from one extreme position in which the needle is retracted out of the path of the weft thread entering the passage, through an intermediate position in which the notch in the point of the needle engages a weft thread at the inlet end of the passage, to another extreme position in which the needle extends into the passage and presents the weft thread inside of the passage.

3,367,372
DEVICE FOR STORING A LENGTH OF WEFT THREAD AND INTRODUCING IT INTO A SHED

Theodorus Fransen, Deurne, North-Brabant, Netherlands, assignor to N.V. Machinefabriek L. te Strake, Deurne, North-Brabant, Netherlands, a Dutch company

Filed Feb. 16, 1966, Ser. No. 527,700
Claims priority, application Netherlands, Feb. 19, 1965, 65—2,157
3 Claims. (Cl. 139—127)

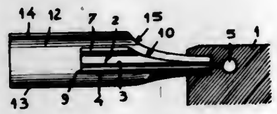


A device for storing a length of weft thread and introducing it into a shed, comprising a shaft adapted to take up by suction a measured length of weft thread in the form of a loop, a channel forming an extension of the shaft, an opening between the shaft and the channel through which a loop of weft thread may be drawn into the shaft, a blowing nozzle associated with the outer end of the channel arranged to blow air outward adjacent such end of the channel, thereby drawing secondary air into such opening and into the channel, to draw a free end of the loop of weft thread into the opening and through the channel and blow it into the shed, a stamp arranged to engage the loop of weft thread at a point adjacent to a portion of the weft thread which has been blown into the shed, a mechanism for holding the stamp in clamping engagement with the thread while the free end of the loop is being drawn through the channel and blown into the shed and then releasing the stamp from the thread to permit the last portion of the loop to be drawn through the channel.

3,367,373
WEFT INSERTING NOZZLE

Theodorus Fransen, Deurne, North-Brabant, Netherlands, assignor to N. V. Machinefabriek L. te Strake, Deurne, North-Brabant, Netherlands, a Dutch company

Filed Feb. 16, 1966, Ser. No. 527,701
Claims priority, application Netherlands, Feb. 19, 1965, 65—2,158
6 Claims. (Cl. 139—127)

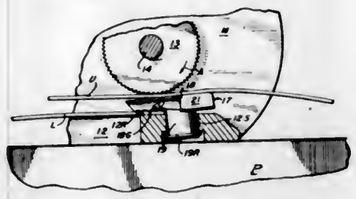


A weft inserting device for introducing a weft into the shed of a loom by means of a fluid under pressure, wherein the improvement comprises a double-walled tube having a longitudinal slot, the double walls of the tube being connected by radial walls forming the sides of the slot, and the tube having an inlet end provided with an inlet opening into the space between the double walls for admitting a fluid under pressure, and having an outlet end provided with an outlet opening, for discharging fluid from the space between the double walls, which is annular and is interrupted by the slot, the central passage of the tube adapted to conduct a flow of secondary air induced by the stream of fluid issuing from the annular opening, to carry a weft thread into such stream of fluid.

3,367,374
GRIPPER PLUG

William A. Meier, Roselle, and Ilmar J. Vilcins, Northbrook, Ill., assignors to Signode Corporation, a corporation of Delaware

Filed Apr. 8, 1965, Ser. No. 446,684
9 Claims. (Cl. 140—93.2)

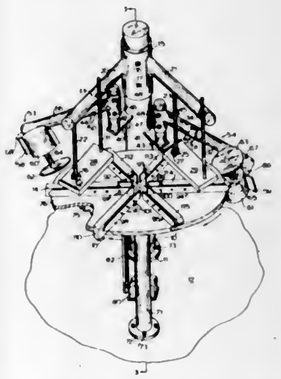


A gripper plug is provided in the base of a strap tensioning and sealing tool to facilitate strap insertion, strap tensioning and strap release, the plug comprising a head plate portion that serves as a separator between the overlapping strap ends and that overhangs a locator stem portion that fits loosely in the tool base to accommodate rocking of the plug between grip and release positions. The plug stem is aligned with the strap to serve as a locator for the strap end that is beneath the head plate portion which presents a rough lower gripper surface to the lower strap end and a smooth upper slide surface to the upper strap end.

3,367,375
STAKE FORMING APPARATUS

James A. Watson, Jr., 3638 Chapel Hill Road, Durham, N.C. 27707

Filed Mar. 23, 1966, Ser. No. 536,879
4 Claims. (Cl. 143—57)



1. An apparatus for automatically making two successive converging cuts on one end of each of a plurality of uniform size stake blanks so as to provide points therefor, comprising:

(a) a plurality of uniform work holders residing on a common horizontal plane and extending radially from and rotatable around a common vertical axis, each said work holder having an open top and including a pair of opposed side members, a bottom member and an end member, each said holder being adapted to support one of said blanks between said sides such that one end thereof abuts said end member and the other end projects some predetermined distance outwardly beyond the outer ends of said side members;

(b) means mounting said work holders including means for continuously rotating said holders past first and second successive spaced peripheral sawing stations and a third loading-unloading station located intermediate said first and second stations;

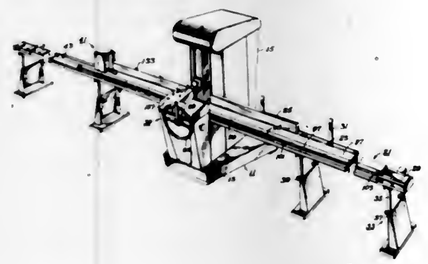
(c) first and second circular disc saws respectively angularly mounted at said first and second stations including motors therefor and arranged to cut the said projecting end of each successive blank passing thereby in two successive cuts along selected planes which converge and provide a point for the said projecting end of each said blank; and

(d) hold down means located at each of said first and second stations for slidably engaging and pressing each said blank against the respective bottom member of its holder as the same passes each said respective station.

3,367,376
COMPENSATED KEY SLOT CUTTING APPARATUS AND SYSTEM

Kenneth Wayne Grubb, 229 Brown Trail, Hurst, Tex. 76053

Filed Dec. 3, 1965, Ser. No. 511,447
3 Claims. (Cl. 144—87)



1. Apparatus for cutting compensated key slots in elongated wood structural member workpieces, said apparatus comprising:

(a) a support frame;

(b) drive means for moving a workpiece longitudinally to selected locations relative to said support frame;

(c) a workpiece lateral positioner member carried by said support frame;

(d) laterally movable clamp means carried by said support frame for urging said workpiece against said lateral positioner member;

(e) a compensated key slot cutter carried by said support frame to move transversely with respect to said workpiece a predetermined distance from said lateral workpiece positioner member; and

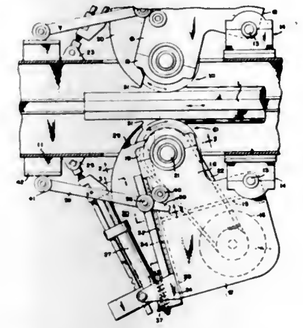
(f) means carried by said support frame for establishing an initial longitudinal position of said workpiece relative to said drive means by engaging and clamping one end portion of said workpiece.

3,367,377
CUTTER HEAD WITH SLIDE-MOUNTED CHIP-COLLECTING DUCT

Leonard A. Mitten, Vancouver, British Columbia, Canada, assignor to Ernest E. Runnion, Shelton, Wash.

Filed Nov. 26, 1965, Ser. No. 509,698
7 Claims. (Cl. 144—114)

1. In a mill for removing wood chips from a workpiece: means for conveying the work along a linear travel path through a cutting station, a swing-frame pivotally supported at said cutting station for swing movement of its free end toward and from the longitudinal median line of said travel path, a cutter head carried upon said free end and by movement of the swing-frame shiftable into a position suitable for cutting chips from the conveyed work, and a duct movably mounted upon the swing-frame serving to carry the chips away from the cutting

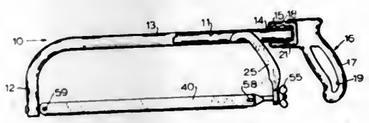


station and having a lip at the ingress end closely spaced from the cutting plane of the cutting head and functional to trap the chips as they are thrown peripherally from the cutter head, said movable mounting permitting the duct to be located relative to the swing-frame in a position such that said spacing between the lip and the cutting plane of the cutting head can be maintained approximately uniform regardless of the position into which the swing-frame is swung.

3,367,378
HACKSAW HAVING A REVERSIBLE REAR POST TO ACCOMMODATE DIFFERENT LENGTH BLADES

Robert L. Ballard, Pittsburgh, Pa., assignor to H. K. Porter Company, Inc., Pittsburgh, Pa., a corporation of Delaware

Filed Jan. 10, 1967, Ser. No. 608,290
2 Claims. (Cl. 145—34)



A hacksaw frame is provided with a fixed forward post and a reversibly mounted, special shaped rear post, the blade being supported between the posts and the frame being adjustable for different length blades by changing the position of the rear post.

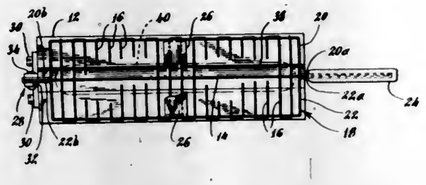
3,367,379
CUTTING DEVICE FOR FRANKFURTERS AND THE LIKE

James M. Ryan, 178 Cedar Heights Road, Stamford, Conn. 06902, and Dorothy A. Chase, Elmwood Road, Vista, N.Y.

Filed Oct. 20, 1965, Ser. No. 498,875
8 Claims. (Cl. 146—147)

The disclosed cutter includes a longitudinal cutting element and a series of spaced transverse cutting elements which when brought into cutting engagement with a frank-

furter or the like, effect a series of transverse cuts intersected by a longitudinal cut of depths in excess of one-



half the thickness, but less than the full thickness of the frankfurter. A cooked frankfurter preconditioned by the disclosed cutter assumes an annular configuration.

3,367,380
COLLAPSIBLE CONTAINER
John W. Dickey, Esmont, Va., assignor to Development Consultants, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 5, 1964, Ser. No. 349,667
23 Claims. (Cl. 150—1)



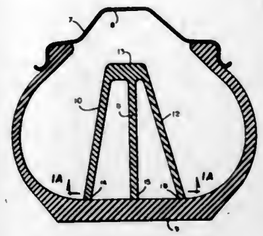
1. A collapsible container, of resilient non-wicking material and having a series of one-piece walls foldably joined together, said series of walls including at least one pair of opposed walls, the walls of said pair having at least one centrally disposed fold line in each, other fold lines joined said first mentioned fold lines and lying at an angle thereto, said first mentioned fold lines forming part of a continuous fold line extending peripherally about said container and lying in a single plane, said container being normally in collapsed condition when empty, said container being biased to remain in said collapsed condition until expanded, said container being free-standing and self-sustaining when expanded, said container being free-standing and self-sustaining when in said collapsed condition when resting on a surface perpendicular to said plane.

ERRATUM

For Class 151—41.7 see:
Patent No. 3,367,383

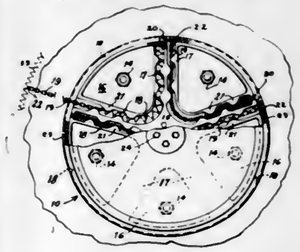
3,367,381
TUBELESS TIRE WITH SUPPLEMENTAL SUPPORT
Elie P. Aghnides, 46 W. 54th St., New York, N.Y. 10019
Filed Feb. 6, 1964, Ser. No. 342,884
5 Claims. (Cl. 152—158)

1. An insert for a pneumatic tubeless tire adapted to fit the rim of a wheel comprising an elastic ring having its widest part at its periphery and tapering in width as its diameter decreases, the periphery of said insert having the same diameter as the inner wall of the tubeless tire, said ring having an inner wall of such a diameter



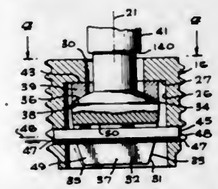
as to bear against the felloe of the rim of the wheel on which the tubeless tire is placed only when the tire is at least partially deflated.

3,367,382
EXTENSIBLE TRACTION MEANS FOR VEHICLE WHEELS
John W. Ewing, 8836 Hunting Lane, Fox Rest Woods, Apt. 203, Laurel, Md. 20810
Filed Aug. 10, 1965, Ser. No. 478,644
5 Claims. (Cl. 152—216)



1. In a traction device for vehicles comprising, in combination, a base plate rigidly attached to the hub of an automobile on the outer side of the wheel, and having thereon pairs of connected radial channels, spring means attached to the ends of traction members lying within said channels, and other spring means attached to the opposite ends of said traction members and circumferentially holding the same at the periphery of said base plate.

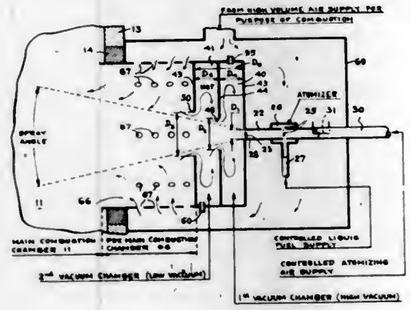
3,367,383
FASTENER WITH SELF-ALIGNING THREADED ELEMENT
Robert Neuschotz, 1162 Angelo Drive, Beverly Hills, Calif. 90210
Filed Mar. 7, 1966, Ser. No. 532,421
4 Claims. (Cl. 151—41.7)



A fastener assembly including a self-aligning threaded element carried by an outer body and free for both lateral shifting movement and universal pivotal or tilting move-

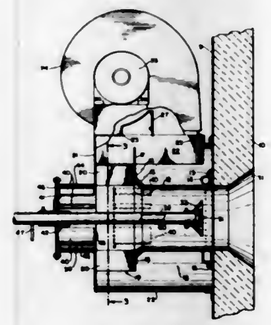
ment, with the threaded element being retained against rotation by engagement with a pin disposed generally transversely across the interior of the body and connected at its opposite ends to a side wall of the body.

3,367,384
METHODS FOR BURNING FUEL, BURNERS AND SYSTEMS FOR BURNING FUELS AND APPARATUS IN WHICH SAID BURNERS AND/OR SYSTEMS ARE PARTS THEREOF
James T. Voorheis, 105 Rensselaer Road, Essex Fells, N.J. 07021
Filed May 9, 1966, Ser. No. 548,451
48 Claims. (Cl. 158—1)



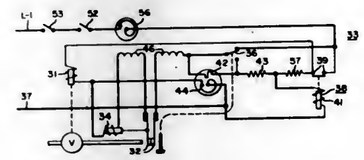
This invention relates to burning fuel and more specifically is directed to novel methods for burning fuel, to novel fuel burners, to novel systems for burning fuels and also to novel apparatus in which said novel burners and/or systems are part thereof.

3,367,385
RETRACTIBLE AIR REGISTER
John Dunn, Demarest, N.J., assignor to Peabody Engineering Corporation, New York, N.Y., a corporation of New York
Filed Nov. 29, 1966, Ser. No. 597,751
17 Claims. (Cl. 158—1.5)



1. In combination with a fuel burner having a burner tube disposed to supply air for combustion to a burner throat, a plenum chamber carrying air for combustion, an outer air register in said plenum chamber having a back plate and a plurality of air vanes spaced around the periphery of said burner tube with their inner peripheries lying in a circle having a diameter at least as large as that of said burner tube, said vanes being disposed axially forward of the entrance end of said tube, and an inner air register having a set of peripherally spaced air vanes having their outer edges lying in a circle no larger than the inside diameter of said tube, a transverse mounting plate carrying said last vanes and disposed axially forward thereof and means mounting said mounting plate for avial movement with respect to said outer air register and said tube between a rearward position, with said last vanes disposed within said tube and axially rearward of the zone of said outer air register, and an advanced position, axially forward of the zone of said outer air register and out of the path of the air flow therethrough into said tube.

3,367,386
HEAT GENERATING APPARATUS
Hans T. Thunander, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 22, 1965, Ser. No. 515,685
4 Claims. (Cl. 158—28)

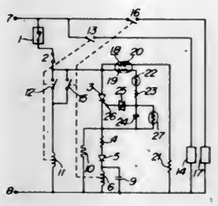


1. In a fuel burner control circuit adapted to be energized by a source of alternating current, normally closed valve means for controlling the flow of fuel to said burner, manually operable means for selectively effecting energization of said circuit, means for controlling the activation of said valve means upon actuation of said manually operable means, means for generating a spark in the path of the fuel flowing from said burner for causing ignition thereof, circuit interrupting means for effecting deactuation of said valve means in the absence of ignition of the fuel, said circuit interrupting means including delay means responsive to the heat generated by the ignited fuel for reducing the energy supplied to said spark generating means to thereby render it inoperative, and means in said circuit for preventing the generation of undesirable electrical oscillations attributable to said spark generating means, said spark generating means comprising a pair of electrical contacts supported on a pair of contact arms and a vibrator coil for rapidly opening and closing said contacts; and said suppressing means comprises a plurality of inductive elements in series with said contacts to provide the current flowing in the circuit comprising the contacts and the inductive elements with a relatively long time constant thereby preventing rapid changes in current flow upon opening and closing of said contacts.

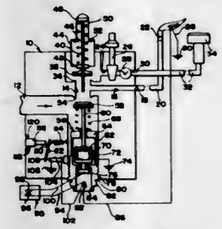
3,367,387
COMBUSTION CONTROL DEVICE FOR FUEL BURNERS
Iwao Sugiyama, Hitachi-shi, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Apr. 8, 1966, Ser. No. 541,270
Claims priority, application Japan, Apr. 13, 1965, 40/21,381
7 Claims. (Cl. 158—28)

A combustion control device for fuel burners designed for automatic controlling of the fuel ignition, firing and flame extinguishment of oil or gas burners. The control is solid state with a three-terminal semiconductor con-

trolling the energization of the ignition device relay coil. A thermistor circuit with a set voltage firing device controls the three-terminal, semiconductor element and a resistance heated temperature responsive safety switch will de-activate the device after a set period of time without ignition.

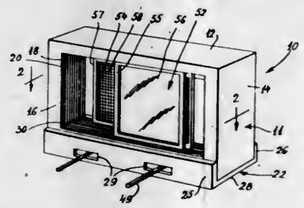


3,367,388
THERMOSTATIC CONTROL DEVICE
Richard K. Mitts, Huntington Beach, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Mar. 31, 1966, Ser. No. 539,148
6 Claims. (Cl. 158—122)



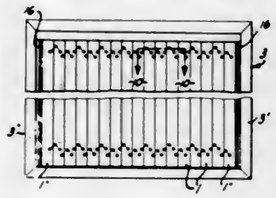
A control system for main and pilot burner apparatus includes a safety shut off valve normally biased to a closed position and held in its open position by an electromagnet energized by a thermoelectric circuit responding to a flame at the pilot burner, a limit switch for deenergizing the electromagnet in response to a predetermined limit condition and an indicator electrically connected to the limit switch to indicate that the predetermined limit condition was the cause of deenergization of the electromagnet.

3,367,389
COMBINATION WINDOW, STORM WINDOW
George Kruse, 21 High St., Sayville, N.Y. 11106
Filed Jan. 25, 1966, Ser. No. 522,894
1 Claim. (Cl. 160—91)



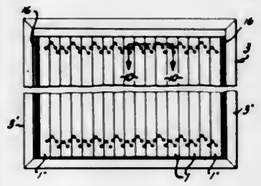
A window frame assembly having multiple grooved top and end rails and a multiple groove horizontal runner vertically slidable and provided with grooves coplanar with the grooves in the rails for supporting panes of glass and screens. Means is provided for sliding the runner up and down in the frame.

3,367,390
METHOD OF OPERATING A VERTICAL VENETIAN BLIND
Andrew J. Toti, 311 W. River Road, Modesto, Calif. 95351
Filed Aug. 13, 1965, Ser. No. 479,531
5 Claims. (Cl. 160—174)



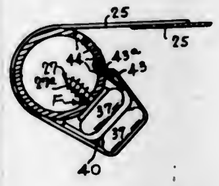
1. A method of traversing a series of slats of a traverse type vertical Venetian blind while simultaneously orienting said slats in sequence in a preselected one of a limited number of angular orientations relative to a reference plane, comprising the steps of providing positioning means which interconnect said slats and permit orientation thereof in only said limited number of angular orientations when said slats are traversed from a retracted position toward an extended position, said positioning means being sequentially responsive to actuation of the first slat of said series and to the angular orientation of said first slat during traverse movement, locating said first slat in a preselected orientation relative to said reference plane corresponding generally to a preselected one of said limited number of angular orientations in which it is desired to locate said slats when said slats are in said extended position, actuating said first slat to move the same toward said extended position, and while said first slat is moved toward said extended position sequentially and individually orienting successive slats of said series with said positioning means so that each of said successive slats of said series follow in sequence in a corresponding orientation in response to step-by-step actuation of said positioning means by said first slat.

3,367,391
SLATTED CLOSURE STRUCTURE FOR WINDOW, DOOR AND LIKE OPENINGS
Andrew J. Toti, 311 W. River Road, Modesto, Calif. 95351
Continuation-in-part of application Ser. No. 479,531, Aug. 13, 1965. This application July 3, 1967, Ser. No. 650,744
31 Claims. (Cl. 160—174)



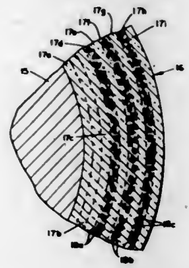
A closure blind structure in which a series of slats are linked together for positioning in only a predetermined limited number of angular orientations upon movement of the slats from a retracted position toward an extended position. Linkages are provided between adjacent slats which automatically position the slats in sequence in one preselected orientation in accordance with the orientation imparted to the first slat of the series prior to movement thereof toward an extended position. The linkages positively maintain the slats in a predetermined orientation so long as the slats remain in the extended position.

3,367,392
FURNITURE CONSTRUCTION
Harold Green, 1827 W. Tuckey Lane, Phoenix, Ariz. 85015
Filed Apr. 1, 1965, Ser. No. 444,775
2 Claims. (Cl. 160—371)



1. Furniture construction comprising a frame having a pair of spaced bar members, a flexible cover transversely spanning the space between and having its opposite end segments respectively extending partially around said members, means for securing one of said end segments to one of said bar members, means including a snap fastener for detachably securing the end portion of the other of said segments to the other of said bar members, the last-named bar member being provided with an aperture circumferentially spaced from said fastener, and cover take-up and tensioning means releasably connecting said other segment and said aperture.

3,367,393
THERMALLY INSULATED SHELL MOLD AND METHOD FOR MAKING SAME
William M. Lenahan, Denville, and Arthur G. Watts, Morris Plains, N.J., assignors to Howmet Corporation, a corporation of Delaware
Filed Sept. 4, 1964, Ser. No. 394,454
17 Claims. (Cl. 164—34)



11. In a thermally insulated refractory shell mold comprising a plurality of layers of bonded refractory material, the improvement which comprises

(a) one or more alternate layers excluding the inner layer defining at least part of a multiplicity of voids which reduce the cooling rate of the mold,

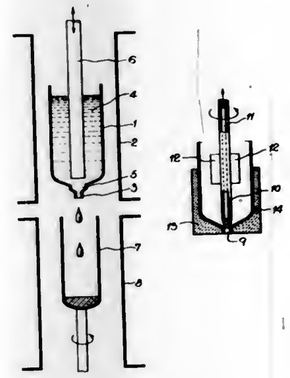
(b) at least the inner layer being free of such voids.

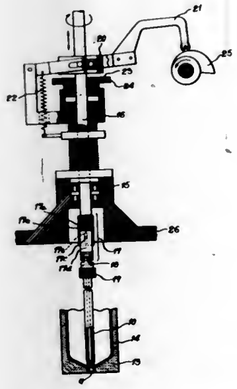
17. In the manufacture of a refractory mold wherein a multi-layered shell is formed by successively coating and hardening slurries comprising a binder and a fine refractory on a pattern and thereafter eliminating the pattern, a method of providing a multiplicity of voids through the shell which comprises:

(a) distributing a particulate thermally decomposable material over the surface of at least one of the slurry coats subsequent to the first before it is hardened, and

(b) subsequently heating the shell above the decomposition temperature of the material to eliminate the material and leave voids distributed throughout the shell wall.

3,367,394
PROCESS FOR MANUFACTURING HOMOGENEOUS BODIES OF GERMANIUM-SILICON
Manfred Röder, Hans Herrmann, and Wolfgang Dietz, Munich, Bavaria, Germany, assignors to Consortium fur Elektrochemische Industrie G.m.b.H., Munich, Bavaria, Germany, a corporation of Germany
Filed Nov. 12, 1965, Ser. No. 507,467
Claims priority, application Germany, Nov. 12, 1964, C 34,347
5 Claims. (Cl. 164—46)



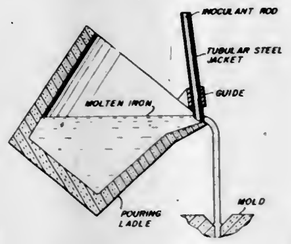


1. Process for manufacturing homogeneous bodies of germanium-silicon which comprises forming a homogenous melt of germanium-silicon in a melting zone, discharging the melted material drop by drop from said melting zone into a shaping device and solidifying the material in crystalline form in said device, the temperature in the solidification zone being regulated by the heat content of

the melted material which is introduced therein drop by drop.

3,367,395
METHOD AND APPARATUS FOR TREATING MOLTEN METALS

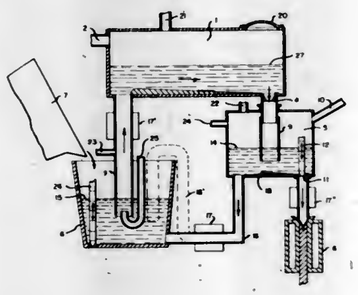
Stephen I. Karsay, Montreal, Quebec, Canada, assignor to Quebec Iron and Titanium Corporation, New York, N.Y., a corporation of Canada
Filed May 12, 1965, Ser. No. 455,143
15 Claims. (Cl. 164—57)



The disclosure relates to a method and apparatus for alloying or inoculating castings. The alloying or inoculating material is generally in the form of a solid bar. This bar is disposed with its lower end engaged against the pouring lip of the ladle. It is mounted for sliding movement constantly to engage against the pouring lip. As molten metal is poured from the ladle, the lower end of the bar is washed by the stream of molten metal and is eroded, so that inoculating or alloying material enters the metal. While the inventions described herein are particularly useful in the production of iron castings, the inoculating and alloying technique and apparatus have more general utility, such as, for example, the addition of a wide variety of reagents or fluxes to molten metals.

3,367,396
INSTALLATION FOR THE VACUUM TREATMENT OF MELTS, IN PARTICULAR STEEL MELTS, AND PROCESS FOR ITS OPERATION

Adolf Sickbert, Wattenscheid, and Wilhelm Stich, Bochum, Germany, assignors to Heppenstall Company, a corporation of Pennsylvania
Filed Apr. 5, 1965, Ser. No. 445,432
8 Claims. (Cl. 164—64)



An apparatus is provided for vacuum treatment of molten metal which comprises a primary vacuum vessel connected by a depending leg to a supply of molten metal and a stream degassing chamber connected to said primary vessel by a nozzle and depending leg.

3,367,397
METHOD OF MANUFACTURING RODS AND TUBES OF METALLIC MATERIAL

Bror Hansson, Stockholm, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed Jan. 8, 1965, Ser. No. 424,357
Claims priority, application Sweden, Jan. 14, 1964, 384/64
7 Claims. (Cl. 164—86)



1. Method of manufacturing an elongated metallic body, the steps comprising passing at least two strips of a metallic material through a melt of a metallic material, said melt having a free surface, withdrawing the strips from the melt through said free surface in an upward direction causing the metallic material in the melt to deposit in solidified form on the strips, the strips being at the time of such solidification positioned adjacent to each other with such spacing between them that the solidified melt fills the spaces between the strips.

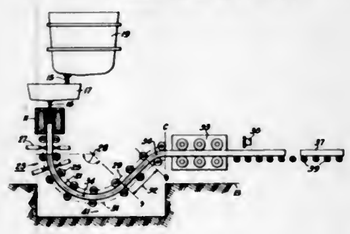
3,367,398
METHOD OF PREVENTING SEGREGATION DURING CASTING OF COMPOSITES

Robert E. Riley and Haskell Sheinberg, Los Alamos, N. Mex., assignors to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Oct. 19, 1965, Ser. No. 498,166
4 Claims. (Cl. 164—97)

1. The method of preparing a Cu-B_4C composite for casting comprising heating a B_4C powder to about 950° C. in dry hydrogen gas for about one hour, coating the B_4C powder with tungsten by reducing with a WF_6-H_2 gas stream in a fluidized bed, said powder being heated to between about 500° C. and 600° C., the amount of tungsten coating applied being between about 17 and 74 weight percent of the tungsten-coated boron carbide particles, reducing a Cu powder, mixing the Cu powder and tungsten-coated B_4C powder and blending, sufficient tungsten-coated B_4C being included in the mixture to provide about a 20 weight percent uncoated B_4C concentration in the Cu matrix.

3,367,399
CONTINUOUS CASTING APPARATUS

Rufus Easton, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed June 16, 1965, Ser. No. 464,285
13 Claims. (Cl. 164—282)

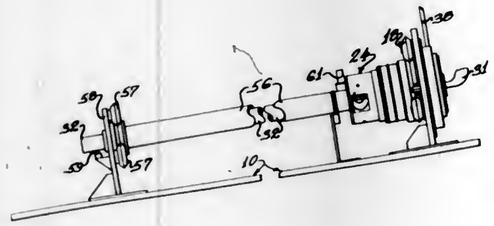


Apparatus for producing continuous cast strands of steel includes an arcuate apron structure that supports

and guides the strand along a curved path lying in the vertical plane of the casting mold and subtending a first angle greater than 90° lying on one side of the strand, and then along a continuation of the curved path in the same vertical plane that subtends a second angle less than 90°; the angles lying on opposite sides of the strand.

3,367,400
APPARATUS FOR MAKING CYLINDRICAL ARTICLES

Roy C. Hathorn, 1309 Kilby Terrace, Anniston, Ala. 36201
Filed June 18, 1965, Ser. No. 465,021
5 Claims. (Cl. 164—282)

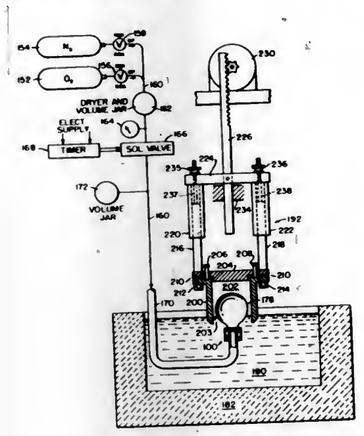


Apparatus for making cylindrical articles in a rotary mold into which molten metal is fed and progressively solidified as a cylindrical article which is withdrawn into a rotary cylindrical member mounted in position to receive the cylindrical article. The cylindrical member and the mold are rotated at the same speed to support the tender article without distortion.

3,367,401
APPARATUS FOR BLOWING HOLLOW METAL ARTICLES

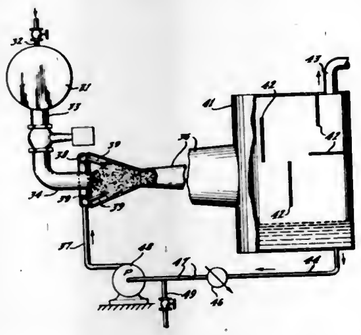
Laszlo J. Bonis, Brookline, and August F. Witt, Arlington, Mass., assignors to Ilikon Corporation, Natick, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 250,902, Jan. 11, 1963. This application June 15, 1966, Ser. No. 566,443
20 Claims. (Cl. 164—306)

Apparatus is disclosed for making hollow articles from a container holding a bath of liquid material. The apparatus includes a hollow mold which is movably supported above the bath. In one position the open end of the mold is either immersed in or touching the bath surface. A blowpipe is provided whose outlet is positioned below the bath surface and a source of gas under pressure is intermittently connected, through a valve to the other end of the blowpipe. The operation of the valve causes a bubble to be formed in the bath which rises into the mold and there is solidified to form a hollow article in the shape of the mold. The mold is then moved to a second position remote from the first position where the article is removed from it. A two piece mold is also disclosed, one part of the mold remaining in or touching the bath and the other part being moved after the bubble is blown into the mold. The complete specification should be consulted for a full description of the apparatus.



3,367,402
QUENCH SYSTEM

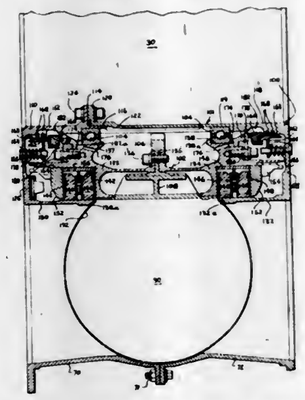
Willis J. Cross, Jr., Media, Pa., and Robert B. Morris, Pitman, N.J., assignors to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware
Filed June 8, 1965, Ser. No. 462,245
6 Claims. (Cl. 165—1)



Quenching of the hot gaseous effluent obtained by the conversion of hydrocarbons at sub-atmospheric pressure, such as the dehydrogenation of normally gaseous hydrocarbon, in order to inhibit polymerization and coking reactions preparatory to pressuring for subsequent treatment, is effected in transit and with minimal pressure differential between the reactor outlet and the inlet to the pressuring zone by direct heat exchange between the gaseous effluent and a liquid coolant. Such direct heat exchange is effected by engaging the hot effluent with a high-velocity stream of the liquid coolant and passing the admixture through a venturi, using the velocity of the liquid as the sole motive force. The fluid discharging from the venturi is then separated into quenched effluent gas, which is conveyed to the pressuring zone, and liquid coolant which may be cooled and recirculated. The preferred liquid coolant is a quench oil, non-reactive with the gaseous effluent, and the pressuring of the quenched effluent is

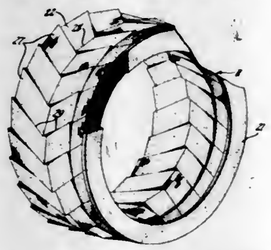
effected by a turbo-compressor whose inlet pressure is not substantially lower than the discharge pressure of the reactor effluent.

3,367,403
REGENERATOR HUB SUPPORT
Kenneth W. Sawyer, Thompsonville, and William W. Jacobus, Columbia, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Sept. 3, 1965, Ser. No. 485,014
3 Claims. (Cl. 165—7)



A regenerative heat exchanger of the rotary type particularly suited for turbine engines, in which the heat exchanging matrix is of annular configuration and is supported for rotation within a conforming housing by a hub structure composed of mutually facing, joined channel members providing a stationary hollow annulus and by a complementary rotary member located therein and supporting said matrix externally thereof. All bearing support for the rotary member is disposed within the stationary annulus, and peripherally continuous seals of simplified design are disposed between the stationary and rotary hub members within the hub annulus to complete the enclosure of the bearings and bearing supports and permit a lubricant or coolant to be circulated thereover.

3,367,404
RADIAL FLOW REGENERATOR MATRIX FORMED FROM CERAMIC BLOCKS AND THE METHOD OF MAKING
Kenneth O. Johnson, Cincinnati, Ohio, and Warren E. Meyer, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 8, 1966, Ser. No. 600,074
14 Claims. (Cl. 165—8)



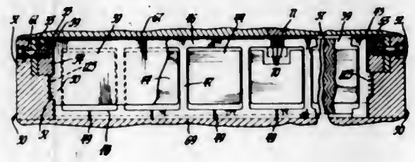
1. A radial-flow regenerator matrix comprising an annular heat-transfer matrix body the radially inner and outer surfaces of which are surfaces of revolution about a common axis,

the matrix body being defined by a ring of blocks abutting circumferentially and joined rigidly together,

each block having a structure defining a multiplicity of substantially parallel pores extending generally radially with respect to the said axis through the block,

each circumferentially adjacent pair of blocks defining a marginal area at the junction of the blocks in which the pores of at least one of the blocks are dead-ended against the adjacent block due to the lesser circumference of the inner surface than that of the outer surface.

3,367,405
ROTARY REGENERATOR MATRIX SEAL WITH CLEARANCE CONTROL MEANS
Albert N. Addie, La Grange Park, and Jack P. Hart, Hinsdale, Ill., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 484,219, Sept. 1, 1965. This application June 12, 1967, Ser. No. 645,174
15 Claims. (Cl. 165—9)



In a rotary regenerator in which the matrix includes labyrinth sealing strips movable with respect to the body of the matrix and held in tension, the sealing strips are provided with a follower to engage a guide or rubbing strip on the stationary seal bar in the regenerator with which the labyrinth strips cooperate. The guide and follower thus deflects the labyrinth strips to establish a definite location of the center point of the labyrinth strip as it passes through the seal, the end points of the labyrinth strip being located by their attachment to the matrix structure. Close control of seal clearance is thus provided. In the preferred form, the follower is a block fixed to two adjacent seal strips and overhanging into position to abut the adjacent blocks. Preferably, the sealing strips are slightly high at the center so that they may be deflected inward to conform to a straight seal bar.

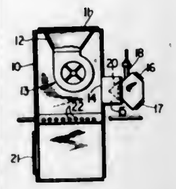
3,367,406
HELICAL WOUND STRIP REGENERATOR
Gerben Vonk and Hermen Zwagerman, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 18, 1965, Ser. No. 480,695
Claims priority, application Netherlands, Aug. 20, 1964, 64—9,596
2 Claims. (Cl. 165—10)



A regenerator for use in devices operating at very low temperatures and having a helical wound slotted strip

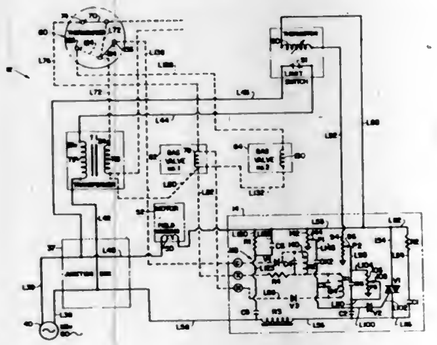
with ribs thereon to form narrow ducts located perpendicular to the plane of the slots in the strip.

3,367,407
AIR CONDITIONING
Robert M. Warren, Jr., Lincroft, N.J., assignor to Buensod-Stacey Corporation, New York, N.Y., a corporation of Ohio
Filed May 4, 1965, Ser. No. 453,034
4 Claims. (Cl. 165—22)



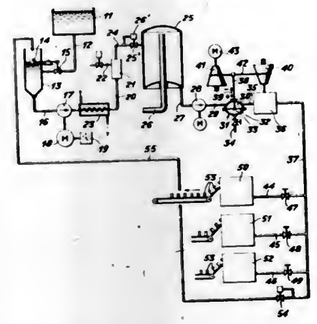
1. In an air conditioning system, the combination comprising an air distributing housing in a zone, said housing having an air distributing grille at its top; hot and cold primary air supply means connected to the bottom of said housing; recirculated zone air inlet means in a side wall of said housing; heat exchanger means through which both said primary air and said recirculated air pass; a fan within said housing having its outlet adjacent to said air distributing grille; means for supplying heat exchange medium to said heat exchanger means; and means for varying the condition of said primary air.

3,367,408
AIR CONDITIONING APPARATUS INCLUDING MOTOR SPEED CONTROL MEANS THEREIN
Colby D. Moreland, Waynesboro, Ga., assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Continuation-in-part of applicaton Ser. No. 517,015, Dec. 28, 1965. This application Feb. 27, 1967, Ser. No. 629,346
10 Claims. (Cl. 165—27)



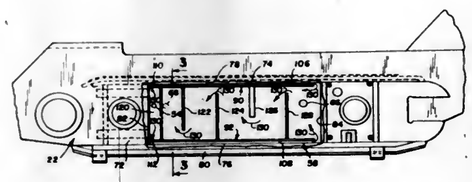
Temperature responsive controls which are particularly useful for controlling the speeds of the blower motors in heating and heating-cooling type air conditioning systems. Current flow to the motor is controlled by a periodically closed switch. A circuit including a thermistor varies the duration for which the switch is closed in each cycle as the resistance of the thermistor changes so that the speed of the motor is varied as the temperature sensed by the thermistor changes.

3,367,409
LIQUID STERILIZATION TREATMENT PLANT
Martin Froelich, Konolfingen, Bern, Switzerland, assignor to Sulzer Brothers, Limited, Winterthur, Switzerland, a corporation of Switzerland
Filed Jan. 3, 1966, Ser. No. 518,042
Claims priority, application Switzerland, Jan. 15, 1965, 574/65
9 Claims. (Cl. 165—40)



The flow of liquid in the sterilization plant is regulated in relation to the output flow demand of the racking stations. The output of the homogenization pump is controlled by a flow sensing device in the flow line which regulates the flow of liquid from the pump so as to provide a constant flow to the racking stations.

3,367,410
COOLING SYSTEM
Frank B. Kendrick, Jr., Franklin, Pa., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 29, 1965, Ser. No. 467,876
8 Claims. (Cl. 165—41)

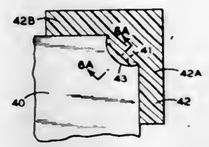


A crawler mounted mobile vehicle having a heat exchanger mounted in at least one of the crawler frames of the vehicle with a fluid circulating through the heat exchanger and the motor of the vehicle to use the heat sink property of the ground for cooling the motor.

3,367,411
FIN TUBE UNIT WITH PROTECTIVE CORNER PLASTIC RAILS
Elliot S. Nelson, Westbury, N.Y., assignor to Embassy Industries, Inc., Farmingdale, N.Y.
Continuation-in-part of application Ser. No. 539,004, Mar. 31, 1966. This application Apr. 20, 1966, Ser. No. 543,885
8 Claims. (Cl. 165—55)

This invention is directed to a fin tube unit comprising an elongated tube having a plurality of fins secured along the tube at spaced intervals longitudinally thereof. Each

of the fins is arranged so that the respective corner portions thereof are disposed in alignment along the tube. A track formed of a readily resilient and penetrable material is extended along the aligned corner portions of

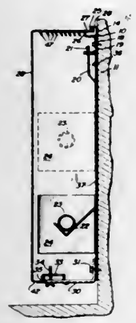


the respective fins and the resilient track and fins are provided with complementary means to effect a mechanical interfitting connection therebetween for frictionally securing the track to the fins.

3,367,412
WALL MOUNTED ENCLOSURE FOR AN ELONGATED HEAT EXCHANGER

Robert L. Hagensick, Bloomington, Ill., Bruce K. Johnson, St. Paul, Minn., and Ronald P. Wood, Racine, Wis., assignors to Modine Manufacturing, a corporation of Wisconsin

Filed Jan. 7, 1966, Ser. No. 519,286
6 Claims. (Cl. 165—56)



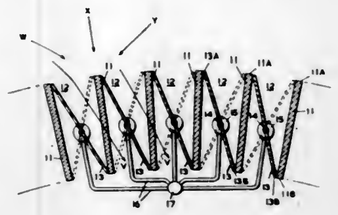
A wall mounted enclosure for an elongated heat exchanger such as a baseboard type heater in which a rigid elongated support strip is attachable to a wall and with the heat exchanger itself being supported from the support strip so that the elements of the enclosure can be mounted evenly and uniformly on the support strip regardless of whether or not the wall is uniform.

3,367,413
COOLING TOWERS

Vincent Trevor Forster, Rugby, England, assignor to The English Electric Company Limited, Rugby, England, a British company

Filed Jan. 18, 1966, Ser. No. 521,260
Claims priority, application Great Britain, Jan. 26, 1965, 3,404/65
8 Claims. (Cl. 165—96)

The invention relates to cooling towers of the kind comprising a hollow tower and a plurality of separate planar coolers spaced around the base of the tower in a peripheral air inlet opening, each cooler being of the kind in which a fluid is cooled by indirect heat exchange with air flowing through the cooler and into the tower. Such cooling towers are normally referred to as dry cooling towers. The object of the invention is to provide an arrangement in which air is encouraged to pass through the coolers even though they may be situated side on or on the leeward side of the tower with respect to the prevailing wind. This is achieved by disposing the coolers in the peripheral opening so that they lie on radial planes extending from the center of the tower and by providing

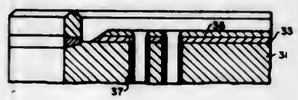


a pivoted shutter in each space between two adjacent coolers, each shutter being arranged so as to pivot from a first shutter position in which it extends from the outer end of one cooler to the inner end of the adjacent cooler, and a second shutter position in which it extends from the outer end of said adjacent cooler and the inner end of said one cooler.

3,367,414
WELDED ASSEMBLY

Francis X. Brown, Broomall, and Lorin K. Poole, Glen Mills, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Original application Nov. 25, 1960, Ser. No. 71,777. Divided and this application Nov. 19, 1964, Ser. No. 412,567
4 Claims. (Cl. 165—178)



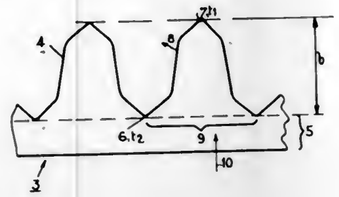
1. A fluid-tight tube-plate assembly comprising a plate of a first material having an overlay consisting at least of a first layer of a second material and of a second layer of a third material and a plurality of tubes in holes in said plate, the rim of each of said holes being joined to the rims of the corresponding tube by a weld to the second layer of said overlay, there being substantial mutual solid solubility between said first material and said second material, between said second material and said third material, and between said third material and the material of each of said tubes, said first material being metallurgically joined throughout to said second material and said second material being metallurgically joined throughout to said third material, and said third material being metallurgically joined to said tubes.

3,367,415
ANISOTHERM EVAPORATION HEAT-TRANSFER STRUCTURE

Charles A. E. Beurtheret, Saint-Germain-en-Laye, France, assignor to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France, a corporation of France

Filed Dec. 7, 1965, Ser. No. 512,090
Claims priority, application France, Dec. 17, 1964, 999,075
11 Claims. (Cl. 165—185)

An anisotherm heat dissipating structure with generally triangular (in cross section) protuberances, so proportioned that at a near maximum nominal heat input



rate, the protuberances operate to shoot off jets of vapor from their apices.

3,367,416
INHIBITING SALT DEPOSITION

Paul H. Ralston, Bethel Park, and Leonard J. Persinski, Pittsburgh, Pa., assignors to Calgon Corporation

No Drawing. Filed Mar. 31, 1965, Ser. No. 444,458
5 Claims. (Cl. 166—1)

1. Method of inhibiting the deposition of sodium chloride in oilfield producing equipment due to a decrease in temperature of oilfield brine associated with oil comprising adding to said brine, at a point prior in the producing process to that at which sodium chloride would otherwise deposit, an effective amount of an inhibitor composition selected from the group consisting of acid salts of nitrilotriacetamide.

3,367,417
METHOD FOR INCREASING PRODUCTION OF HYDROCARBON BEARING WELLS BY TREATMENT WITH HOT ACID SOLUTIONS

Edward D. McCabe, Pampa, Tex., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed Dec. 17, 1965, Ser. No. 514,715
9 Claims. (Cl. 166—4)

This invention relates to a method for treating a well in a hydrocarbon bearing formation to increase it productivity. It involves heating an aqueous well treating fluid, subsequently adding a low molecular weight carboxylic acid such as acetic acid, and then introducing this solution into a well formation.

3,367,418
WATER FLOODING METHOD

Willis G. Routson, Walnut Creek, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 22, 1965, Ser. No. 450,166
4 Claims. (Cl. 166—9)

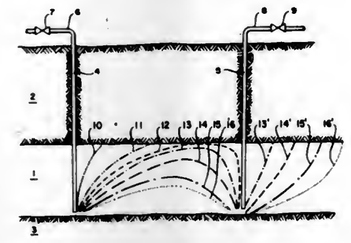
An improved method for secondary oil recovery by water-flooding involves the conjoint use of an acrylic amide polymer and ammonium hydroxide as additives to the injection fluid. Good mobility control and improved recovery of residual oil are achieved.

3,367,419
OIL RECOVERY BY STEAM INJECTION AND PRESSURE REDUCTION

Johannes van Lookeren, Rijswijk, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Sept. 20, 1965, Ser. No. 488,578
Claims priority, application Great Britain, Sept. 28, 1964, 39,511/64
9 Claims. (Cl. 166—11)

A method of producing hydrocarbons from a permeable, hydrocarbon-bearing formation penetrated by at least one injection well and at least one production well, into which formation hot fluid is injected through the injection well, and hydrocarbons are produced through the production well. The pressure within the pores of the part of the formation contacted by the hot fluid is reduced to a value

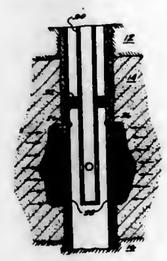


lower than the pressure within the pores of the rest of the formation subsequent to the breakthrough of the hot fluid into the production well by decreasing the resistance to flow in the part of the formation surrounding the production well.

3,367,420
METHOD OF CONSOLIDATION OF INCOMPETENT SUBSURFACE FORMATIONS

James W. Jennings, Verona, John Papaila, Apollo, and Francis M. Smith, Gibsonia, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

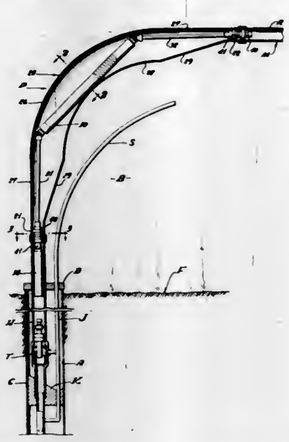
Filed Mar. 7, 1966, Ser. No. 532,424
5 Claims. (Cl. 166—27)



1. A method for consolidating an incompetent, fluid producing subsurface formation which is penetrated by a casing having a tube string descending therethrough to provide a conveying annulus and a packer carried by said tube string, comprising the steps of perforating said casing at vertically spaced locations to provide at least one small perforation and at least one large perforation both of which extend into said formation; setting said packer in the region between the perforations whereby one perforation communicates with said conveying annulus and the other perforation communicates with the interior of said tube string; circulating a washing liquid through one perforation, into said formation and out the other perforation to wash away a quantity of the particulate matter of said formation and create a cavity therein; pumping a liquid containing a permeable sealer member through said large perforation and into said cavity to lodge said permeable sealer member in said small perforation at a location externally of said casing, said permeable sealer member permitting efflux of said liquid therethrough; pumping a liquid containing particles coated with a settable coating, through said large perforation and into said cavity, said particles being of a size sufficient to cause agglomeration thereof about said permeable sealer member so as to fill said cavity; and thereafter causing the

settable coating of said particles to set and bond said particles into a coherent permeable mass which fills said cavity and through which the medium of said producing formation may flow while restraining motion of the particulate matter of said formation.

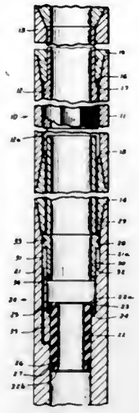
3,367,421
CURVED FLOW LINES FOR WELL BORES
George M. Raulins, Houston, Tex., assignor to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California
Filed Aug. 6, 1965, Ser. No. 477,698
8 Claims. (Cl. 166—153)



Flow line apparatus, including a tubular elbow section for incorporation in a flow line and having terminal portions of circular cross-section, an arcuate 90 degree intermediate portion of uniform oblong cross-section, and a tapered portion between each terminal portion and intermediate portion, in combination with an articulated tool assemblage to be pumped through the elbow section and having forward and rearward piston units spaced apart sufficiently so that the forward piston unit will be slidably sealed in a forward terminal portion or adjacent circular pipe before the rearward piston unit leaves the rearward terminal portion and enters the adjacent tapered portion.

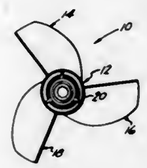
3,367,422
BUMPER SUB POSITION INDICATOR
Darrell L. Sims, Houston, Tex., assignor, by mesne assignments, to the United States of America as represented by the National Science Foundation
Filed Feb. 25, 1966, Ser. No. 530,178
3 Claims. (Cl. 166—187)

1. Apparatus for indicating at the surface when the two telescoping sections of a bumper sub, located in a string of drill pipe through which drilling fluid is being pumped, are in a preselected position relative to each other, said apparatus comprising, a tubular body adapted to be connected in a pipe string to one of the telescoping sections of a bumper sub, said body having a passageway therethrough for the passage of drilling fluid, a sleeve of flexible material located in the passageway, means for holding the upstream end of the sleeve open and against movement downstream with the drilling fluid to cause drilling fluid flowing through the opening in the body to flow through the sleeve, means for providing a seal between the ends of the flexible sleeve and the body, a fluid chamber, a passageway connecting the chamber to the opening in the body intermediate the ends of the sleeve, and means actuated by the other telescoping section for forcing the fluid in the chamber into the opening to collapse the sleeve and restrict the flow of drilling



fluid therethrough to produce a pressure signal in the drilling fluid when the two telescoping sections of the bumper sub are in the preselected position.

3,367,423
PROPELLER
Cornelius W. Van Ranst, 15692 Woodland, Dearborn, Mich. 48120
Filed June 13, 1966, Ser. No. 557,222
2 Claims. (Cl. 170—159)

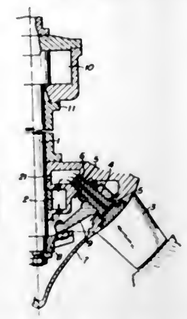


1. A propeller having a hub portion and three blades of uniform thickness throughout radiating therefrom, each blade overlying 100 degrees of the circumference of the hub portion and having in sequence a leading edge which overlies 70 degrees of said circumference, an outer circumferential edge which overlies 20 degrees of said circumference and a trailing edge which overlies 10 degrees of said circumference, said leading edge defining a line which is a continuous rearward progression from its origin at the hub portion to its termination at the circumferential edge, said circumferential edge defining a line which is substantially a constant radius from the axis of said hub portion, said trailing edge defining a substantially straight line inclined rearwardly from its origin at said outer circumferential edge to its termination at said hub portion.

3,367,424
HYDRAULIC MACHINE HAVING ADJUSTABLE BLADE RUNNER
Shunichi Fukasu, Hisao Inoue, and Nobuho Takagi, Hitachi-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Apr. 7, 1967, Ser. No. 629,297
6 Claims. (Cl. 170—160.23)

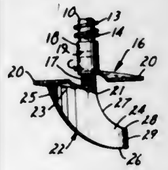
A rotary pump mounted in a runner boss of an adjustable blade hydraulic machine is driven by utilizing the

rotational force of an operating rod which is provided



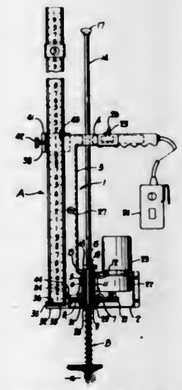
to operate runner blades so as to forcibly lubricate the sliding portions of the runner blades.

3,367,425
MULCHING DEVICE
Clyde H. Heeren, Walshville, Ill., assignor to Farmhand, Inc., a corporation of Delaware
Filed Feb. 10, 1965, Ser. No. 431,646
6 Claims. (Cl. 172—111)



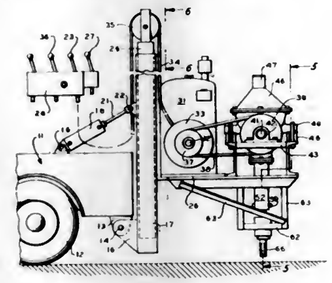
A rotary earth mulching device for mounting on the lower end of a mobile vertical rotary shaft and having a pair of circumferentially spaced generally vertical mulching blades depending from a pair of generally helical plates, which engage the top surface of the ground to limit downward movement of the blades during rotation thereof in the earth.

3,367,426
POWER STAKE DRIVER
Wayne H. Laverty, 30944 Lake Road, Bay Village, Ohio 44140
Filed Aug. 27, 1965, Ser. No. 483,136
9 Claims. (Cl. 173—21)



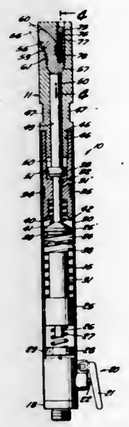
Apparatus, and a method and a stake operable with the apparatus, for driving a stake to a predetermined level comprising a support, a rotatable member on the support that is positively rotated about an axis, means on the rotatable member for demountably engaging the top of a stake and for rotating the stake to drive it into the ground, means on the support for supporting a height-indicating member such as a level rod at essentially the same level as the top of the stake, and a guide member coaxial of the rotating member and having a lower portion that projects through the stake into the ground.

3,367,427
HOLE DRILLING MACHINE
Cecil M. Baumgardner, Monta Vista, Calif. (10282 Mann Drive, Cupertino, Calif. 95014)
Filed Sept. 27, 1965, Ser. No. 490,249
3 Claims. (Cl. 173—22)



A hydraulic hoist of the fork lift type is mounted on the back of a jeep, or the like, pivoted about a transverse horizontal axis to vary the drilling angle. A platform is mounted on the hoist and contains a prime mover, a transmission and a vertical shaft driven thereby. An auger is fixed to the shaft.

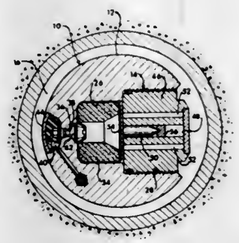
3,367,428
PNEUMATICALLY ACTUATED IMPACT TOOL
Thomas W. Conrad, 2368 Oliveras St., Altadena, Calif. 91001
Filed Feb. 9, 1966, Ser. No. 526,238
10 Claims. (Cl. 173—102)

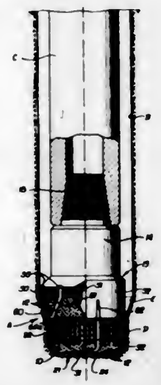


1. A high-performance pneumatically actuated impact tool adapted for use in both close and open quarters in delivering powerful blows from the side of the tool, said tool comprising an elongated main body having a diameter which is fractional compared to its length and formed

with a piston chamber axially thereof, piston means slidably supported in said chamber and including spring means normally holding said piston in retracted position, tool head means axially of one end of said main body provided with an axial circular bore communicating at its inner end with an open-sided noncircular passage opening at its outer end through the side wall of said tool head, a noncircular hardened pick slidably mounted in said passage and including spring means normally holding the same retracted adjacent the inner end of said passage, plunger means slidably supported in said circular bore with one end against the inner end of said retracted pick and its other end in position to be struck by said piston means after being accelerated by pressurized air applied to the end thereof remote from said plunger means, cover means covering the open side of said noncircular passage means, and means for supplying pressurized air to said piston chamber at the end thereof remote from said tool head.

3,367,429
PERFORATING GUN FOR SMALL DIAMETER BULLETS
Forrest V. Porter, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,670
4 Claims. (Cl. 175—4.58)





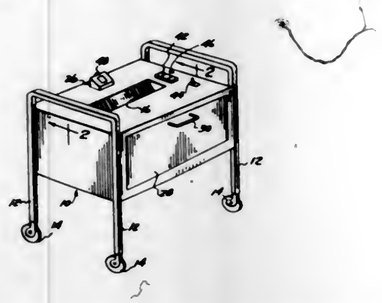
A bullet perforating gun assembly for firing small diameter bullets utilizing a propellant charge compounded for firing regular size bullets. The gun assembly including a cylindrical gun body having laterally oriented barrel members that include a central longitudinal bore for containing the bullet and a plurality of venting bores extending longitudinally through the barrel member parallel to the central longitudinal bore. The combined cross-sectional area of the bores is substantially equal to the area of a regular size bullet to control the chamber pressure and avoid damage to the gun body. A shear disc, located between the charge and the bores, shears after detonation of the charge and after a predetermined pressure increase in the chamber, whereby the peak chamber pressure is held below a magnitude that would damage the body.

3,367,430
COMBINATION DRILL AND REAMER BIT
David S. Rowley, Salt Lake City, Utah, assignor to Christensen Diamond Products Company, Salt Lake City, Utah, a corporation of Utah
Continuation of application Ser. No. 355,619, Mar. 30, 1964. This application Aug. 24, 1966, Ser. No. 575,493
14 Claims. (Cl. 175—385)

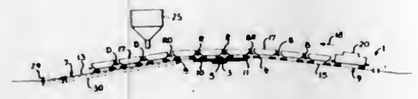
9. In a rotary bit for drilling a well bore hole: a body structure including a lower pilot portion and a reamer portion above said pilot portion; said pilot portion including a lower end drilling face having cutting elements thereon for drilling on the bottom of the bore hole and a first elongate reaming face substantially parallel to the body structure axis and having cutting elements thereon; said reamer portion having a second reaming face substantially parallel to the body structure axis and extending arcuately around the reamer portion substantially less than 180 degrees, said second reaming face having cutting elements thereon and having a radius substantially greater than the radius of said first reaming face; said reamer portion having a non-reaming face opposite said second reaming face and extending arcuately substantially more than 180 degrees around said reamer portion from and between the opposite ends of said second reaming face; said non-reaming face having a radius substantially less than the radius of said second reaming face; said first reaming face being disposed at least diametrically opposite the mid-portion of said second reaming face; said reamer portion having a third reaming face extending between said first reaming face and second reaming face and inclined upwardly and outwardly from said first reaming face to said second reaming face at a shallow angle to the body structure axis; said third reaming face having cutting elements thereon; said first reaming face being disposed at least diametrically opposite the mid-portions of said second and third reaming faces; said body structure having a drilling fluid passage therein; said end drilling face having waterways communicating with said passage and extending to said first reaming face; said first reaming face having waterways extending upwardly from and communicating with said end drilling face waterways; said third reaming face having waterways extending upwardly from and communicating with said first reaming face waterways; said second reaming face having waterways extending upwardly from and communicating with said third reaming face waterways; the upper end of said first reaming face extending laterally outwardly beyond the lower end of said third reaming face to provide a circumferential fluid passage of generally triangular cross-section between the upper end of said pilot portion, the lower portion of said inclined third reaming face and the wall of the pilot bore hole produced by the lower pilot portion.

3,367,431
SURGICAL SPONGE COLLECTOR WITH MEANS FOR COUNTING AND WEIGHING SPONGES
Dorothy H. Prindle Baker, 13631 Northend St., Oak Park, Mich. 48237
Filed Dec. 16, 1965, Ser. No. 514,328
1 Claim. (Cl. 177—15)

A counting and weighing collector for surgical sponges which includes a cabinet with receiver slot, a counter on the cabinet, a light source in the cabinet projecting a beam across the underside of the slot, a signal producing light responsive device in the cabinet in registry with the source interupted by the passage of a sponge through the slot, and a counter actuating means interconnecting the counter and light responsive device, together with a weighing scale in the cabinet mounting a basket below the slot, and a weight indicator on the cabinet connected to the scale to provide a continuous and visible indication of the number of sponges and the total weight thereof, deposited within said collector.



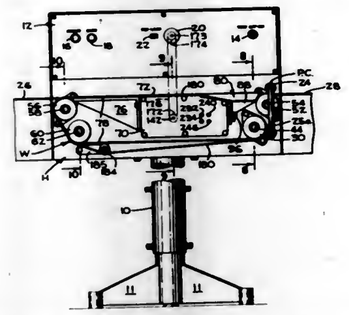
3,367,432
METHOD AND APPARATUS FOR WEIGHING RAILROAD CARS
Maurice J. Buchman, Chicago, Ill., assignor to Railroad Machinery Development Corporation, Northfield, Ill., a corporation of Ohio
Filed July 22, 1966, Ser. No. 567,253
4 Claims. (Cl. 177—17)



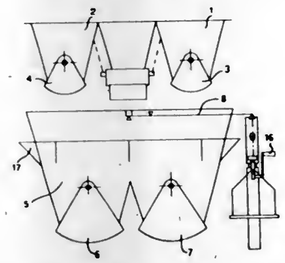
A method and apparatus for weighing railroad cars comprises moving cars coupled and in buff over a weighbridge, and then over a track section that is downwardly inclined relative to the weighbridge an amount sufficient to cause the couplers of each car on the weighbridge to become substantially free of vertical force-transmitting relationship. The inclined track section may be at least as long as the train. There may be two such inclined sections one adjacent to each weighbridge approach to enable weighing of trains moving in either direction.

3,367,433
AUTOMATIC WEIGHING AND FILL CONTROL APPARATUS
Paul E. Seaborn, Los Gatos, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Aug. 12, 1963, Ser. No. 301,498
9 Claims. (Cl. 177—45)

1. A continuously operating scale comprising an assembly of a drive housing and a main housing, the upper portion of said main housing forming a substantially horizontal approach platform, a scale platform that substantially forms a longitudinal continuation of the delivery end of said approach platform, spring means for supporting said scale platform on said main housing, means for sensing the position of said scale platform, a driving roller mounted in said assembly below said scale platform, a weigh belt pull roller mounted in said assembly at the article delivery end of said scale platform, idler roller means mounted in said assembly at the article receiving end of said main frame, endless transport belt means passing over said approach platform, beneath said scale platform and around said driving roller, and around said idler roller means, endless weigh belt means passing over said approach platform and resting on said transport belt means, passing over said scale platform, around said weigh belt pull roller, and against a portion of said transport belt means that passes over said driving roller, and around said idler roller means, and means in said drive housing for driving said driving roller.



3,367,434
AUTOMATIC WEIGHING MACHINE
Johannes Lambertus Franciscus Maria Molenschot, Teteringsedijk 52, Breda, Netherlands
Filed Feb. 26, 1965, Ser. No. 435,593
Claims priority, application Netherlands, Feb. 28, 1964, 64—1,974
3 Claims. (Cl. 177—50)

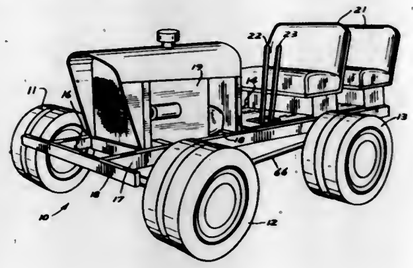


1. An automatic weighing machine comprising a weighing container, means for supplying a supply of material to said container to be weighed, a weighing apparatus coupled to said container, means for cutting off the supply of material to be weighed after a predetermined weight of material has been supplied to said container, said weighing container having an outlet flap, means for automatically opening said outlet flap after said predetermined weight is reached and the supply cut off, and a checking device cooperating with said container to weigh the material present in said weighing container when said outlet flap is closed.

3,367,435
FOUR WHEEL DRIVE VEHICLE
Carl Edwin Elg, % Carl Elg Garage, Goodridge, Minn. 56725
Filed Oct. 8, 1965, Ser. No. 494,216
5 Claims. (Cl. 180—6.2)

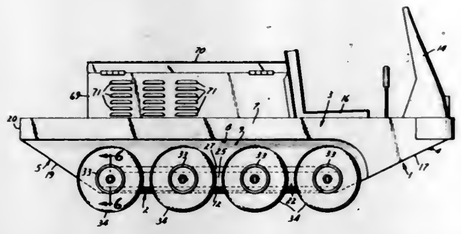
A four wheel drive tractor having a longitudinal frame carrying an internal combustion engine and front and

rear seats. A central longitudinal pivot pin connects a front wheel drive assembly to the front portion of the frame. A rear wheel drive assembly is directly connected to the bottom of a rear portion of the frame. Each of the drive assemblies have identical gear differentials connected to a common shaft. A chain and sprocket drive connects the shafts to the engine. Stabilizing rods located on opposite



sides of the drive shaft are pivotally connected to the front wheel drive assembly and to a rear portion of the frame to stabilize the front wheel drive assembly and to allow limited rocking movement of the front wheel drive assembly. Separate hydraulic brake systems are associated with the front and rear wheels on each side of the tractor for steering and braking the tractor.

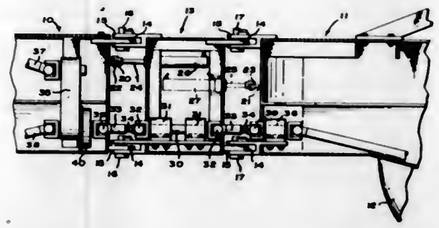
3,367,436
MOTOR VEHICLE
Eugene R. Fox, Minneapolis, Minn., assignor to Cat-A-Gator Corporation, Hopkins, Minn., a corporation of Minnesota
Filed Aug. 17, 1965, Ser. No. 480,360
3 Claims. (Cl. 180—22)



A motor vehicle having a plurality of drive wheels at opposite sides and body structure for supporting the wheels and maintaining the wheel axes in parallel relationship. Drive means within the body structure is operatively connected to each drive wheel, said drive wheels having axles extending into the interior of the body structure through rigid tubular members fixed in the body structure.

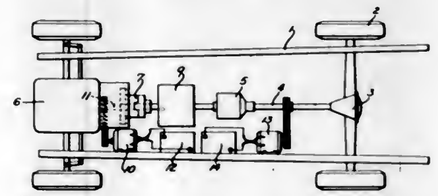
3,367,437
TWIN-PIVOT ARTICULATING-FRAME WHEELED VEHICLE
Dwight A. Garrett, Enumclaw, Wash., assignor to Garrett Enumclaw Co., a corporation of Washington
Filed Aug. 20, 1965, Ser. No. 481,202
8 Claims. (Cl. 180—51)

A three-section vehicle with each of two 2-wheeled end sections articulating with a center section and driving the ground wheels of both sections from an engine supported by the front end section, the drive to the front wheels comprising a downwardly inclined torque shaft leading from a transfer case supported by the front section, the



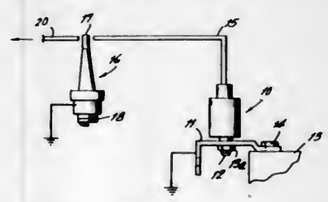
drive to the rear wheels also leading from the transfer case and comprising four connecting torque shafts three of which are in-line and the fourth of which likewise inclines downwardly.

3,367,438
MOTOR VEHICLE DRIVES
David Pelton Moore, Marlow, N.H. (9210 Flower Ave., Silver Spring, Md. 20901)
Filed Apr. 19, 1967, Ser. No. 632,078
3 Claims. (Cl. 180—65)



This motor vehicle drive consists of an automobile chassis equipped with two motors, one a normal internal combustion engine and the second an electric motor, the former when idling or driving operates an electric generator to charge the battery for the electric motor, there being a supplemental generator connected to the drive shaft to act as a supplemental charging means for the battery during the driving of the automobile, the internal combustion engine being disengaged from the electric motor when the motor is driving the vehicle.

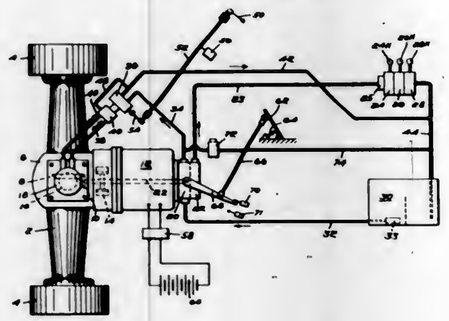
3,367,439
IGNITION SAFETY SWITCH
Harold Zweben, Plainview, N.Y., assignor to Francis A. Fischel, New York, and Daniel Mantel, Lindenhurst, N.Y.
Filed Jan. 7, 1966, Ser. No. 519,232
8 Claims. (Cl. 180—104)



A short circuiting switch for an internal combustion engine in which the shorting electrodes are carried in a cavity and separated by an insulating oil, changing the

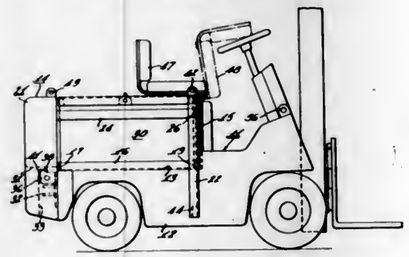
proper operating orientation of the engine brings a conducting liquid also carried in the cavity below the oil, into contact with the electrodes thereby short circuiting the engine ignition.

3,367,440
ELECTRIC AND HYDROSTATIC DRIVE SYSTEM FOR WHEELED VEHICLE
Bernard B. Becker, Belmont, Mass., assignor to Lewis-Shepard Company, Watertown, Mass., a corporation of Massachusetts
Filed June 2, 1965, Ser. No. 460,650
10 Claims. (Cl. 180—65)



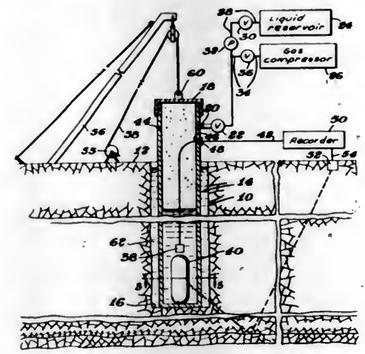
Means for driving a material handling truck (although not limited thereto) through its starting and accelerating speeds by means of a fluid pump and fluid motor directly connected with the vehicle transmission. When the vehicle has reached full speed, automatically operating means shifts the drive from the fluid motor to an electric motor which is then running at its full speed. The electric motor speed and the vehicle speed are substantially matched at the time of shift so that the transition is smoothly accomplished. The vehicle speed is under the manual control of the operator, but the shifting from fluid motor drive to electric motor drive occurs automatically to provide maximum efficiency.

3,367,441
UNITIZED BATTERY CASE AND COUNTERWEIGHT
Frank C. Schuster, Glenwood, and Paul J. Scribner, Steger, Ill., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 1, 1966, Ser. No. 539,437
6 Claims. (Cl. 180—68.5)



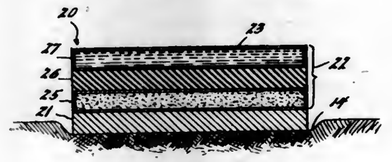
A unitary battery case and counterweight for lift trucks. The counterweight may be integral with the case for the battery or the case may provide compartments into which the counterweight material and battery fit. The case and truck chassis have registering components preventing lateral and longitudinal movement.

3,367,442
PORTABLE SEISMIC SURVEY APPARATUS WITH AN IMPLODABLE DEVICE
Donald D. Setser, Tulsa, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Dec. 19, 1963, Ser. No. 331,692
8 Claims. (Cl. 181—.5)



1. In an apparatus for geophysical exploration in which elastic wave initiating apparatus is disposed at least near to the surface of the earth in a walled shot hole extending into the earth and detectors are disposed at or near the earth's surface and spaced from said initiating apparatus, said spaced detectors and a detector disposed closely adjacent to said initiating apparatus being coupled to a suitable recorder for indicating on a time base any signals detected, the improvement wherein said elastic wave initiating apparatus comprises a portable enclosed walled container having an implodable part of predetermined volume therein, said walled container being adapted to be moved from one shot hole to another, means for at least partially filling the interior of said container with liquid and for internally pressurizing said container, whereby implosion of said implodable part occurs, and means having a liquid base for coupling said container to the earth.

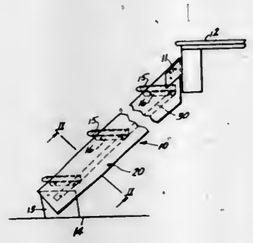
3,367,443
METHOD AND APPARATUS FOR IMPROVING SEISMIC IMPACT SIGNALS
William H. Mayne, San Antonio, Tex., assignor to Olive Scott Petty, San Antonio, Tex.
Filed June 16, 1965, Ser. No. 464,406
10 Claims. (Cl. 181—.5)



An impact buffer zone of special construction is provided for operation in a seismic system with a seismic impulse hammer that impacts the earth to provide a shock wave. The buffer zone, when coupled with a rigid plate on the earth, preferably has a specific thickness relationship to permit a seismic wave traverse time through the buffer zone greater than the traverse time through the rigid plate. The buffer zone may include multiple layers of elastic materials such as water, rubber, sand, oil, or foam plastic. Accordingly, means and

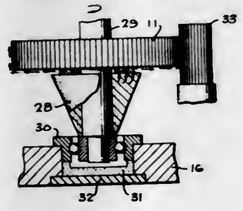
methods are disclosed for elastically absorbing a portion of the impact of a moving mass generating seismic impulses in such a manner that seismic impulses are produced with a rise time of less than one millisecond.

3,367,444
ADJUSTABLE STAIRWAY
John W. Meddick, Weston, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed May 31, 1966, Ser. No. 554,073
5 Claims. (Cl. 182—1)



The instant invention relates in general to stairways, and more particularly to a stairway having treads which may be simultaneously adjusted to a desired angle.

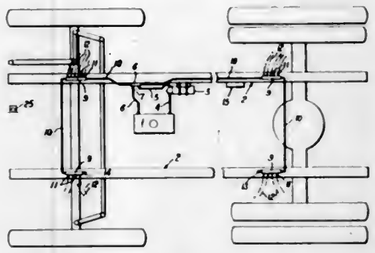
3,367,445
FLUID LUBRICANT SYSTEM
Hugh L. Dryden, Deputy Administrator of the National Aeronautics and Space Administration, with respect to an invention of Joseph C. Heindl, Palos Verdes Peninsula, and Robert J. Belanger, Los Angeles, Calif.
Filed Oct. 22, 1965, Ser. No. 502,710
13 Claims. (Cl. 184—1)



Apparatus for providing lubrication for moving mechanism such as gears or bearings, which are required to operate under very adverse conditions, is afforded by placing a porous material constituting an oil reservoir in such proximity with the face of a bearing or gear that capillary attraction fills the space therebetween. Thereafter, centrifugal forces distribute the oil from the space between the reservoir and the bearing or gear to the surfaces requiring lubrication.

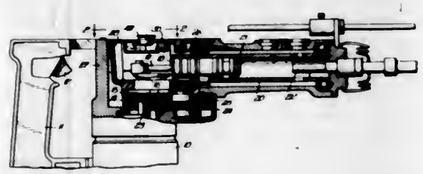
3,367,446
MOTOR VEHICLE INCORPORATING AN IMPROVED LUBRICATION SYSTEM
James H. Higgins, % Higgs Electrical & Mechanical Engineers Limited, 15–17 Kent Road, Glasgow C.3, Scotland
Filed Oct. 5, 1964, Ser. No. 401,606
Claims priority, application Great Britain, Oct. 5, 1963, 39,298/63
1 Claim. (Cl. 184—7)

1. A motor vehicle having lubrication points and auxiliaries and a lubrication system comprising a pump and an electric motor connected to said pump and capable of driving said pump continuously, a reservoir for lubricating oil, and a plurality of interconnecting pipes interconnecting said reservoir by way of said pump with at least some of said lubricating points, a source of electrical power, a first electrical circuit between said electrical source and ground, a normally open starting switch in said first electrical circuit closable when at least one of said auxiliary units is operated, and a first solenoid electrically connected in series with said starting switch and operable upon the closing of said starting switch for closing a second circuit parallel to said first circuit for transmitting electrical energy to said electrical motor for



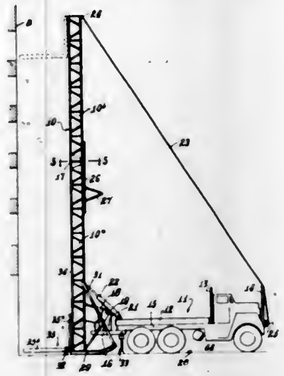
continuously operating said motor, said second circuit including a first normally open switch controlled by the first solenoid and connected in series with said electric motor, a second solenoid electrically connected in parallel with said electric motor and in series with a cut-off pressure switch arranged to open when the pressure in the lubrication system exceeds a predetermined value and with a thermal overload cut-out switch arranged to open when the value of the electric current flowing therethrough to the motor exceeds a predetermined value, and a second normally open switch electrically connected in parallel with said first normally open switch, actuation of which latter switch is controlled by said second solenoid.

3,367,447
LUBRICATING SYSTEM FOR POWER TOOLS
Frank J. Consoli, Oaklawn, and David J. Bobel, Buffalo Grove, Ill., assignors to Skil Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 1, 1965, Ser. No. 491,930
1 Claim. (Cl. 184—59)



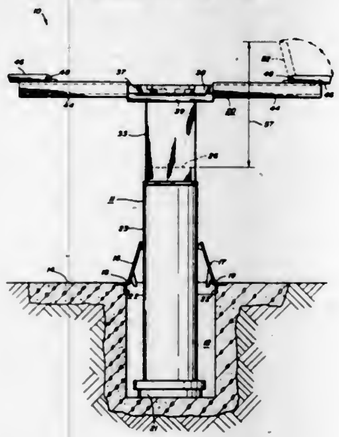
A power tool includes a crank arm and gearing for reciprocating a piston in a barrel forming part of the tool. The crank arm and gearing are contained in a chamber which is subjected alternately to high and low pressures because of movement of the piston. The lubricating system includes a reservoir mounted on the inside of a cover plate for the chamber, which reservoir has a bore mounting a sintered member which acts as a wick for the lubricating oil. A one-way check valve is mounted in the cover plate and opens the reservoir and chamber to atmosphere during the creation of low pressure thereby to permit the lubricant to be drawn into the chamber for lubrication of the moving parts therein. During the development of high pressure, which is occasioned by return of the piston, the one-way check valve closes preventing escape of the oil.

3,367,448
MOBILE ELEVATOR
William A. Wille, Mayflower Lane, Marden Estates, Long Grove, Ill. 60047
Filed Dec. 15, 1966, Ser. No. 601,906
4 Claims. (Cl. 187—2)



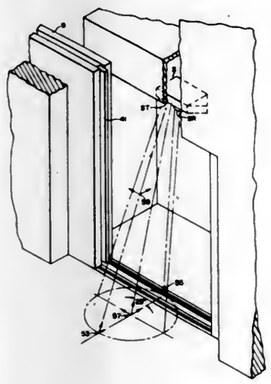
A mobile elevator having a first mast section hingedly mounted on a wheeled vehicle and a mast extension hingedly connected thereto, end to end, both of which are movable from horizontal collapsed positions overlying the vehicle into an upstanding vertical position of use. Power means operates to raise the first mast section and cable means is operable to raise the mast extension, and an elevator platform is carried by the mast assembly for movement along substantially the entire extended length thereof.

3,367,449
VEHICLE LIFT
James J. Pelouch, 7041 Hilton Road, Brecksville, Ohio 44141
Continuation-in-part of application Ser. No. 570,871, Aug. 8, 1966. This application June 8, 1967, Ser. No. 644,721
9 Claims. (Cl. 187—8.75)



A single post vehicle lift with a cross beam connected intermediate its ends to a lifting piston and extending generally in the width direction of a vehicle to be lifted thereby. First and second vertical support members are attached to the ends of the cross beam and are of such a height that the upper ends thereof are spaced a substantial distance above the beam. Arms are provided on the upper end of each support member movable in a horizontal plane and each has a vehicle engaging portion. The upper ends of the vertical support members are spaced apart a distance slightly less than the width of the wheels of a vehicle to be raised and lowered whereby a vehicle can be driven over the vertical support members in their lower position and in the upper raised position a large access space to the bottom of the vehicle is provided by the deep yoke effect of the cross beam and the first and second vertical support members. The arms are provided with a roller supported telescoping member for and was entitled Vehicle Lift.

3,367,450
TRAFFIC SUPERVISORY APPARATUS
Robert A. Lester, Monroeville, and Arthur Nelkin, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 386,321, July 30, 1964. This application Mar. 3, 1967, Ser. No. 620,555
14 Claims. (Cl. 187—52)

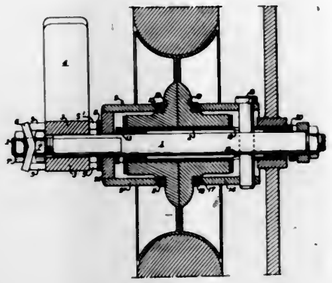


An elevator supervisory apparatus comprising an acoustic wave transmitter mounted on the elevator car which projects a diverging pattern of acoustic energy in front of the entranceway, and an acoustic wave detector also mounted on the car which is effective to delay closing of the doors in response to detection of acoustic waves reflected by prospective passengers in front of the elevator car. When the doors of the elevator car are closed the acoustic waves are reflected back into the car and the system is effective for detecting the presence of passengers within the car for control purposes.

3,367,451
DISC BRAKE MECHANISM
Guido Mauro Gortan, Bettembourg, Luxembourg, assignor to Secalt S.A., Luxembourg-Pulvermuh, Luxembourg
Filed Feb. 1, 1966, Ser. No. 523,979
Claims priority, application Luxembourg, Feb. 1, 1965, 47,887
6 Claims. (Cl. 188—72)

A brake mechanism in which a rotatable ring on a rod is acted on by a pedal to cause relative sliding movement of two braking heads towards one another to urge respective annular friction elements against associated surfaces

of wheels which are mounted on axles supported on the rod, the sliding movement being achieved by projecting pins on opposite surfaces of the ring, acting respectively



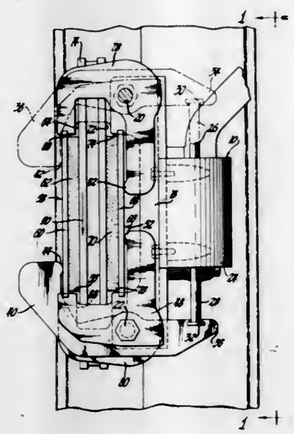
on a first braking head and a disc mounted on the rod and bent about a diameter thereof, the other braking head being secured to the rod by a transverse pin.

3,367,452

SELF-ENERGIZING DISC BRAKE WITH WHEEL CYLINDER MOUNTED PARALLEL TO DISC

Gene P. Baynes, Kettering, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 8, 1966, Ser. No. 600,137
8 Claims. (Cl. 188—73)



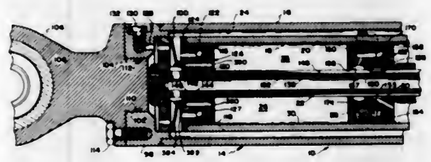
1. A disc brake assembly comprising:
a rotatable disc to be braked having side friction braking surfaces,
a caliper mounting bracket having a reaction flange,
a wheel cylinder having pistons and opposed push rods and mounted on said mounting bracket with said push rods extending substantially parallel to the plane of rotation of said disc,
pivot bolts in said reaction flange,
an inner brake shoe having a backing plate and a friction pad on said backing plate engageable with one of said disc friction braking surfaces,
an outer brake shoe having a backing plate and a friction pad on said backing plate engageable with the other of said disc friction braking surfaces,
a first pair of brake shoe apply levers, each pivotally mounted on one of said pivot bolts, and having one end engaging a wheel cylinder push rod and the other end engaging said outer brake shoe backing plate whereby powered extension of said push rods causes pivotal movement of said levers about said bolts and forces said outer brake shoe into friction braking engagement with said disc,
and a second pair of levers, each pivotally mounted on one of said pivot bolts and having one end engaging said outer brake shoe backing plate in brake reaction force receiving relation and the other end engaging said inner brake shoe backing plate whereby brake reaction force generated by said outer brake shoe causes one of said second pair of levers to pivot about the pivot bolt associated therewith and move said inner brake shoe into friction braking engagement with said disc.

3,367,453

BI-DIRECTIONAL METERING SHOCK ABSORBER

Marion Arendarski, Kalamazoo, Mich., assignor to Pneumo Dynamics Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Oct. 13, 1965, Ser. No. 495,512
7 Claims. (Cl. 188—88)



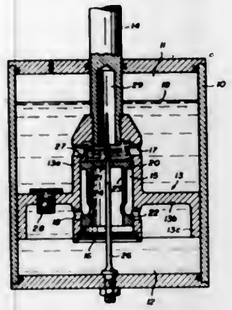
1. In combination with a shock absorber of the hydraulic type having cylinder assembly and a piston assembly reciprocably associated within said cylinder assembly,
a metering device for permitting a controlled flow of hydraulic fluid within said cylinder past said piston upon movement of said piston within said cylinder, said metering device comprising,
a metering pin within said cylinder extending longitudinally thereof past said piston,
said metering pin being provided with a metering groove for permitting such controlled flow of hydraulic fluid past said piston,
said metering groove being provided with a tapered portion for progressively decreasing such flow of hydraulic fluid to provide for hydraulic snubbing of such piston movement when said piston engages said tapered portion within said cylinder, and
means for rendering such tapered portion ineffective in one direction of piston travel to enable said piston to be rapidly returned towards the central position thereof from such snubbed position, said means comprising
fluid bypass means associated with said piston providing fluid communication between axially spaced locations along the metering groove to first and second piston faces, and
check valve means in said fluid bypass means for permitting fluid flow therethrough from said metering groove to said first piston face when said piston recedes from one end of its stroke and for preventing reverse fluid flow therethrough from said first face to said metering groove when said piston moves in the opposite direction.

3,367,454

HYDRAULIC DAMPING DEVICES

Ferdinand Schenk, Satigny, Geneva, and Charles Scherer, Chatelaine, Geneva, Switzerland, assignors to Schweizerische Wagons- und Aufzugefabrik A.G., Schlieren, Zurich, Switzerland

Filed Dec. 28, 1965, Ser. No. 516,855
7 Claims. (Cl. 188—96)



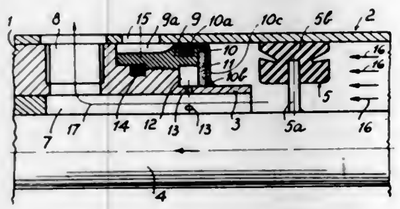
A hydraulic speed-limiter is provided which includes a piston and cylinder coupled between two elements between which relative motion is possible. The speed-limiter provides for adjustment of the speed of one of these elements relative to the other in accordance with the position of the elements with respect to one another when the movement begins. To accomplish this there is provided an element permitting the flow of fluid resulting from movement of the piston in the cylinder in a controlled manner, depending on the movement of the piston and variable in accordance with the starting position thereof. The control is effected by the adjustable positioning of a shaped piece in the opening through which fluid flow takes place. Adjustment of the position of the shaped piece in relation to such opening is resisted by a spring until a threshold value of the speed of fluid flow through the opening is exceeded.

3,367,455

ADJUSTABLE SHOCK ABSORBER DEVICE FOR FLUID PRESSURE OPERATED CYLINDERS

Pier Luigi Panigati, Via Friuli 64, Milan, Italy

Filed Oct. 28, 1966, Ser. No. 590,378
Claims priority, application Italy, Nov. 2, 1965, 24,355/65, Patent 734,687
5 Claims. (Cl. 188—100)



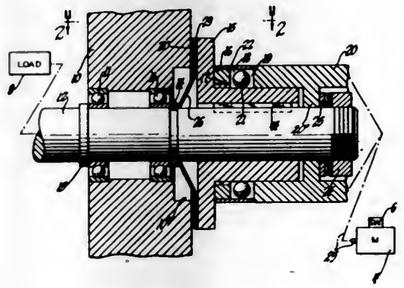
1. A shock absorber device for fluid pressure operated cylinders with a piston, a cylinder head at least at one end of the cylinder and means defining a damping fluid cushion at least at one end of the cylinder, characterized in that the cylinder head and the piston have at least partially complementary cooperating parts adapted to define together a space forming a shock-absorbing fluid cushion therein, when the relative position between said cylinder head and said piston is within a predetermined interval, a diaphragm member secured on said cylinder head and defining a wall of said space, at least one through-hole in said diaphragm, a porous cover member extending at least over the area of said through-hole and passage means providing communication between the outside of said cylinder and said porous cover member to allow limited fluid flow from said space through said porous cover member towards the outside and vice versa, and adjusting means adapted to adjust the position of at least one wall of said space.

3,367,456

TORQUE SENSITIVE BRAKE

Arthur F. Bohnhoff, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 30, 1965, Ser. No. 517,666
10 Claims. (Cl. 188—134)



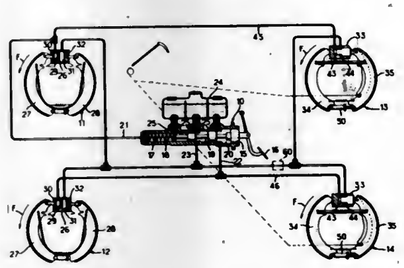
A torque sensitive brake for limiting the torque transmitted in a drive train to a predetermined value. The brake is operated by a torque responsive spring loaded ball-ramp drive train connection which drivingly connects the drive train's input and output.

3,367,457

BRAKING INSTALLATIONS FOR AUTOMOTIVE VEHICLES

Pierre André Georges Lepelletier, Chatou, France, assignor to Societe Anonyme Francaise du Ferodo, a corporation of France

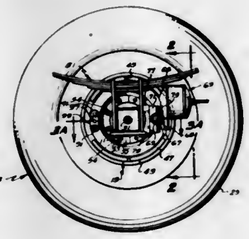
Filed Feb. 15, 1966, Ser. No. 527,685
Claims priority, application France, Feb. 23, 1965, 6,647
7 Claims. (Cl. 188—152)



A braking installation for automotive vehicles comprises the usual brakes on a first axle, actuated by a master cylinder, and having their reaction applied to the brakes on a second axle. But the brakes on the second axle are actuated by a cylinder having two bores or different diameters, in which a double piston operates and de-

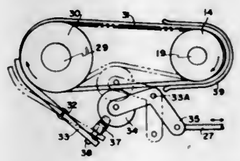
fines a central chamber and an annular chamber. One chamber receives pressure from the master cylinder, while the other chamber receives the reaction pressure from the first axle brakes.

3,367,458
BACK-OUT BRAKE
Kenneth W. Self and George W. Brown, Portland, Oreg., assignors to Freightliner Corporation, Portland, Oreg., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 500,622
3 Claims. (Cl. 188—206)



Brake structure for a wheeled vehicle including a pair of curved brake shoes mounted at one set of ends by pivot pins secured to a brake spider, a brake actuator disposed at the opposite ends of the brake shoes, a bracket rotatably supporting the brake actuator and secured to the spider. The actuator is releasably attached to the spider such that the brake actuator may be removed from the brake drum to permit removal of the brake shoes without jacking the vehicle axle or removing the vehicle wheel and its associated bearings.

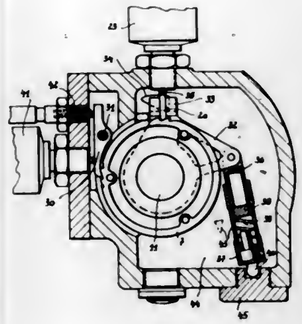
3,367,459
BELT TIGHTNER AND BRAKE FOR MOWER
Robert M. Rubin, Minneapolis, Minn., assignor to Toro Manufacturing Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed May 28, 1965, Ser. No. 459,770
8 Claims. (Cl. 192—11)



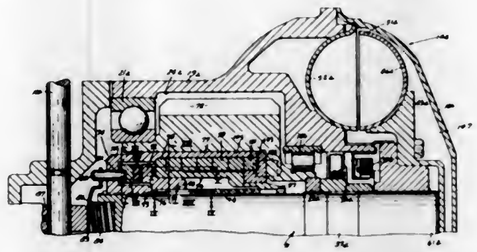
The combination of a belt tightener and a pulley brake which is moved into braking relationship with the driven pulley by the movement of the belt tightener to belt loosening and drive disconnecting position.

3,367,460
COUPLING WITH CUSHIONED LATCH
Rudolph Wanner, 6–7 Memminger Strasse, 89 Augsburg, Germany
Filed June 7, 1965, Ser. No. 462,025
3 Claims. (Cl. 192—24)

Shaft coupling comprising a driving shaft and a driven shaft in continuous frictional engagement and a ratchet wheel carried by the driven shaft, a positioning pawl engageable with the teeth of this wheel to retain it upon stopping, and a further pawl engageable with its abutment surface against the surface of a selected tooth under the control of a programmer, at least one of these surfaces being spring-biased and yieldable under the impact of the second pawl with the tooth while having fluid damping means to absorb the shock. The fluid damping means includes a plunger slidable in a fluid cylinder against a spring force, the cylinder wall having an elongated triangular shape vent cooperating with the plunger to reduce the gas-escape opening upon advance of the plunger under the impact.

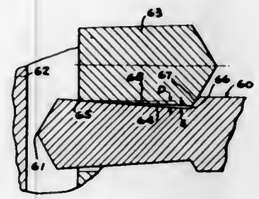


3,367,461
RETARDER
William S. Nagel, Bloomfield Township, Mich., assignor to Eaton Yale & Towne Inc., a corporation of Ohio
Original application Feb. 16, 1966, Ser. No. 544,049. Divided and this application Aug. 29, 1966, Ser. No. 592,705
11 Claims. (Cl. 192—35)



A clutch device operable between first and second independently rotatable members wherein the first rotatable member is connected to one end of a spring member. The other end of the spring member is connected to one end of a torque transfer means. The second rotatable member has clutch means fixed thereto and a sleeve connected to said clutch means is located adjacent and radially between said spring member and said first rotatable member. The clutch device comprises a disconnectible engaging element actutable to connect the other end of the torque transfer means to the second rotatable member. Thus, engagement of said clutch applies a torque to said torque transfer means and thence to said spring member. This torsionally distorts said spring member sufficiently to cause same to contact said sleeve to effect a driving connection through said sleeve between said respective rotatable members.

3,367,462
TORQUE TRANSMITTER WITH YIELDABLE TEETH
William H. Bibbens, Birmingham, Mich. (16500 North Park Drive, North Park Towers, Apt. 820, Southfield, Mich. 48075)
Original application Jan. 22, 1964, Ser. No. 339,374. Divided and this application Feb. 27, 1967, Ser. No. 618,633
1 Claim. (Cl. 192—55)



1. In a combination, two machine members each having a plurality of circularly arranged teeth and engageable and disengageable with each other by axial movements of said members, one of said members having working faces of its teeth recessed to receive the entire driving portion of the meshing teeth of the other member within said recesses, respectively, but at least one meshing tooth being during engagement fully engaged for transmission of torque and having only a substantially edge-to-surface contact with its meshing recessed tooth, the adjacent surfaces of the meshing teeth forming an angle determining clearance therebetween at normal load conditions, said angle being so selected that when an increased load occurs, said teeth deflect whereby said surfaces meet to produce a momentary substantially surface-to-surface contact on said tooth and producing driving contact on a plurality of teeth around the axis of said members within the elastic limit of the tooth material.

3,367,463
CENTRIFUGAL CLUTCH WITH SNAP ACTION LEAF SPRING
Gordon C. Armstrong, 306 Nicholson St., Joliet, Ill. 60435
Filed July 26, 1965, Ser. No. 474,840
13 Claims. (Cl. 192—105)



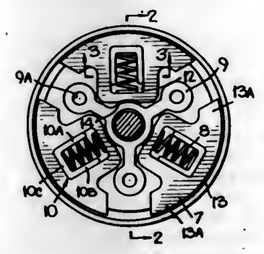
A centrifugal clutch having an outer housing with a circular axial flange, a drive plate rotatably mounted within the housing and an arcuately shaped clutch shoe pivotally mounted at the drive plate, a leaf spring spanning an arc of the arcuately shaped clutch shoe and a restraining pin mounted at the drive plate intermediate the leaf spring and the brake shoe, abutment means contacting the ends of the springs so as to restrain the ends of the springs from spreading during clutch operation, the ends of the springs associated with each shoe being circumferentially on the same side of the shoe pivot. The leaf spring coacts with the restraining pin for maintaining the clutch shoe in a disengaged position at a relatively low speed of the drive plate and for engaging the circular axial flange at a relatively high speed thereof.

3,367,464
CENTRIFUGAL CLUTCH
Arthur M. Fullerton, Herman H. Martin, and Richard A. Rudnicki, Toledo, Ohio, assignors to American-Lincoln Corporation, Toledo, Ohio, a corporation of Ohio
Filed Sept. 13, 1965, Ser. No. 486,832
7 Claims. (Cl. 192—105)



A centrifugal clutch is provided with clutch arms and shoes which have engageable surfaces of arcuate configurations such that the shoes engage the driven member of the clutch more smoothly than heretofore. The clutch also has a unique spring arrangement for holding the arms and shoes in an assembled relationship and for enabling the shoes to move outwardly upon rotation of the drive shaft.

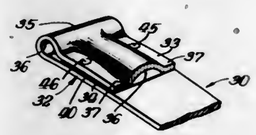
3,367,465
CENTRIFUGAL CLUTCH
Albert K. Newman, Noroton, Conn., assignor to Textron, Inc., Providence, R.I., a corporation of Rhode Island
Filed Jan. 10, 1966, Ser. No. 519,661
2 Claims. (Cl. 192—105)



A centrifugal clutch comprises a rotatable hollow drum and a rotatable clutch plate disposed in the drum and having a central driving hub. The clutch plate is provided with a plurality of U-shaped projections which extend axially from the clutch plate and are arranged symmetrically about the driving hub. Each of the projections comprises spaced parallel side walls which are approximately parallel to a radius of the clutch plate between the side walls and an end wall joining the radially outer ends of the side walls to form a spring-receiving stall having an open end which faces the hub of the clutch plate. A portion of the clutch plate between the two side walls of each projection forms a bottom of the stall. A clutch shoe associated with each of the U-shaped projec-

tions has a rectangular opening of such size as to permit the shoe to fit over the projection but with additional length to permit limited radial movement of the shoe. A helical compression spring is disposed in each of the stalls and has one end bearing against the end wall of the U-shaped projection and its opposite end bearing against the shoe so as to bias the shoe radially inwardly away from the rotating drum. Each of the shoes is individually responsive to centrifugal force upon rotation of the clutch at a selected speed so as to overcome the biasing force of the respective helical spring and move radially outwardly into engagement with the drum so as to induce rotary movement of the drum. The clutch shoes have an axial thickness approximately equal to the axial dimension of the U-shaped projections and the springs are disposed substantially radial of the clutch plate and in line with the center of mass of the associated clutch shoe so that the line of action of the centrifugal force of each clutch shoe is substantially coincident with the axis of the respective spring.

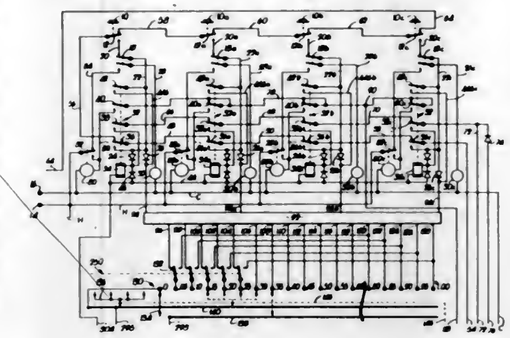
3,367,466
CLUTCH BANDS WITH BRAZED AND WELDED ENDS
Ernest U. Lang, Niles, Mich., assignor to National-Standard Company, Niles, Mich., a corporation of Delaware
Filed Mar. 11, 1966, Ser. No. 533,680
4 Claims. (Cl. 192—107)



1. A clutch band comprising an elongated flat spring metal strip having an anchor at one terminal end thereof defined by an outer end portion disposed in superimposed relation with respect to an inner end portion, said outer and inner end portions having opposed small areas thereof welded to each other, and relatively large areas of said inner and outer end portions being brazed to each other.

3,367,467
CONTROL APPARATUS FOR MULTIPLE PRICE VENDING MACHINE
James F. Ptacek, Independence, Mo., assignor to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed Oct. 25, 1966, Ser. No. 589,295
12 Claims. (Cl. 194—4)

1. In a vending machine:
a deposit station having coin-responsive structure for sensing the deposit of coinage including a coin of predetermined denomination, and bill-responsive apparatus for sensing the deposit of a bill of predetermined value greater than said denomination;
a deposit totalized operably associated with said structure and said apparatus and responsive to coinage deposit sensing by the structure for registering the total value of the deposited coinage, and responsive to bill deposit sensing by said apparatus for registering a deposit equal to said denomination;
dispensing means for vending an article at a price no greater than said predetermined value;
vend initiating means coupled with said totalizer and said dispensing means and operable to effect operation of the dispensing means in response to registration of a coinage deposit by the totalizer at least equal to said price; and
bill-controlled means coupled with said apparatus and said initiating means and responsive to said bill deposit sensing for rendering the initiating means operable to effect operation of said dispensing means in response to registration of a deposit by the totalizer equal to said denomination.



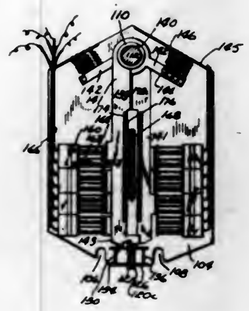
3,367,468
COIN OPERATED LOCK
Bruce Roberts, Cleveland, Ohio, assignor to The Sanymetal Products Co., Inc., Cleveland, Ohio, a corporation of Ohio
Filed Feb. 16, 1966, Ser. No. 527,928
8 Claims. (Cl. 194—59)

The disclosure relates to a coin operated lock which permits a latch bolt to be responsive to the direct thrust of a coin from the outside by a person seeking entry into an enclosure. The pressure of the coin against a cam projection is effective to partially retract the latch bolt thereby conditioning it for subsequent operation without further action other than that of swaying the door on its hinges to gain access to the enclosure. Additionally, the lock is provided with front and back plates and a center plate dividing it longitudinally in two compartments having duplicate bosses on each side so that by reversal of the front and back plates the lock parts may be installed in one compartment or the other thereby adapting the lock for either right or left hand use, i.e., for mounting doors hinged on either the right or left side.

3,367,469
DIGITAL PRINTER WITH PLURAL SIMILAR PRINT HEADS
George H. Fathauer, Decatur, Ill., assignor, by mesne assignments, to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed Aug. 29, 1963, Ser. No. 305,353
10 Claims. (Cl. 197—1)

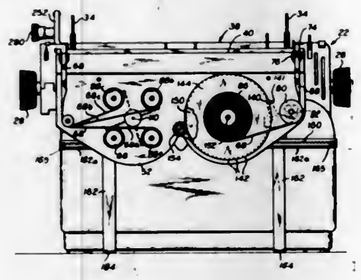
1. In a printer having a frame, a plurality of printing heads in fixed relation to said frame, each of said heads

adapted to print a selected character, and a platen movable in a fixed path with respect to said frame and said heads, the combination comprising a plurality of printing heads, each of said heads having a planar frame member and a plurality of type elements mounted in slidable relation to said frame member, each of said frame members being mounted in parallel relation, said frame members being spaced apart by a distance approximately equal to



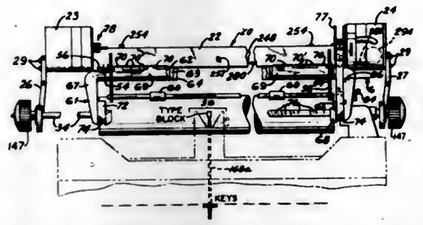
the width of one of said characters, means for normally positioning corresponding parts of each of said type elements substantially in a plane spaced from and parallel to the surface of said platen, and a plurality of interposer levers selectively movable from a first position to a second position for selectively blocking any of said printing elements from sliding out of its normal position with respect to its frame when its interposer is in its second position.

3,367,470
TYPEWRITER WITH MULTIPLE RIBBONS
Carroll H. Berill, 230 E. 51st St., New York, N.Y. 10022
Filed Jan. 4, 1965, Ser. No. 423,146
11 Claims. (Cl. 197—153)



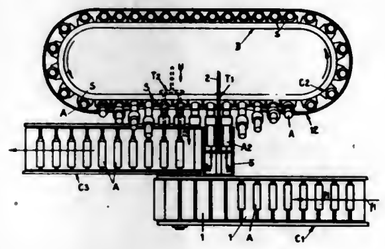
1. A multi-ribbon typewriter device including a plurality of ribbon guides for holding superimposed ribbons in front of a platen of a typewriter, ribbon supply means from which the ribbons advance to corresponding ends of the respective guides, ribbon take-up means to which the ribbons advance from corresponding ends of the respective guides, a lock on the ribbon supply means effective during forward movement of the typewriter carriage in the direction for typing, and lock releasing means operated by the carriage to release the ribbon supply lock during at least a portion of the backward travel of the carriage back into position to start a new line of typing.

3,367,471
TYPEWRITER WITH MULTIPLE RIBBONS
Carroll H. Berill, 230 E. 51st St., New York, N.Y. 10022
Continuation of application Ser. No. 75,254, Dec. 12, 1960. This application Aug. 31, 1965, Ser. No. 484,058
20 Claims. (Cl. 197—153)



1. In a typewriter, ribbon spool holders at opposite sides of the typewriter, mechanism for rotating each of the spool holders, driving means, motion-transmitting connections between the driving means and said mechanisms, the motion-transmitting connections including a shaft movable axially through a stroke and operably connected with the mechanism for rotating different ones of the spool holders when at different ends of its stroke to transmit power to one or the other of the mechanisms for rotating the spool holders, cam means for moving the shaft axially including two cams, each of which is located toward an opposite end of the shaft and each of which has a cam surface on an annular side surface thereof, the cam surfaces of the cams facing each other axially on the shaft, a lever having a fulcrum at a mid portion thereof between the cams and about which the lever rocks selectively into two different positions, and abutment surfaces at opposite ends of the lever constituting part of the cam means, the lever when rocked to one of said positions having the abutment surface at one end in the path of one cam surface and its abutment surface at the other end beyond the periphery of the other cam, and the lever when rocked to the other of said positions having its abutment surfaces reversed as to said cams, and actuating means operated from the spool holders for rocking the lever on its fulcrum between said different positions, said actuating means including elements rotatable with the spool holders.

3,367,472
DEVICE FOR AUTOMATIC INTRODUCTION AND DISCHARGE OF CONTAINERS IN PAINTING MACHINES AND THE LIKE
Giovanni Rossi, Via Trieste 5, Parma, Italy
Filed May 17, 1966, Ser. No. 550,814
10 Claims. (Cl. 198—22)

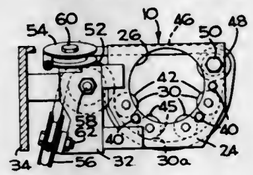


A conveyor mechanism is disclosed for automatically introducing cylindrical containers into a finish applying machine, such as a painting machine, and automatically removing the containers from the machine. The conveying

mechanism includes a first endless conveyor carrying a plurality of supports which are mounted thereon for swinging between a horizontal, work-receiving position, and a vertical work-transporting position. An endless guide rail is provided for swinging the supports between the horizontal position, at an unloading station followed by a loading station, and a vertical position as the work travels through the painting machine.

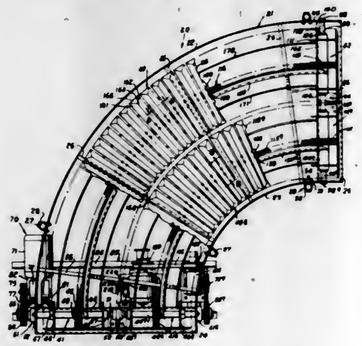
An endless feed conveyor, of the roller-type, carries the articles in uniformly spaced relation to the loading station, the feed conveyor operating in synchronism with the main conveyor. A transfer means at the loading station reciprocates transversely relative to the feed conveyor to move articles, such as cans, from the feed conveyor and position them on the then horizontally oriented supports on the main conveyor. The work carrying supports are tubular, and an ejecting means at the unloading station moves axially through the supports to eject the finished containers onto a third conveyor which moves the finished conveyors away from the apparatus.

3,367,473
AGITATING ARTICLE FEED CHUTE
Thomas H. Kingsbury, Marietta, Ga., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed July 28, 1966, Ser. No. 568,468
5 Claims. (Cl. 198—30)



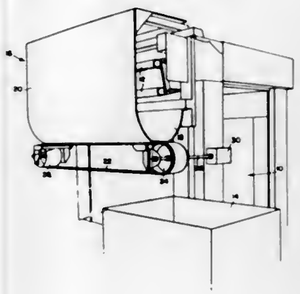
An article agitating chute for aligning fruit single file comprises four downwardly inclined rollers forming a semi-circular, upwardly opening trough. One of the bottom rollers is provided with axial ribs, and all rollers are turned in the same direction so that the ribbed roller lifts the fruit.

3,367,474
CONVEYOR APPARATUS
Douglas M. Kerr, 1005 Cumberland Place, and Donald W. Green, 526 Fairview Drive, both of Richardson, Tex. 76105
Filed Oct. 8, 1965, Ser. No. 494,206
18 Claims. (Cl. 198—33)



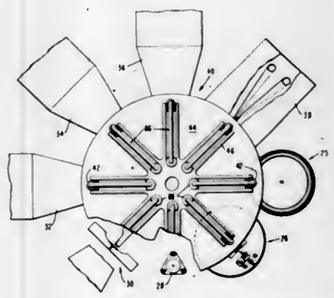
A conveyor apparatus having a pair of conveyors mounted for movement in parallel paths whose speeds are adjustable to cause articles transported by the conveyor apparatus to be oriented in a predetermined manner during their transport by the conveyor apparatus.

3,367,475
TOBACCO LEAF ORIENTING MEANS
Richard Frank Predmore, East Moline, and Frank De Lloyd Jones and George Harvey Shriver, Moline, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed July 25, 1966, Ser. No. 567,583
3 Claims. (Cl. 198—33)



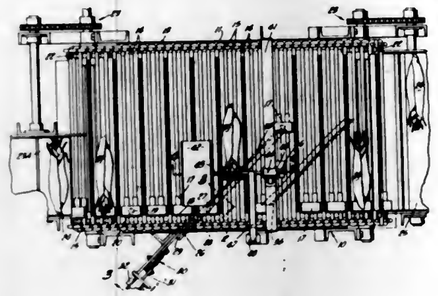
A tobacco harvester having a priming station for selectively removing tobacco leaves from a growing plant, a conveyor to carry the primed leaves away from the priming station, a device for orienting the leaves received from the conveyor, and a collecting device to receive the leaves from the orienting device.

3,367,476
ORIENTING AND CONTACTING DEVICE
Jesse Aronstein and George A. Caccoma, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Continuation of application Ser. No. 420,594, Dec. 23, 1964. This application Aug. 15, 1966, Ser. No. 572,615
14 Claims. (Cl. 198—33)



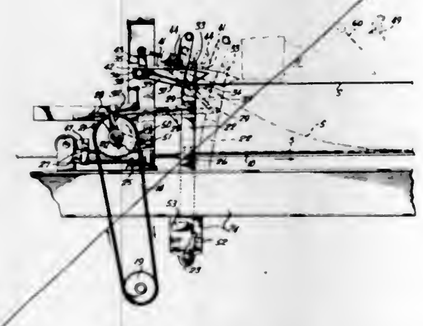
An automatic article handling apparatus in which randomly oriented workpieces, each having a distinctive physical feature, are indivdually oriented to a desired position, and delivered at an unload station in the proper orientation. The apparatus is particularly adapted to orient semiconductor devices having a distinctive arrangement of protruding terminals. The apparatus includes a source of unoriented workpieces, an automatic device orienting means having means interacting with the workpiece features that imparts an orientation to the workpieces, and a transport means.

3,367,477
APPARATUS FOR ORIENTING TAPERED AGRICULTURAL PRODUCTS
Peter T. Leth, Toppenish, Wash., assignor to California Packing Corporation, San Francisco, Calif., a corporation of California
Filed Oct. 28, 1966, Ser. No. 590,426
23 Claims. (Cl. 198—33)



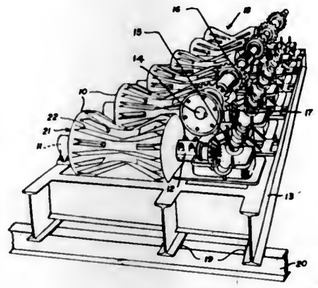
Apparatus for orienting elongated tapered products (e.g., ears of corn). The ears are moved by a conveyer having pockets which accommodate the ears, the arrangement permitting the ears to be pushed endwise from one side of the conveyer to the other. In a sensing region the ears are engaged by a tiltable sensing device which in turn controls operation of pusher means that shifts ears of one orientation to the other side of the conveyer.

3,367,478
SHEET POSITIONER
Byron B. Brookhyser, Milton, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Aug. 26, 1966, Ser. No. 575,933
15 Claims. (Cl. 198—35)



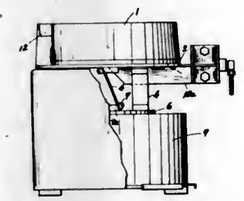
An apparatus for placing a sheet on a predetermined position on a conveyor. A vacuum transfer apparatus holds the sheet over the conveyor. An oscillating clamp pivots forwardly in the direction of conveyor travel, detects and clamps the sheet. The overhead vacuum is released. The clamp pivots rearwardly until it is aligned with the predetermined position on the conveyor and then pivots forwardly at the speed of the conveyor. At a predetermined point the clamp releases the sheet. The clamp returns to its original position.

3,367,479
IMPACT ABSORBING APPARATUS
Gordon M. Letson, No. 5 Road, Whonnock, British Columbia, Canada, and Robert A. Baldrey, 1087 17th St., West Vancouver, British Columbia, Canada
Filed June 13, 1966, Ser. No. 557,141
11 Claims. (Cl. 198—127)



A shock absorbing roll for heavy duty roll cases in the timber industry, an elastomer impact absorbing element in a serrated space between the roll and its shaft, so as to be resilient radially and having tangential rigidity adequate for transmission of torque by compressive forces in the elastomer acting on the serrations.

3,367,480
VIBRATORY CONVEYOR
Warren C. Burgess, Jr., 27018 Kennedy Ridge Road, North Olmsted, Ohio 44070
Continuation-in-part of application Ser. No. 528,931, Feb. 21, 1966. This application Nov. 2, 1966, Ser. No. 600,320
4 Claims. (Cl. 198—220)

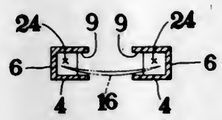


This invention provides a vibrator bowl type conveyor which is improved by providing a pneumatic, free piston vibration-inducing device attached to the base plate supporting the receptacle bowl and adapted to oscillate in the plane of the base plate.

3,367,481
CONTACT LENS HOLDING MEANS FOR A CONTACT LENS STORAGE MEANS
Kyoichi Tanaka, 47-banchi, 2-chome, Yamazoe-cho, Chikusa-ku, Nagoya, Japan
Filed May 31, 1966, Ser. No. 553,833
Claims priority, application Japan, June 5, 1965 (utility model), 40/45,165
3 Claims. (Cl. 206—5)

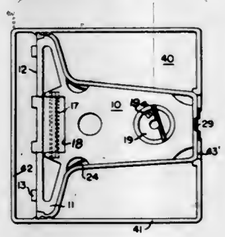
1. A contact lens holder comprising a base and a pair of resilient arms supported on said base, said base including an upright column, said arms being spaced apart and affixed to said column to extend upwardly from

opposite sides of said column, said arms being provided with curved, oppositely facing U-shaped grooves to receive a lens, said grooves having curved side walls which taper in thickness from the bottom to the top thereof, said side walls being resiliently hinged to the surface of said column whereby said arms can be displaced while



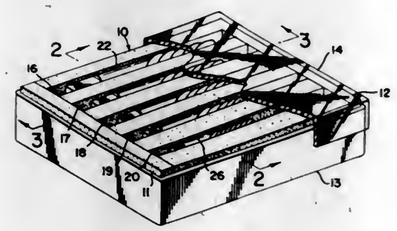
receiving a lens and return to their normal positions to retain said lens when the latter is completely inserted in said holder, said grooves having flanges on either side of said walls, said flanges being substantially straight and vertical to define a web between the top and bottom of said side walls whereby a lens can be inserted directly in the tops of said grooves.

3,367,482
CONTAINER AND FIXTURE COMBINATION
Rolf A. Samsing, Braintree, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Oct. 15, 1965, Ser. No. 496,630
10 Claims. (Cl. 206—16)



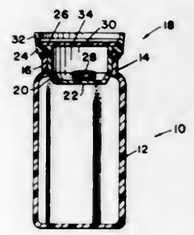
An open tray, suitably made of a clear plastic material, for holding a cartridge for a band razor in such a manner that the cartridge, while within the tray, may be locked in the holder to form a safety razor, whereupon the tray is removed from the razor.

3,367,483
CONTAINER FOR ELONGATED BODIES
Charles E. Studen, R.D. 1, Pekin Road, Newbury, Ohio 44065
Filed Apr. 21, 1966, Ser. No. 544,152
7 Claims. (Cl. 206—17)



A container filled with a naturally resilient resinous foam liner in which longitudinal channels are cut to receive elongated objects. The width of the channels are usually slightly less than the thickness of the object to be held while the depth is approximately equal to the height of the object. The liner is placed in a rigid container and means are provided on either end of the channel for blocking the ends thereof.

3,367,484
MEDICATION CONTAINER PACKAGE
Howard W. Nelson, 3870 W. Warren, Detroit, Mich. 48208
Filed Oct. 23, 1965, Ser. No. 503,302
4 Claims. (Cl. 206—42)



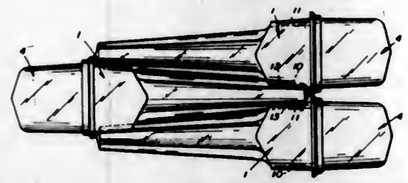
1. A refillable medication package, comprising a container affording a main space, a quantity of non-liquid medication pieces disposed randomly and in bulk in said main space, said container including a body member and a removable closure member for said body member, means coacting with said container to at least in part define a closed supplemental space wholly within one of said members the interior of which is visible from the container exterior, said means, body member and closure member constituting the entirety of the container, and at least one non-liquid specimen piece identical to said pieces in said main space, said specimen piece being at least semi-permanently enclosed in said supplemental space and visible from the exterior thereof to identify the nature of pieces to be refilled in said main space upon depletion of the latter, said specimen piece being wholly confined in said supplemental space, hence proof against unintended or inadvertent removal therefrom, whether or not said closure is removed from said body.

3,367,485
VALVE MIXING CONTAINER OR PACKAGE
William S. Schneider, 1765 Rohr Ave., Glendale, Calif. 91202, and Arthur P. Corella, 8166 Vanscoy Ave., North Hollywood, Calif. 91605
Continuation-in-part of application Ser. No. 349,267, Mar. 4, 1964. This application Jan. 6, 1967, Ser. No. 607,738
3 Claims. (Cl. 206—47)



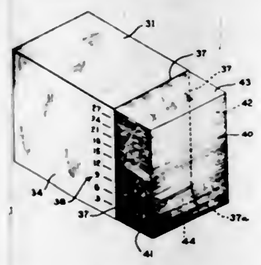
A package or container made of thin, flexible film is provided with a one-way valve through which a liquid or other substance can be introduced into the package. The valve closes against the escape of contents to permit kneading or mixing of the contents. The valve is provided by two sheets of film folded into a U-shape; one of the sheets may be the outer wall of the package.

3,367,486
HYPODERMIC SYRINGE PACKAGE
Wesley S. Larson, Hazardville, and Richard L. Panicci, Westfield, Mass., assignors to Pharmaseal Laboratories, Glendale, Calif., a corporation of California
Filed Nov. 16, 1966, Ser. No. 594,916
7 Claims. (Cl. 206—56)



A sterile package including a sterile hypodermic syringe which includes a narrow stem portion having lateral ribs on opposite sides adjacent the closed end of the stem and elongated sockets in longitudinal, spaced alignment from said ribs permitting a plurality of the sterile packages to be detachably connected in a substantially flat layer in stem-to-head relation to take up a minimum amount of space. And in which flexible caps are secured to the housing and have a portion of the hypodermic syringe entering the cap to be manually grasped so the syringe can be readily removed from the housing without disturbing the sterile integrity of the syringe.

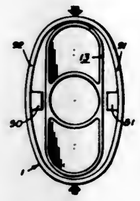
3,367,487
BULK PACKAGE FOR CUT SIZE PAPER
Richard J. Dwyer, Jr., Bellbrook, Ohio, assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed May 3, 1967, Ser. No. 635,738
4 Claims. (Cl. 206—57)



A bulk package for a multiple-ream stack of cut size paper designed for use with copy making machines. The package is a paperboard carton of a size sufficient to hold several reams. The carton is encircled by a tear strip which when removed to open the carton, detaches a portion of the top and two side panels of the carton at one end to expose the top and sides of the paper stack at that end. A substantial portion of the bottom panel of the carton is retained to provide support for the stack. The opened carton containing the stack acts as a service tray which can be placed on the delivery platform of a copy making machine ready for use.

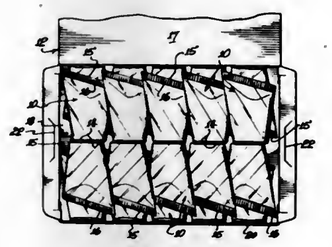
3,367,488
HYPODERMIC SYRINGE PACKAGE
Donald A. Hamilton, Pasadena, Calif., assignor to Pharmaseal Laboratories, Glendale, Calif., a corporation of California
Filed Nov. 16, 1966, Ser. No. 594,915
7 Claims. (Cl. 206—63.2)

A package including a hollow casing which encases a hypodermic syringe and holds it between a tapered shoulder in the casing's mid portion and a pair of internal holding tabs near the casing's open end. The casing near its open end is spaced from the syringe in a direction



transverse to the tabs and is deformable inwardly along this direction to spread the tabs and release the syringe. A removable cap closes the casing's open end and has a skirt that must be broken before the cap can be removed.

3,367,489
PACKING FLEXIBLE PACKAGES
William S. Schneider, 1765 Rohr Ave., Glendale, Calif. 91202, and Arthur P. Corella, 8166 Vanscoy Ave., North Hollywood, Calif. 91605
Filed Jan. 12, 1966, Ser. No. 520,283
10 Claims. (Cl. 206—65)

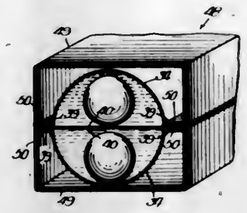


A plurality of packages of an irregular wedge-shape are stacked or nested in novel arrangement in a carton to provide mutual support and economy of space. Especially valuable in the case of packages of thin film having fragile, easily deformable walls.

3,367,490
PACKAGING OF FREE FLOWING MATERIALS
Hans A. Jensen and Augustus H. Eberman, Madison, Wis., assignors to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois
Original application Feb. 3, 1964, Ser. No. 342,053. Divided and this application Oct. 14, 1966, Ser. No. 600,301
2 Claims. (Cl. 206—65)

A container which includes a plurality of individual enclosed packages of free flowing materials such as, for example, whole eggs, liquids, semi-liquids and powdery and granular materials. The individual enclosed packages each have a hemispherical bowl the open end of which is closed off by a planar base member sealingly engaged therewith. The planar base member is sized to provide the package with a radially extending peripheral flange portion. These packages are arranged in pairs in a container with the base members of each package in each pair in surface-to-surface contact with each other and with their peripheral flange portions in co-extensive rela-

tionship to each other. The container body can be formed of mutually inverted channel-like portions of cardboard having transverse panel sections joined with vertical panel sections at opposite ends thereof. The free edges of the vertical panel sections each include radially inwardly extending package attachment flanges which receive there-



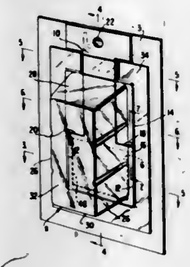
between the flange portions of each pair of packages. Any number of pairs of such enclosed package may extend in succession along the container as desired, for example, a dozen fresh whole eggs can be packaged for merchandising in this manner in more or less the same manner as fresh eggs are currently merchandised.

3,367,491

DISPENSING BLISTER PACKAGE

Ronald B. Dunham, 891 Union Lake Road, Union Lake, Mich. 48085, and William H. Jones, 19431 E. Cameron Ave., Covina, Calif. 91722

Filed Jan. 25, 1967, Ser. No. 611,619
8 Claims. (Cl. 206—78)



A blister package including a molded transparent container secured to a base is provided with an opening in the base covered by internal, slidable closure means. The closure means may be slid across the base along a predetermined path to uncover the opening, and is prevented from moving transversely of the path of travel by guide means on the container. Bending of the closure means out of contact with the base is prevented by abutment means on the container. The container includes detent means resisting initial movement of the closure means to prevent inadvertent uncovering of the opening.

3,367,492

INSULATION SYSTEM

Harold R. Pratt, Ridgewood, Charles D. Forman, Elizabeth, and Augustus B. Small, Westfield, N.J., and John F. Reeves, Milwaukee, Wis., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Sept. 3, 1964, Ser. No. 394,287
8 Claims. (Cl. 220—9)

The cryogenic insulation system of the instant disclosure utilizes a plurality of sandwich-type insulating panels. A most salient feature of the disclosed system comprises the manner in which the cold face (i.e., the layer exposed to cryogenic temperatures) of the system is secured to prevent shifting of said face under the stresses caused



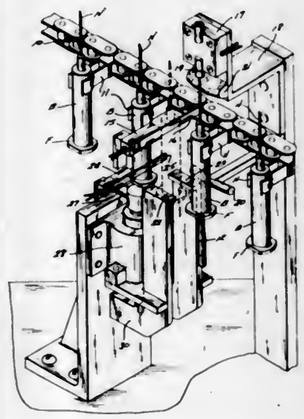
by the contraction tendencies present at the envisioned operational temperatures. Thus, the teachings of the disclosure allow the construction of a cryogenic insulating system which is free of expansion joints.

3,367,493

APPARATUS FOR INSPECTING STAKED SYRINGES

Robert J. Myers and James R. Sager, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio

Filed Dec. 13, 1965, Ser. No. 513,444
5 Claims. (Cl. 209—73)



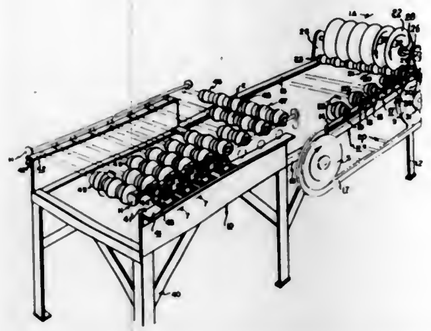
The inspection and sorting of staked syringes is carried out by conveying the syringes in succession through an inspection station where air under pressure is introduced into the open end of the syringe and the air flow is sensed at the exit end of the needle. If the exiting air flow velocity is insufficient, the defective syringe is removed from the conveyor at the sorting or reject station. Switch means are provided for turning the gauging air on and for triggering the removal of a defective syringe.

3,367,494

SMALL POTATO ELIMINATOR STRUCTURE

Soren E. Peterson, 1649 West 3300 South, Salt Lake City, Utah 84119

Filed July 22, 1965, Ser. No. 473,975
6 Claims. (Cl. 209—106)



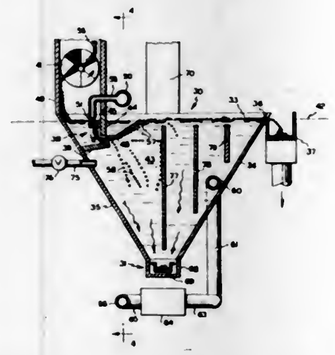
The present invention provides improved small potato eliminator structure wherein plural conveyor rolls may be mutually and variable spaced apart an equivalent distance with respect to each other and to a reference roll. Suitable, serpentine drive means is provided to rotate all of the conveyor rods together in a common direction and at the same time.

3,367,495

FLOATATION APPARATUS AND RECOVERY AND UTILIZATION OF WOOD FINES FROM MILL WASTES

Norman S. Lea and James S. Brawn, Everett, Wash., assignors to Scott Paper Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Sept. 22, 1964, Ser. No. 398,259
7 Claims. (Cl. 209—163)



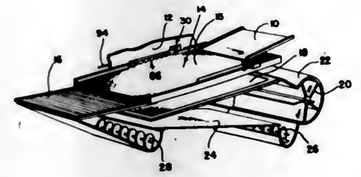
6. Apparatus for separating wood fines of differing densities comprising a sluice box having an upwardly inclined bottom wall, said sluice box defining an exit port proximate the upper end of said bottom wall, a chamber communicating with said port and having walls above the level of said port in said sluice box and adapted to contain a body of water extending above said port, channel means located proximate said sluice box and in fluid communication therewith to introduce wood fines therein, and conduit means in fluid communication with said sluice box to introduce substantially vertically downwardly into said sluice box an aqueous medium whereby fines entrained in such downwardly introduced aqueous medium are uniformly distributed through said sluice box exit port upwardly toward the surface of the fluid located in said chamber whereby fines of different densities readily separate in said fluid and are separately recoverable.

3,367,496

GRAIN SAVING DEVICE FOR COMBINES

Roy R. Cockle, Box 65, Oroville, Wash. 98844, and Gordon D. Nelson, Box 75, Redondo, Wash. 98054

Filed June 14, 1965, Ser. No. 463,598
5 Claims. (Cl. 209—261)



1. A grain saving apparatus for attachment to grain harvesters and in close proximity to the chaffer screen thereof, comprising: (a) a mounting member secured to the inner surface of the housing wall of said harvester and having a generally vertically disposed mounting pin rotatably supported thereon; (b) a blade mounting means received on and detachably secured to said pin for pivotal movement with said pin; (c) an actuating arm connected by one end to said blade mounting means and extending through an opening in said housing wall and thereby protruding outside said housing wall; (d) an elongated blade means detachably and vertically adjustably secured by one end to said blade mounting means, said blade means being normally biased to a position generally parallel to said housing wall by a resilient spring means interconnected between the other end of said actuating arm and connector means on said housing wall; and (e) cable means also attached to the other end of said actuating arm, said cable means adapted to be controlled from the operator's position of said combine to overcome the force of said spring to thereby pivot said blade and blade mounting means inwardly away from said housing wall and over said chaffer screen.

3,367,497

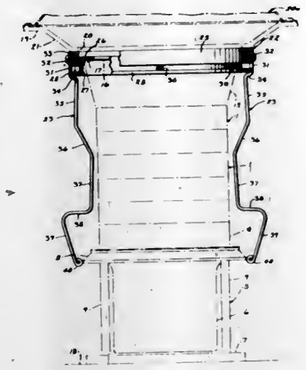
CLAMP FOR SIEVE STACK ASSEMBLIES OF RECIPROCATING AIR COLUMN SIFTERS AND THE LIKE

Frederick F. Loock, Milwaukee, Joseph P. Lorbiecki, New Berlin, and Robert L. Schurrer, Milwaukee, Wis., assignors to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin

Filed July 22, 1965, Ser. No. 473,961
4 Claims. (209—312)

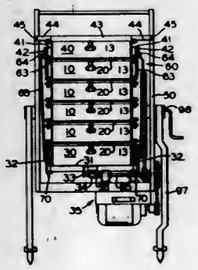
A reciprocating air column sifter has a working chamber with a floor and ceiling, a sonic vibrator that faces downwardly through an opening in the ceiling, and a sieve stack assembly comprising a plurality of stacked components that rests on the floor and has an open upper end facing the opening. A clamp for the sieve stack assembly comprises a lower, ring-like rim and has an offset cross section including an upper inwardly extending clamping flange adapted to bear against the upper end of the sieve stack assembly, an intermediate vertical wall portion and a lower outwardly extending shelf. A sealing ring is telescoped about the rim and bias springs operate between the ring and the shelf to urge the ring and rim vertically apart. A pair of oppositely disposed tongs are attached to the ring and extend downwardly to be releasably engageable with the lowermost component of the

stack. The clamp is movable between a clamped position in which the tongs are in engagement with the lowermost stack component and the ring is close to the rim and a released position in which the tongs are disengaged and the ring is remote from the rim and bears against the ceiling, the ring still overlapping the vertical wall portion



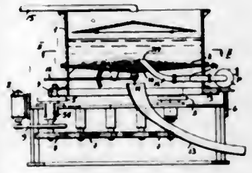
of the rim at least partially in this position. The tongs are inwardly offset immediately below the shelf to define ledges engageable with the shelf to limit relative movement of the rim and ring, and below the ledges the tongs have S-shaped configurations to define manually engageable loop portions.

3,367,498
QUICK CLAMPING AND ARTICULATED POSITIVE RELEASE FOR A TIER OF SCREEN FRAMES
Burl D. Tonjes, Malinta, and Robert A. Cline, Napoleon, Ohio, assignors to Gilson Screen Company, Malinta, Ohio, a partnership
Filed June 29, 1964, Ser. No. 378,761
12 Claims. (Cl. 209—319)



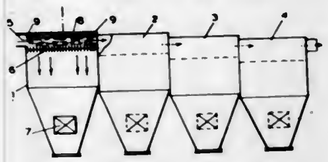
1. An improved separating device comprising:
(a) a base supporting frame,
(b) an intermediate vibratory frame,
(c) a reciprocating means attached to said intermediate frame,
(d) an extensible and retractable tier of frames having:
(1) spacing link means connected to and between adjacent frames,
(2) means for attaching one end of said tier to said reciprocating means,
(e) removable screen dividers interspersed between said adjacent frames, and
(f) a toggle lever attached to a rod means for clamping and alternately positively extending said tier of frames which means spans said tier and is attached to and between the two end frames of said tier.

3,367,499
SHAKING-FUNNEL DEVICE FOR THE GRAVITY CONCENTRATION OF SOLID PARTICLES
Aldo Motosi, 59 Via dei Mille, Spezia, Italy
Filed Jan. 12, 1965, Ser. No. 424,976
Claims priority, application Italy, Jan. 21, 1964, 1,554/64
2 Claims. (Cl. 209—445)



Mechanical shaking apparatus for the separation by gravity of particles having different densities comprising a container and drive means to impart thereto a compound, nonuniform circular and vibratory motion, and including a plurality of idler gears.

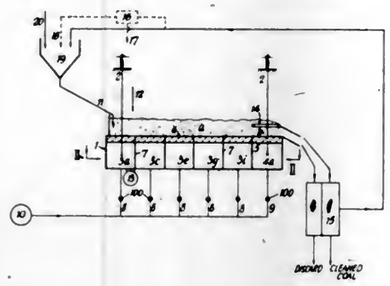
3,367,500
ORE SEPARATING APPARATUS
Jacobus M. Donkers, Amsterdam, Netherlands, assignor to Verschure & Co's Scheepswerf en Machinefabriek N.V., Amsterdam, Netherlands, a Dutch limited-liability company
Filed July 23, 1965, Ser. No. 474,391
Claims priority, application Netherlands, Aug. 4, 1964, 64—8,902
3 Claims. (Cl. 209—456)



A series of ore separating tanks connected in series to receive at one end a mixture of ore, sand and water and to discharge at the other end a mixture of sand and water with the ore removed. Each tank defines an elevated gravel bed and a superimposed impervious wall, the latter being flexibly connected to the tank for limited vertical movement to maintain a substantially constant and uniform depth of mixture on the gravel bed and water in each tank is caused to pulsate through the gravel bed as the mixture passes thereover.

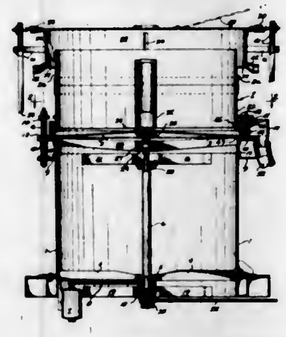
3,367,501
DRY-CLEANING OF LARGE OR SMALL COAL OR OTHER PARTICULATE MATERIALS CONTAINING COMPONENTS OF DIFFERENT SPECIFIC GRAVITIES
Geoffrey Frank Eveson, Ecclesall, England, assignor to Head, Wrightson & Company Limited, Thornaby-on-Tees, England, a corporation of Great Britain
Filed Apr. 14, 1965, Ser. No. 448,185
12 Claims. (Cl. 209—467)

Apparatus for cleaning coal or other particulate material by use of a fluidised bed or particles maintained at an effective density to cause the lighter fraction of the particulate material to float on the bed and the heavier fraction to sink through the bed, the apparatus comprising an elongated vibratory trough with a cleaning zone and a discharge zone, the fluidity of the bed in the



discharge zone being controllable separately from the cleaning zone to control the rate of discharge of the heavier fraction from the bed.

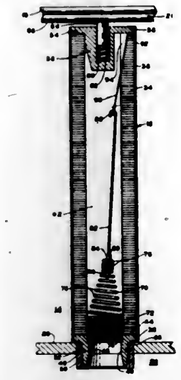
3,367,502
MATERIAL-SUSPENDING AIR CURRENT DIFFERENTIAL DENSITY SEGREGATING APPARATUS
Samuel V. Cravens, 3224 NE. 42nd Ave., Portland, Oreg. 97213
Continuation-in-part of application Ser. No. 300,784, Aug. 8, 1963. This application Apr. 17, 1967, Ser. No. 631,373
14 Claims. (Cl. 209—467)



Each one of a series of segregators includes an upper chamber for receiving fine material separated from a lower air chamber by an air-permeable partition. A variable speed propeller in the lower chamber propels air into the upper chamber while the upper portion of the casing is vibrated by an unbalanced shaft rotating about an upright axis. Material supplied to the lower portion of the upper compartment is separated into light material discharged from the upper portion of the compartment and heavier material discharged periodically as concentrates through valves in the lower portion of the upper compartment. A rotatable contact cylinder controls the timed opening of the lower valves of the unit.

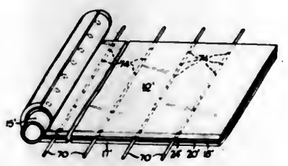
3,367,503
FUSE FILTER WITH WATER SENSITIVE VALVE CLOSURE TRIGGER
George J. Topol, Hamilton, Ontario, Canada, assignor to Bowser, Inc., Cookeville, Tenn., a corporation of Indiana
Filed July 12, 1965, Ser. No. 471,008
4 Claims. (Cl. 210—96)

A fuse filter having a resilient spring valve held in a normally open, extended position within said filter by a combination of loading structure and a water sensitive paper trigger. The paper trigger is weakened by water contamination to a yield point exceeded by the loading of the spring valve and at such point the trigger breaks



and closes the spring valve to prevent further flow through the filter. A bellows sensitive to pressure differentials across the filter can also be utilized to effect closing of the spring valve by physically causing the paper trigger to break when an excessive pressure differential occurs.

3,367,504
SPIRALLY WRAPPED REVERSE OSMOSIS MEMBRANE CELL
Julius C. Westmoreland, La Jolla, Calif., assignor, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware
Filed Dec. 21, 1964, Ser. No. 419,881
1 Claim. (Cl. 210—321)

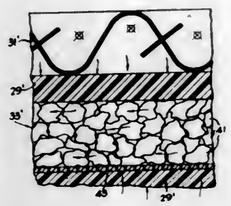


A reverse osmosis separation apparatus employing an envelope of semipermeable membrane sheets spaced apart by a layer of porous backing material and spirally wound with a continuous length of separator grid material about a hollow mandrel. An aqueous feed solution is introduced through the separator grid material, permeated water passes through the membranes and into the backing material by reverse osmosis, and the backing material discharges the permeated water into the hollow mandrel. Porous walled tubes are provided in the membrane envelope and serve as further discharge passageways for the permeated water.

3,367,505
SEMIPERMEABLE MEMBRANE BACKING AND SUPPORT MEDIUM
Donald T. Bray, San Diego, Calif., assignor, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware
Filed May 25, 1965, Ser. No. 458,719
6 Claims. (Cl. 210—321)

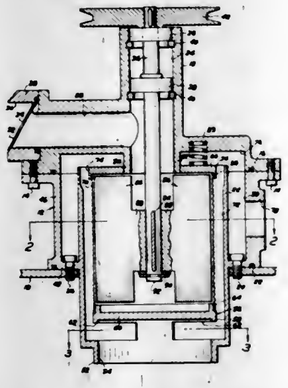
Separation apparatus for separating a first fluid component, e.g., pure water, from a fluid mixture, e.g., sea

water, employing semipermeable membranes and a backing material therefor which is constructed to support the membranes to prevent excessive irregular physical deformation thereto while at the same time resisting compaction to provide an adequate fluid flow passageway in the



plane thereof. One such backing material includes interconnected particles of a predetermined size range retained in sheet-like form by attachment to a porous fibrous substrate. Another such backing material is a felt of glass fibers of predetermined diameter, length and porosity.

3,367,506
SELF-CLEANING FILTER DEVICE
Oscar E. Rossen, Grosse Pointe Shores, Mich., assignor, by mesne assignments, to The Rossen Filter Company, Hazel Park, Mich., a corporation of Michigan
Filed June 21, 1965, Ser. No. 465,347
5 Claims. (Cl. 210—408)

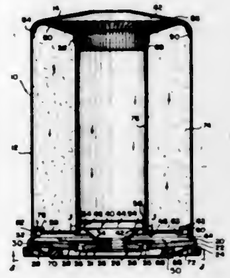


A filter device having a cylindrical housing, a cylindrical element carried within the housing, an inner housing structure acting as a baffle for the filter element and for fluid flowing into the housing to be filtered, a vane assembly for forcing fluid through the filter element in a direction opposite the normal flow therethrough to thereby clean the element and valves for directing fluid along the exterior surface of the filter element and intermediate the element and the baffle to carry away the foreign particles removed from the element during cleaning.

The present invention relates to fluid filtering apparatus and more particularly to an improved self cleaning filter device.

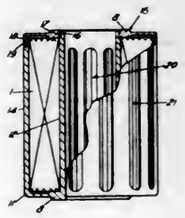
3,367,507
FILTER UNIT
William H. Hultgren, Mount Carmel, Ill., assignor to Champion Laboratories, Inc., West Salem, Ill., a corporation of Connecticut
Filed Apr. 8, 1965, Ser. No. 446,645
1 Claim. (Cl. 210—434)

1. A spin-on oil filter unit comprising a cylindrical casing open at one end, a circular bottom plate closing off said open end having an inturned threaded nipple extending into said casing, said nipple providing both an oil outlet and means for securing said filter unit onto an engine block, oil inlet port means located in said plate and surrounding said nipple, a sleeve mounted over said nipple with an upper outwardly flared section and a substantially horizontal rim around said section, an annular filter support member with a central opening having a portion seated on said rim and having an outer circumferential portion contiguous to the inner surface of said casing and extending downwardly onto said plate, an oil inlet chamber formed between said filter support member and said plate, a cylindrical non-perforated center tube having one end seated on said rim and its other end extending upwardly in said casing to a point in spaced



relationship with the closed end of said casing, a mass of filter material filling the space in said casing between the outer surface of said center tube and the inner surface of said casing and adjacent said annular member and extending upwardly in said casing to a point in spaced relationship with said closed end of said casing to form a longitudinally extending depth type filter element, a perforated end cap secured against the upper surface of the filter material and spaced from the closed end of the casing, said annular member having circumferentially spaced oil inlet ports adjacent the inner surface of said casing to provide longitudinal flow through said filter material, said flared section having at least one unobstructed opening therein in direct communication with said nipple and said oil inlet chamber to continuously by-pass oil around said filter material.

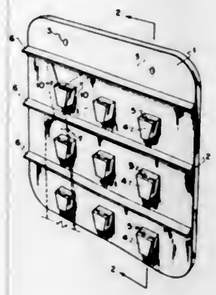
3,367,508
LIQUID FILTER UNITS
Kenneth Ernest Buckman, Winsor, near Woodlands, and Ronald Arthur Cross, Maybush, England, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 12, 1965, Ser. No. 471,036
3 Claims. (Cl. 210—457)



A liquid filter for installation in a casing, the filter including two plastic end plates joined to coaxial inner

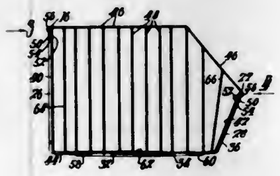
and outer perforated walls by means of plural interengaged annular bead and groove formations to enclose an annular porous filter element.

3,367,509
TIE RACK
Billy G. Cabe, 2105 Rosewood Road, Decatur, Ga. 30032
Filed May 16, 1966, Ser. No. 550,216
3 Claims. (Cl. 211—87)



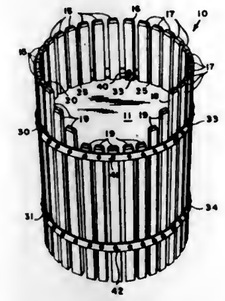
A tie rack as disclosed herein comprises a generally rectangular flat base plate arranged for vertical mounting and having formed or mounted in rows thereon a plurality of support pedestals each of which is provided with a horizontal support edge over which a hooklike clip of a tie is disposed so as to take the weight of the tie. A holding and positioning ledge is mounted above each row of support pedestals and is constructed and arranged in a downwardly protruding fashion so as to overlie the positioning prongs of the ties disposed immediately below the ledge. Thus each tie is secured against vertical movement but is readily removable in a sidewise direction following inward movement of the tie toward the base plate.

3,367,510
DIVIDER CONSTRUCTION FOR WIRE SHELVING
George Krikorian, Worcester, Mass. (% Spencer Products Inc., 64 Main St., Spencer, Mass. 01562)
Filed Oct. 5, 1965, Ser. No. 493,125
3 Claims. (Cl. 211—126)



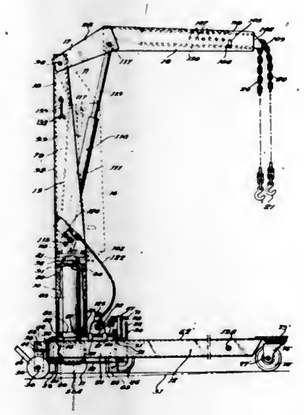
A wire shelf having detachable wire dividers, the shelf including upright rear and front portions with a connecting flat bottom portion, said divider comprising a double wire top member including double hooks at each end which are slightly spaced and hook over the front and rear portions of the shelf at the tops thereof, straddling single cross wire members of which the shelf is made; together with bottom projections which also straddle cross wire members at the bottom of the shelf.

3,367,511
DISPLAY CONTAINER
Harry A. Gray, 6661 Markley Way, Apt. 2, Sacramento, Calif., and Dennis R. McCarthy, 230 Lockwood Lane, Santa Cruz, Calif. 95060
Filed Dec. 15, 1965, Ser. No. 514,007
11 Claims. (Cl. 211—133)



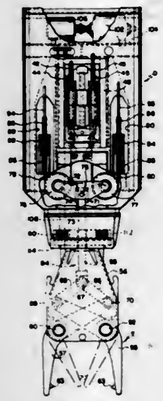
A display container in which an article supporting platform has a cylindrical shape and is supported by grooved, upright slats disposed along the cylindrical edge thereof. A flexible band is secured to the slats transversely thereof for holding the slats of the unit from a planar configuration to a cylindrical configuration.

3,367,512
FLOOR CRANE
Reuben A. Kaplan, Owatonna, Minn., assignor to Owatonna Tool Company, a corporation of Minnesota
Filed Jan. 10, 1966, Ser. No. 519,708
6 Claims. (Cl. 212—8)



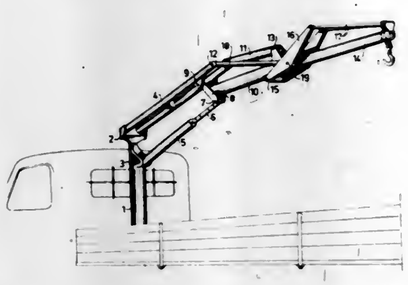
The invention relates to the field of portable lifting devices or hoists for use in garages or other service areas of limited size wherein heavy inconvenient loads must be lifted without the benefit of an overhead crane. The crane has one set of rollers which are used when the boom and support legs are collapsed and which rollers become inoperative when the support legs are extended and other rollers carried thereon engage the supporting surface. The support legs are laterally adjustable for optimum stability under different types and kinds of loads. A manually operable pump means is stored on the crane but can be moved to remote areas for use when the crane is being used to raise dangerous or awkward loads.

3,367,513
SOAKING PIT CRANE
Ross B. McCready and Donald W. Schaper, Alliance, Ohio, assignors to Kerma Corporation, Alliance, Ohio, a corporation of Ohio
Filed July 25, 1966, Ser. No. 567,762
6 Claims. (Cl. 212—11)



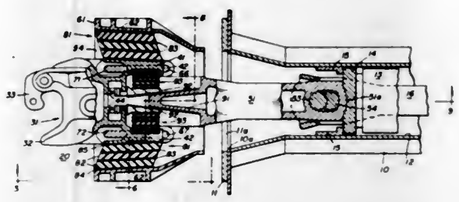
A crane having load-engaging tongs supported by a column on a movable support. A cable drum and a first sheave means in the column to move the column vertically. A second sheave means movable vertically in the column by a second cable drum. A member that opens and closes the tongs connected to the first and second sheave means.

3,367,514
LOADING APPARATUS FOR VEHICLES
Karl Georg Erlund Marklund, Torsgatan 19 I, and Dick Lennart Rehnstrom, Varvsgatan 2, both of Skelleftea, Sweden
Filed July 28, 1966, Ser. No. 568,644
Claims priority, application Sweden, Aug. 6, 1965, 10,333/65; Apr. 4, 1966, 4,496/66
5 Claims. (Cl. 212—35)



The present invention relates to loading apparatus, and more particularly to a pressure fluid operated truck crane having a jib or boom pivotally mounted on the top end of a post to be swingable in a vertical plane by being actuated by a pressure fluid cylinder device having one end thereof pivotally connected to said post, its opposite end being pivotally connected to a link disposed adjacent to the end of said jib or boom remote from the post, said link cooperating with a telescopically extensible rocker arm movable in a vertical plane by means of a second pressure fluid cylinder device.

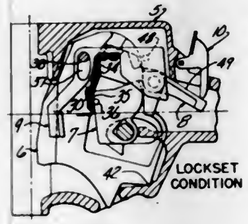
3,367,515
CUSHION COUPLERS FOR RAILWAY CARS
Deodat Clejan and Thomas C. Gray, Chicago, Ill., assignors to Cushion Coupler Corporation, Chicago, Ill., a corporation of Delaware
Filed Apr. 7, 1966, Ser. No. 540,897
8 Claims. (Cl. 213—22)



1. A railway car coupler comprising a coupling head adapted to receive the usual draft and buff forces, a primary shank formed integrally with said coupling head and projecting rearwardly from the rear end thereof, a bell having an open front end and arranged in surrounding relation with said primary shank, a secondary shank formed integrally with said bell and projecting rearwardly from the rear end thereof, said coupling head and said primary shank and said bell and said secondary shank being arranged in substantial longitudinal alignment with each other, means mounting said primary shank for guided longitudinal sliding movements within said bell, lost-motion mechanism interconnecting said primary shank and said bell and limiting the longitudinal sliding movements of said primary shank within said bell and establishing both a front limit position and a rear limit position for said primary shank with respect to said bell, said coupling head being positioned immediately adjacent to and forwardly of the open front end of said bell when said primary shank occupies its front limit position, the rear portion of said coupling head being positioned well within the adjacent open front end of said bell when said primary shank occupies its rear limit position, cushion mechanism housed within the front portion of said bell and disposed on opposite sides of said primary shank and interconnecting said primary shank and said bell and biasing said primary shank into its front limit position and resiliently opposing rearward longitudinal movement of said primary shank out of its front limit position and toward its rear limit position, whereby a draft force applied to said coupling head is transmitted therefrom via said primary shank and said bell to said secondary shank by said lost-motion mechanism and independently of said cushion mechanism, whereby a buff force applied to said coupling head is transmitted therefrom via said primary shank and said bell to said secondary shank by said cushion mechanism and independently of said lost-motion mechanism, and a connector carried by the rear end of said secondary shank and adapted to be connected to cooperating conventional draft gear.

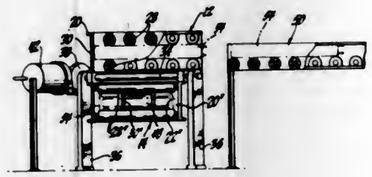
3,367,516
CAR COUPLER WITH REVERSIBLE LOCK-SET
Kenneth L. De Penti, Mayfield Heights, Ohio, assignor to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 30, 1966, Ser. No. 538,749
6 Claims. (Cl. 213—100)

1. In a fixed-jaw coupler which comprises a head having a cavity, a lock supported in said cavity for movement between a forward coupling position and a rearward position for releasing a coupler coupled with said coupler, a lock-set piece in pivotal connection with the head and in lateral juxtaposition with the lock, said piece being movable from a forward coupler-uncoupled position to a rearward position when engaged by an opposing coupler, and a lock thrower rotatable with respect to an axis in fixed transverse relation with the head through an angular ambit to carry the lock to said rearward position, said thrower including lifting means and said piece having a downwardly-facing surface engageable by said means for lifting said piece during movement of the thrower rearwardly and upwardly through a forward portion of said ambit, said piece having a downward-opening vertically-extending recess located immediately rearward of said downward-facing surface for receiving said lifting means, the forward side of said recess being formed by a rearward-facing surface retaining said lifting means when said piece is in its rearward position, wherein;



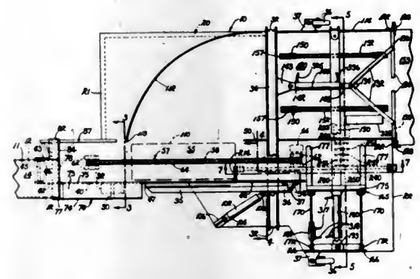
said piece comprises yieldable means resistant to free return movements of the thrower at said rearward position of the piece and defining a substantial portion of the piece and defining a substantial portion of said surface of the recess, said yieldable means being yieldable relative to the remainder of said piece to an extent enabling forced return movement of said thrower to its forwardmost position.

3,367,517
MATERIAL HANDLING DEVICE
Fred Dallape and Kenneth McKibben, Defiance, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 25, 1966, Ser. No. 552,868
5 Claims. (Cl. 214—1)



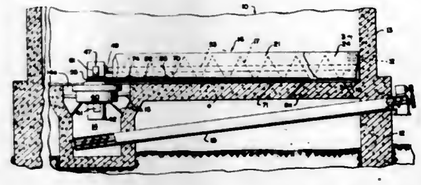
1. A material handling device comprising in combination:
- a first receptacle having an opening,
- a second receptacle mounted beneath said first receptacle and having an opening substantially perpendicular to the opening of said first receptacle,
- a support, and
- means to rotatably mount said first and second receptacles on said support for simultaneous rotation about an axis bisecting the plane angle formed by said openings whereby said device is adapted to receive an article, turn it over and reorient it 90°.

3,367,518
BALE STACKING TRAILER FOR BALERS
William R. Bishop, P.O. Box 67, Willow Ranch, Calif. 96138
Filed Mar. 17, 1965, Ser. No. 440,422
10 Claims. (Cl. 214—6)



1. A bale stacking trailer comprising an elongated frame adapted to be drawn behind a baler having an elongated bale discharge chute extended therefrom, bale conveying means on the frame providing a rectilinear path of bale movement longitudinally of the frame, a bale stack forming station on the frame laterally spaced from said path, bale shifting means laterally rearwardly movable through said path alternately to motivate a predetermined number of bales from the path directly into said stack forming station whereby the bales are horizontally rotated substantially 90°, bale lifter means disposed on the frame in position to receive subsequent bales in said path and to elevate and deposit such subsequent bales therein on bales previously placed in the forming station by said bale shifting means in superimposed right angular overlapping relation to form a substantially square stack, and bale ejecting means on the frame within said forming station unitarily to discharge the stack of bales from the trailer.

3,367,519
PLANETARY CABLE DRIVE FOR BOTTOM SILO UNLOADER SWEEP ARM
Robert G. Ferris, Harvard, Ill., and Jonathan J. Laidig, Mishawaka, Ind., assignors to Starline, Inc., a corporation of Illinois
Filed Mar. 21, 1966, Ser. No. 536,093
31 Claims. (Cl. 214—17)



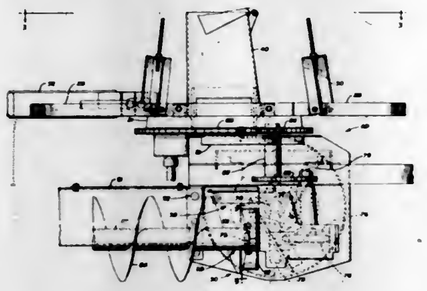
A silo unloader wherein an endless flexible drive transmitting member is wrapped around a circular track within a silo and over a planet member rotatably mounted on an arm having an auger conveyor thereon for moving silage radially inwardly of the silo toward an axial opening in the center of the silo floor, with a driven sun member being rotatably mounted on said arm and cooperating with said track, planet member and drive transmitting member to define planetary drive means for rotating said arm.

This application relates in general to unloading apparatus for silos, and in particular it relates to apparatus for removing material from the bottom of a mass of material stored in a silo.

3,367,520
SILO UNLOADER HAVING FRANGIBLE DRIVE COUPLING

Shaun A. Seymour, Ephrata, and William W. Mann, Talmage, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware

Filed Aug. 24, 1966, Ser. No. 574,591
3 Claims. (Cl. 214—17)



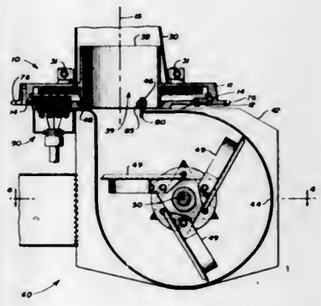
1. In a silo unloader, the combination comprising an articulate structure having first and second parts, said first part comprising first journal means defining an axis of rotation, means operatively connected to said first journal means for substantially centering the journal means in a silo with said axis of rotation extending generally vertically, means interconnecting said first journal means and the wall of said silo to positively prevent rotation of said first journal means about said axis, a spout on said first journal means extending radially outwardly therefrom, said second part comprising second journal means carried by said first journal means for rotation relative thereto about said axis, an impeller chamber fixed to said second journal means and having a discharge opening communicating with said spout, a rotary impeller in said chamber and having a central shaft, said impeller chamber having a material inlet opening in one side thereof, a motor connected in driving relation to said impeller shaft, a gearbox disposed along said one side of said chamber adjacent said material inlet opening, said gearbox having an input shaft connected in driven relation to said impeller shaft, said gearbox having a horizontal output shaft having a terminal and adjacent said material inlet opening, a paddle unit fixed on said terminal end of said output shaft and disposed to propel material from a predetermined area adjacent said inlet opening through said inlet opening into said impeller chamber upon rotation of said output shaft, a generally horizontal auger extending coaxial with said output shaft to gather and deliver material into said predetermined area, and replaceable frangible means drivingly coupling said auger to said terminal end of said output shaft and adapted to break in response to overload conditions thereby disconnecting the drive to said auger, said frangible means being disposed in said predetermined area whereby upon continued operation of said output shaft, following breakage of said frangible means, said paddle unit clears material from said area to facilitate replacement of said frangible means.

3,367,521
SELF-CLEANING SILO UNLOADER IMPELLER

Shaun A. Seymour, Ephrata, Pa., and William E. James, Dijon, France, assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware

Filed Aug. 24, 1966, Ser. No. 574,593
5 Claims. (Cl. 214—17)

1. In a silo unloader, the combination comprising journal means having first and second annular parts interconnected for rotation relative to each other about a central axis, means for substantially centering said journal means in a silo with said axis of rotation extending generally vertically, an annular wall extending through both said journal parts and defining a passage therethrough coaxial with said axis of rotation, said annular wall being fixed to one of said journal parts for rotation therewith relative to said other journal part, an impeller chamber fixedly mounted on said other of said journal parts and having a discharge opening coaxial with said axis of rotation and communicating with said passage, means operatively associated with said impeller chamber

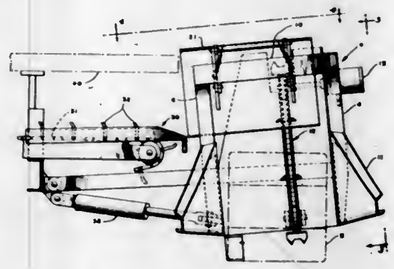


to gather and deliver silage into said chamber, impeller means in said chamber to propel silage delivered thereto through said discharge opening and said passage, drive means operatively associated with said journal means to effect relative rotation of said journal parts about said axis of rotation, and a scraper member fixedly mounted on said impeller chamber at said discharge opening and extending into said passage, said scraper member having an end engaging said annular wall and movable along the surface thereof upon rotation of said other journal part relative to said one journal part thereby preventing the buildup of material on said annular wall adjacent the discharge opening of said chamber.

3,367,522
BALE WAGON RECEIVER

Gordon E. Grey, Kingsburg, and William W. Wilson, Selma, Calif., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware

Filed Apr. 13, 1965, Ser. No. 447,719
4 Claims. (Cl. 214—83.14)

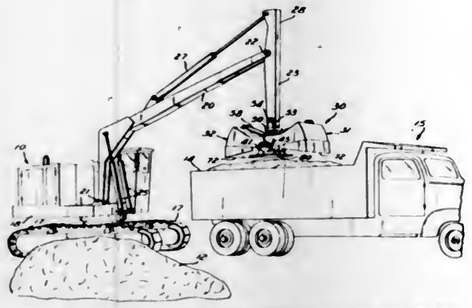


A bale wagon having a bale loader with an offset chain conveyor and a yieldable guide shoe for holding bales in contact with the conveyor.

3,367,523
COMPACTION BUCKET

Raymond H. Bowman, Cuyahoga Falls, Ohio, assignor to McDowell-Wellman Engineering Company, Cleveland, Ohio, a corporation of Ohio

Filed May 19, 1966, Ser. No. 551,464
8 Claims. (Cl. 214—147)

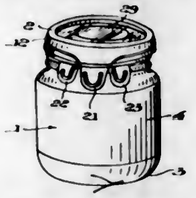


Positive force applying material compacting means in the form of a plate is associated with the clam shell bucket of material handling mechanism to compact material dumped into a vehicle such as a truck or railroad car.

3,367,524
CONTAINER OPENING DEVICE

John A. Lake, Murrysville, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 2, 1966, Ser. No. 547,050
2 Claims. (Cl. 215—40)



A sealed container assembly having a closure with three pull tabs disposed in close proximity to each other depending from the closure skirt. Either of the two outer tabs may be engaged and employed to fracture the closure skirt along a circumferentially weakened line made to permit removal of the remaining portion of the closure by means of the third pull tab.

3,367,525
NON-CAPSIZABLE CONTAINER

Clarence L. Elder, Baltimore, Md., assignor to Elder Products Company, Baltimore, Md., a corporation of Maryland

Filed Sept. 16, 1965, Ser. No. 487,837
6 Claims. (Cl. 220—1)

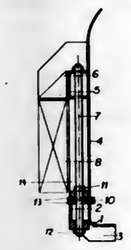


A non-capsizable floating container or tray having a buoyant frame of semi-rigid material in the form of a closed geometrical figure, an article supporting member conforming at least in part to the shape of the frame and fitting therewithin and removably interlocked therewith, the article supporting member being optionally formed as an ashtray, food tray, soapdish, or the like and may in addition be provided with a removable cover.

3,367,526
TRANSFORMER TANK CONSTRUCTION

August Schmied, Weiz, Styria, Wilhelm Jan, Graz, Styria, and Alfred Lehmann, Weiz, Styria, Austria, assignors to Elin-Union Aktiengesellschaft fur Elektrische Industrie, Vienna, Austria

Filed Nov. 5, 1964, Ser. No. 409,234
Claims priority, application Austria, Nov. 18, 1963, A 9,201/63
8 Claims. (Cl. 220—5)



1. A tank for large-size transformers adapted to be transported by way of bridge-girder trucks, the tank comprising, in combination: lower and upper, separate tank portions, the former for supporting the operative elements of the transformer, the latter being bell-shaped and serving to cover said operative elements; lower and upper, substantially rigid flange means on adjoining respective peripheral parts of said tank portions, for interconnecting the latter; packing means interposed between said lower and said upper flange means, for preventing leakage of the oil within the transformer; lower and upper stiffening frames rigid with and surrounding the respective lower and upper tank portions; bracket bearings attached to the sides of said upper frame, adapted to be engaged by bridge girders of a transporting truck; and tie rods passing through and interconnecting said lower and said upper frames, and also traversing said lower and said upper flange means, said tie rods serving for directly transmitting to said bracket bearings the vertical forces acting on said operative elements and on bottom of said lower tank portion during transportation of the transformer.

ERRATUM

For Class 220—9 see:
Patent No. 3,367,492

3,367,527
INSULATING STRUCTURE

Harold T. Darlington, 1175 York Ave., New York, N.Y. 10021

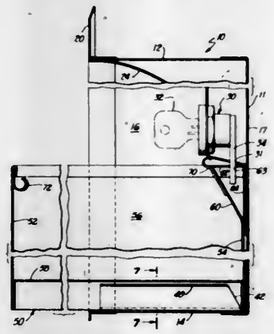
Continuation-in-part of application Ser. No. 535,846, Mar. 21, 1966. This application May 1, 1967, Ser. No. 634,956
15 Claims. (Cl. 220—9)



An internally insulated receptacle for the confinement of cryogenic fluids is described, wherein insulating blocks are bound on one end to the metallic shell. When a

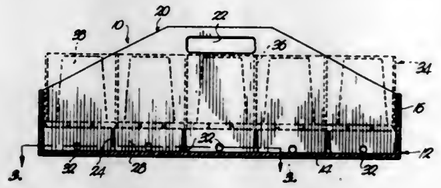
cryogenic fluid is placed in the receptacle, the four sides of each of the insulating blocks become inwardly tapered in the direction of the cryogenic fluid, and the fluid that flows into the recesses between the blocks vaporizes. To prevent this fluid from flowing into the recesses, an inner liner can be placed inside of the space formed by the mounted blocks.

3,367,528
WASTE RECEPTACLE HAVING A SEMI-RECESSED CONTAINER
Arnold A. Cowan, Tarzana, and Harry T. Linde, Los Angeles, Calif., assignors to The Bobrick Corporation, Los Angeles, Calif., a corporation of Delaware
Filed Aug. 12, 1965, Ser. No. 479,252
7 Claims. (Cl. 220—18)



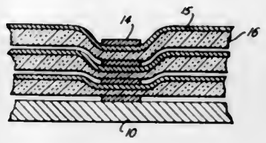
A housing is recessed in a wall opening, said housing having a shield member extending downwardly from a top portion thereof and defining the upper extremities of a forward housing opening. An upwardly open waste receptacle is received in the housing opening with at least a part of said upward opening being permanently openly exposed at all times forwardly of said housing shield. Cooperable engagement means including a lock is provided between upper and lower portions of the receptable for removably retaining the receptacle in the housing.

3,367,529
BUS BOX
John Mershon Welch, 212 Bourn Ave., and William Le Roy Watkins, 100 E. Ridgeley Road, both of Columbia, Mo. 65201
Filed Nov. 29, 1965, Ser. No. 510,197
4 Claims. (Cl. 220—21)



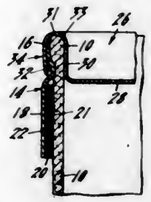
A bus box for transferring restaurant articles while in conventional dishwashing racks to and from a dishwashing installation. The box includes a closed tray having a series of spaced, intersecting ribs in the tray for supporting the rack and defining separate compartments beneath each of the article receiving positions of the rack. Fluid passageways communicate adjacent compartments for leveling liquid in the tray.

3,367,530
THERMAL INSULATING STRUCTURE
Eugene S. Kordyban, Buffalo, Ladislas C. Matsch, Kenmore, and Osce P. Roberts, Jr., Grand Island, N.Y., assignors to Union Carbide Corporation, a corporation of New York
Continuation-in-part of application Ser. No. 118,742, June 21, 1961. This application Aug. 29, 1963, Ser. No. 306,408
10 Claims. (Cl. 220—9)



1. A thermal insulating structure comprising gas-tight walls enclosing an evacuable space; multiple layers of heat insulative and radiation-impervious composite flexible insulating material within said space comprising a low heat conductive material component and a radiant heat barrier material component assembled sufficiently closely to provide at least 4 layers per inch of composite insulation, and disposed generally perpendicular to the direction of heat transfer across the insulation space; a multiplicity of substantially incompressible tension band means each having a width greater than its thickness and disposed in contiguous adjacency with and between at least some of said composite flexible insulating material layers and aligned in stacks across said insulation space with individual stacks spaced from each other and under sufficient tightness against the insulating material to concentrate the total frictional force between the composite layers in a minor part of the total insulated area beneath such tension band means whereby said minor part is compressed above its stable density and the remaining major part of such area is relatively uncompressed and below its stable density.

3,367,531
SEAM RELEASE CONTAINER
Warren Lincoln Ellis, Naperville, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 22, 1966, Ser. No. 536,354
10 Claims. (Cl. 220—53)



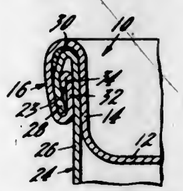
1. A container, comprising:
a tubular body;
a closure secured to one end of said body by means of an end seam;
a separate strip of resilient material surrounding the outside of said body, said strip partially within said end seam and said strip outside said end seam adhesively secured to said body;
an edge of said strip and a portion adjacent thereto, partially within said end seam, and said body underlying said strip portion being free of adherence to each other;
a foamed elastomeric band adjacent said end seam between said strip and said body and adhesively secured to both said strip and said body with a nonpeelable adhesive lying both between said band and said strip and said band and said body;
and said adhesive forming bonds having shear strength greater than the tear strength of said foam band so that when said strip outside said end seam is grasped and manually pulled away from said body, said foam band fractures longitudinally as said edge and strip portion are withdrawn from said end seam and entirely separated from said container to loosen the securement of said closure to said body for easy separation of the end.

3,367,532
RECEPTACLE EQUIPPED WITH A DEVICE PREVENTING ITS LID FROM FALLING OFF INADVERTENTLY
Masayuki Kuwahara, 1074 Bodai-cho, Takabatake, Nara, Japan
Filed Jan. 27, 1966, Ser. No. 523,374
Claims priority, application Japan, Dec. 23, 1965, 40/79,730
1 Claim. (Cl. 220—55.1)



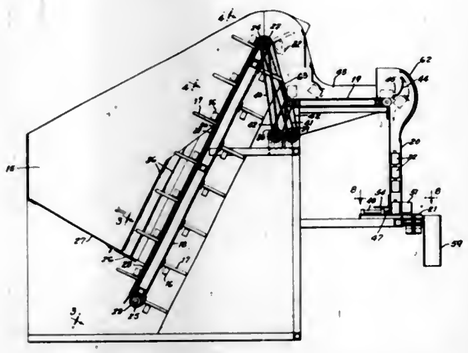
A receptacle having a pouring spout thereon and adapted to be tilted to pour the contents of the receptacle through the pouring spout, said receptacle having an opening in the top thereof with a skirt around the opening depending downwardly into the receptacle, said skirt having undulations along the length thereof, and a removable lid covering the opening and having a depending flange having undulations along the length thereof with the same contour as the undulations in the depending skirt and in sliding engagement with the depending skirt, whereby when the receptacle is tilted the cover is retained in position in the opening.

3,367,533
CONTAINER SEAM AND METHOD OF MAKING SAME
Harry Baker, Ancaster, Ontario, Canada, assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 11, 1964, Ser. No. 417,563
4 Claims. (Cl. 220—67)



A container having a can body and end closure of lightweight sheet metal has an end seam wherein the end portion of the end closure flange is provided with a closed hem disposed between the body flange and the adjacent portion of the body to provide a seam which can be formed without wrinkles, folds, corrugations, or other deformities.

3,367,534
PLASTIC BOTTLE FEEDER HAVING ORIENTING MEANS
Terry L. Carter III, Box 75, Glen Road, Sparta, N.J. 07871
Filed July 26, 1965, Ser. No. 474,897
7 Claims. (Cl. 221—68)



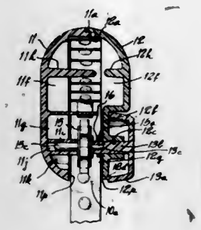
1. A machine for feeding empty plastic bottles of the type having closed butt ends and projecting necks or openings at the opposite ends, comprising
a hopper for holding a loose bulk of the bottles,
a bucket conveyor having single article holding pockets operating up through said hopper,
a transfer conveyor positioned to receive bottles from the upper end of said bucket conveyor,
a stacking magazine having its upper end positioned to take bottles advanced by said transfer conveyor,
bottle orienting means over said transfer conveyor and stacking magazine for passing bottles feeding butt end first and for engaging the neck portions of reversely feeding bottles for reversing the latter bottles end for end,
a delivery conveyor travelling past the lower end of said stacking magazine and
a pusher for separating the lowermost bottle and for discharging the same the right end up assured by said bottle orienting means, from the bottom of the stack on to said delivery conveyor and means trimmed in accord with said pusher for momentarily supporting bottles in the striking magazine above the lowermost bottle when the lowermost bottle is advanced by said pusher to said delivery conveyor.

3,367,535
PILL DISPENSER
William Gilman Tanguay, Mount Airy Road, Rte. 129, Croton, N.Y.
Filed Nov. 16, 1966, Ser. No. 594,845
9 Claims. (Cl. 221—71)

1. A dispenser suitable for palming in the hand and manipulating to emit a series of pills on a continuous web, comprising:
(a) a shell formed in two halves, having mating edges adapted to be snapped together and apart, a dispensing aperture for egress of said continuous web with said pills, and mutually defining first and second internal chamber portions;
(b) a post extending across said first chamber portion to form a coil of said continuous web therein;

(c) a sprocket wheel carried between said shell halves within said second chamber portion, having an axis of rotation essentially parallel to the axis of said post, the teeth thereof being long enough to closely approach the walls of said chamber, and the pockets between said teeth being of sufficient size to each accommodate one of said pills;

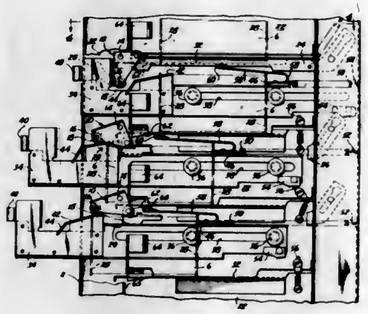
(d) and control means for advancing said continuous web and pills off said coil and out said dispensing aperture under an impetus of predetermined magnitude but to prevent such advance under lesser impetus, including



(i) a manually manipulatable knob located externally on one of said shell halves and secured for rotation with said sprocket wheel, and

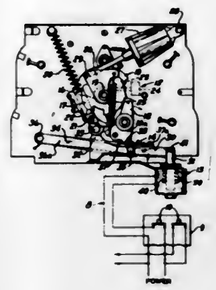
(ii) spring means situated at a position along the path of said continuous web from said coil to said sprocket wheel, adapted to closely bear upon said pills so that a certain tension force is required each time in said continuous web to load said spring means sufficient to squeeze a pill therepast.

3,367,536
SLANT SHELF CAN VENDER
Paul F. Fleagle, Charles Town, W. Va., assignor to Dixie-Narco, Inc., Charles Town, W. Va., a corporation of West Virginia
Filed Jan. 27, 1967, Ser. No. 612,192
7 Claims. (Cl. 221—248)



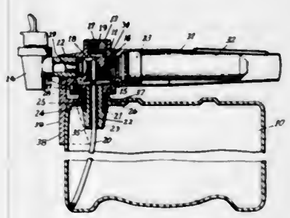
A manually movable slide, in a can vending machine, for pushing a can of beverage through a discharge opening having a normally locked gate blocking withdrawal of a can. The slide being blocked by the gate, when locked, and acting to open an unlocked gate when moved forwardly, and frictional restraining means engageable with a can being pushed to prevent hurling the can from the machine when the slide is pulled too rapidly.

3,367,537
ELECTRICALLY CONTROLLED DISPENSER
Emmett W. Robinson and James H. McGaughey, Erie, Pa., assignors to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed July 22, 1965, Ser. No. 473,995
2 Claims. (Cl. 222—33)



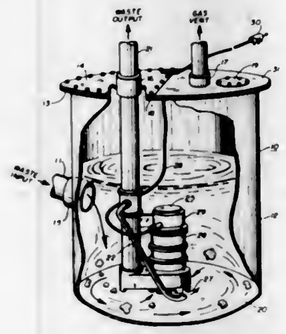
An automatic remote control for a gasoline pump includes a computer resetting mechanism which is spring loaded by turning of an external crank which also actuates the switch for the motor pump unit. The resetting mechanism includes a rotating reset cam which is spring loaded to drive the wheels to zero. It is held in the loaded condition by a pivotal latch interengaging a ratchet wheel which is held against rotation by a latch lever. A spring is connected to the latch lever and to a crank secured to rotate with the reset cam. An interfering double link or arm is mounted beneath the latch lever with one of the arms pivotally mounted in interfering relationship to the lever. The other arm is interconnected to a solenoid such that energization of the solenoid pivots the connected second arm and forces the first arm to pivot from the interfering engagement to release the latch lever which pivots as a result of the spring connected thereto. This permits the wheels to be reset and simultaneously releases the final control lever to permit turning on of the motor pump unit.

3,367,538
BEVERAGE TAP
Richard J. Hasselbeck, Houston, and Richard L. Parmelee, Sidney, Ohio, assignors to The Stolle Corporation, Sidney, Ohio, a corporation of Ohio
Filed Nov. 26, 1965, Ser. No. 509,962
7 Claims. (Cl. 222—61)



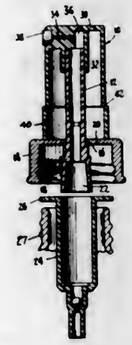
A beverage tap for engagement in a dispensing orifice of a container as for example an aluminum pony keg and the like having a plug member for insertion in sealing engagement in the dispensing opening of the container and aligned therewith a first dispensing opening and at right angles thereto on one side a second dispensing opening and on the other side a handle member within which a cartridge of compressed gas is enclosed. A spigot and a plug are provided, both of which may be threaded into either of the first or second dispensing openings so that the contents of the keg may be dispensed with the keg standing on end or wih the keg on a horizontal axis. A stabilizer element forms a part of the beverage tap to take some of the strain when the keg is lifted by the handle and to provide a flat surface to prevent rolling of the keg when it is disposed on a horizontal axis.

3,367,539
WASTE LIFT PUMP WITH INLET CLEARING BY-PASS CONDUIT
Franklin W. Dowdican, Rte. 1, Talalla, Okla. 74080
Filed Mar. 30, 1967, Ser. No. 627,031
5 Claims. (Cl. 222—148)



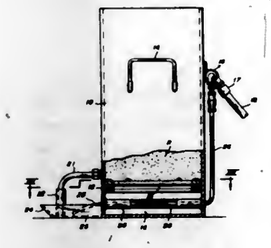
A container is connected to a source of waste. The waste is ejected from the container by an electric-driven pump mounted in the container.

3,367,540
DISPENSER WITH ONE-PIECE TAMPER-PROOF ACTUATOR
Herbert G. Lehmann, Easton, Conn. (% Valve Corporation of America, 1720 Fairfield Ave., Bridgeport, Conn. 06605)
Filed Feb. 24, 1966, Ser. No. 529,705
11 Claims. (Cl. 222—153)



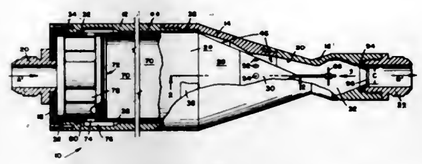
An actuator cap attachable to small hand-held dispensers, comprising a plastic, depressible actuator button having a discharge passage and orifice, said button having a frangible and removable portion which normally blocks its movement and which is intended to be torn or broken off by the consumer at the time of first use of the dispenser.

3,367,541
DUST DISTRIBUTOR
Walter E. Cook, Uniontown, and Charles Harper, Monongahela, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Apr. 6, 1966, Ser. No. 540,683
3 Claims. (Cl. 222—193)



An apparatus for distributing rock dust in a coal mine to overcome fire and explosion hazards. Includes a portable hopper, a porous diaphragm near the bottom of the hopper, and a plenum chamber below the diaphragm. Compressed air is forced into the plenum chamber, and fluidizes dust in the hopper. The dust discharges onto a shelf from which it is blown into the surrounding atmosphere.

3,367,542
DEVICE FOR DISPENSING A SLURRY-TYPE ADDITIVE INTO A LIQUID SOLVENT
William F. Madison, Arcadia, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 6, 1966, Ser. No. 541,459
3 Claims. (Cl. 222—193)



A device for dispensing and mixing metered concentrations of a slurry medium into a flowing stream of solvent comprising a pair of radially spaced concentric cylindrical shells, with one of their coadjacent ends designated the inlet ends and the other coadjacent ends designated the outlet ends. The outlet end of the inner shell forms a closed conical end portion, and the outlet end of the outer shell has a conforming frustoconical shape which is open to communicate with an outlet duct. The interior of the inner shell forms a chamber for containing the slurry medium. After a charge of slurry is placed in this chamber a floating piston is placed over the charge at the inlet end. Slurry ejection orifices are formed in the conical end portion of the outlet end of the inner shell. Pressurized solvent is admitted to the inlet end of the interior of the inner shell to act against the piston, and is also

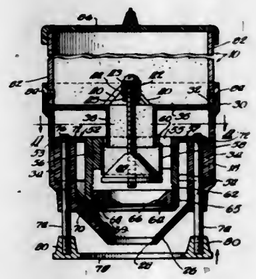
flowed through the annular passage between the inner and outer shells. The annular passage is constricted upstream of the location of the slurry ejection orifice to provide a lower static pressure where the orifices are located. The solvent acting against the piston pushes the slurry out through the ejection orifice into the solvent flowing in the annular passage.

3,367,543

DISPENSER FOR DISPENSING GRANULAR AND POWDERED MATERIAL AND THE LIKE

William Preston, Chicago, Ill., assignor to Louis Frankel, Chicago, Ill.

Filed Feb. 9, 1966, Ser. No. 526,254
10 Claims. (Cl. 222—285)



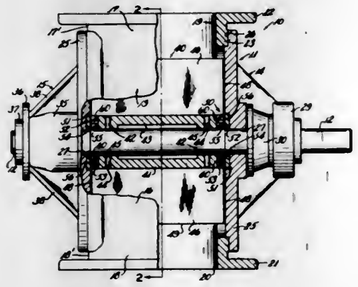
A dispensing device for dispensing granular or powdered material having a stationary valve member and a reciprocable housing which contains upper and lower valve seats engaging the valve member to dispense either measured or unmeasured amounts of material.

3,367,544

DISPENSING DEVICE HAVING SEALING MEANS

Frank Formando, Pottstown, Pa., assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed June 27, 1966, Ser. No. 560,774
3 Claims. (Cl. 222—368)



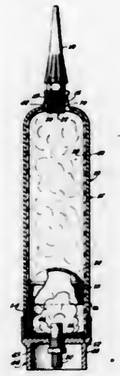
A dust seal for a rotating shaft extending through a housing and carrying a rotor therein with blades proximate the housing having an annular insert in said housing radially spaced from said rotating shaft and having a sealing ring in the rotor with a narrow lip projecting axially to engage the annular insert, thereby providing an efficient seal with minimal heat buildup.

3,367,545

GAS-GENERATING DISPENSER FOR VISCOUS MATERIALS

Ralph J. Cook, Torrance, Calif., assignor, by mesne assignments, to Products Research & Chemical Corporation, Burbank, Calif., a corporation of California

Filed Sept. 15, 1965, Ser. No. 487,394
2 Claims. (Cl. 222—389)



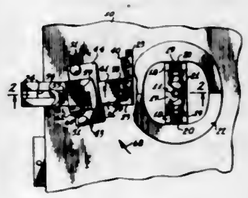
A device for dispensing a fluent material has a movable piston separating a dispensing chamber from a pressure chamber. With the pressure chamber closed, two ingredients therein are brought together to generate a gaseous fluid for expansion against the piston to extrude the fluent material from the dispensing chamber.

3,367,546

HAT BRIM TRIMMING MACHINE

William C. Garrett, 5223 N. 28th Drive, Phoenix, Ariz. 85017

Filed Nov. 22, 1965, Ser. No. 509,000
3 Claims. (Cl. 223—16)



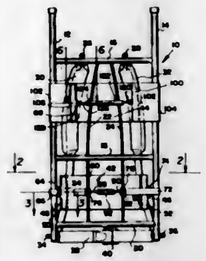
1. A hat brim trimming machine comprising in combination:
   (A) a frame,
   (B) a hat gripping and rotating spindle journaled on said frame,
   (C) a carriage slidable on said frame radially of said spindle,
   (D) means interconnected between said frame and said carriage arranged to yieldingly urge said carriage toward said spindle,
   (E) a top plate pivotally mounted on said carriage arranged to swing on an axis parallel to and radially spaced from the axis of rotation of said spindle,
   (F) means connected between said frame and said top plate to yieldingly urge said plate in a direction of rotation the same as said spindle,
   (G) and a cutter mounted on said top plate having a cutting edge operatively positioned in a direction opposing the direction of rotation of said work spindle and adapted to be tangent to the edg of a hat brim of a hat mounted on said spindle.

3,367,547

PACK FRAME AND BACKSTRAP MEANS THEREFOR

Jack C. Abert, 511 E. Mulberry, Phoenix, Ariz. 85012, and Steve R. Perin, Phoenix, and William H. Dean, Scottsdale, Ariz.; said Perin and said Dean assignors to said Abert

Filed Oct. 21, 1966, Ser. No. 588,438
8 Claims. (Cl. 224—25)



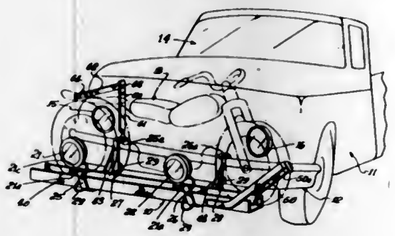
A pack frame and backstrap means therefor comprising flexible back engaging strap having opposite ends provided with loop-shaped portions in which substantially rigid T-shaped members are disposed having connection portions at the middle thereof, and wherein turn buckle means is disposed to provide a take up and coupling between the connection portions at opposite ends of the strap for tensioning it relative to the pack frame of the invention.

3,367,548

FRONT CARRIER FOR MOTORCYCLE

Frank H. Cooper, 2815 W. Olive Ave., Burbank, Calif. 91505

Filed July 11, 1966, Ser. No. 569,543
3 Claims. (Cl. 224—42.03)



A motorcycle carrier rack incorporating auxiliary headlights for mounting on the front bumper of an automobile in which the motorcycle is carried in a transverse channel, and the headlights are vertically adjustable on a pair of vertical bracket structures, channel and brackets being combined in a rigid unit which is mated to the support structure of the automobile bumper.

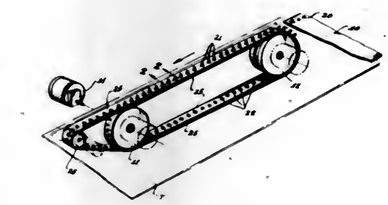
3,367,549

COLLATOR STRIPPER BELT

Edward M. Assony, La Puente, Calif., assignor to Western Gear Corporation, Lynwood, Calif., a corporation of Washington

Filed Feb. 24, 1966, Ser. No. 529,849
12 Claims. (Cl. 226—74)

9. A collator belt construction for handling a paper web having a row of holes therein, comprising:
   a first belt engaging a pair of spaced sprockets;
   a plurality of spaced pins on said belt engaging the web at said holes therein;
   a second belt interposed between the web and the first belt and moving therewith;



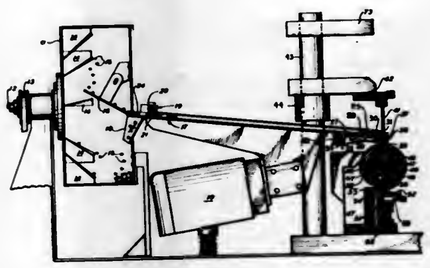
and means extending the second belt beyond one of the sprockets substantially tangential of said one sprocket to support the web to and beyond the point of disengagement of the pins with the web as the first belt passes around the sprocket.

3,367,550

AUTOMATIC STUD SETTING APPARATUS

Victor Jezierski, Hackensack, N.J., assignor to American Leather Specialties Corp., New York, N.Y., a corporation of New York

Filed Nov. 5, 1965, Ser. No. 506,532
7 Claims. (Cl. 227—117)



An automatic stud setting machine in which studs are raised from a bin, deposited on a table, and agitated until they are properly oriented for delivery to a rotating die; whereupon they are passed onto tracks for delivery to a rotating die; they are held in the die as its rotates from the feed station to an affixation station; a press pin in the die is engaged by an external drive pin to drive the stud through the work piece and against an anvil to deform the lugs on the stud into clinching engagement with the work piece (a dog collar or similar article).

3,367,551

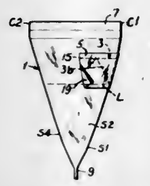
PACKAGE

Paul L. Wheeler, Wayland, Mass., assignor to Packaging Frontiers, Inc., Waltham, Mass., a corporation of Delaware

Filed Apr. 30, 1965, Ser. No. 452,077
1 Claim. (Cl. 229—17)

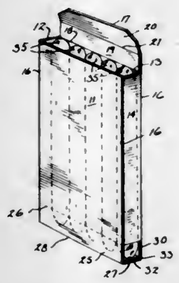
1. A package formed from a tube of flexible packaging material having seals at each end in different planes so that the package has the shape of a tetrahedron, thereby having four triangular sides, two corners at the ends of one end seal, and two corners at the ends of the other end seal, said package having a pouring opening adja-

cent one of said corners, said pouring opening being in the shape of a triangle and having a base extending across the intermediate triangular side of the three triangular sides of the package which meet at said one corner and extended around the edges of said intermediate triangular side into each of the other two sides which meet at said one corner, said base of said triangle being spaced from said one corner, said triangle further having legs extending from the ends of said base



in the direction away from said one corner converging to an apex located in said intermediate triangular side of the package on the opposite side of said base from said one corner, said apex constituting a V-shaped pouring lip in said intermediate triangular side, and the apices of the triangle at the ends of said base constituting V-shaped pouring lips in said other two sides, said package having a closure tape removably sealed to said one triangular side and said two adjacent triangular sides of the package over said opening.

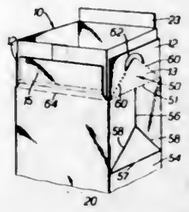
3,367,552
DISPENSER CARTON WITH SWINGABLE BOTTOM
Robert A. Krzyanowski, Milwaukee, Wis., assignor to Milprint, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Dec. 7, 1966, Ser. No. 599,761
3 Claims. (Cl. 229—17)



Tubular cartons are shown which may have four principal side panels and closure flaps at each end, that have a bottom construction which can be swung relative to the body of the carton so that articles packaged inside the carton are advanced or raised to a dispensing position with part of each article extended beyond the top of the carton.

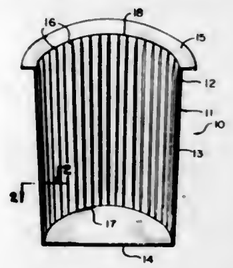
3,367,553
CARTONS
Bernard Arthur Francis, Rayleigh, England, assignor to Pembroke Carton & Printing Co. Limited, Basildon, England
Filed Dec. 27, 1966, Ser. No. 604,718
7 Claims. (Cl. 229—17)

A lined carton has end closure flaps comprising a pair of side flaps and a pair of front and back flaps of which the back flap is deeper than the front flap. The liner is heat sealable, is stuck to each side flap in a region close to its fold line, and is deeper than the front flap and less deep than the back flap. The side flaps are swung apart so that the liner is drawn out to form a fin which extends in parallel spaced relation to the fold lines of the front and back flaps. The front flap is folded in, the fin is heat sealed, and the sealed fin is folded to overlie the front flap. The side and back flaps are folded in and secured



so that end portions of the sealed fin are folded to lie between two of the closure flaps and the back flap overlies the sealed fin and the front flap, so as to clamp the liner to the carton at said end portions of the sealed fin and along the sealed fin. One of the side flaps has a displaceable portion in the region to which the liner is stuck which portion when displaced forms a pourer hole in the liner.

3,367,554
DRAWN CONTAINERS
Randolph D. Lurie, Park Forest, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Original application Dec. 17, 1963, Ser. No. 331,249, now Patent No. 3,231,937, dated Feb. 1, 1966. Divided and this application Sept. 7, 1965, Ser. No. 485,443
14 Claims. (Cl. 229—2.5)

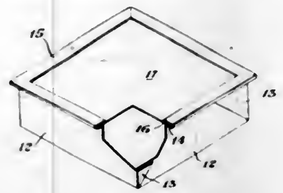


A drawn plastic article having a cup-shaped body with means forming integral portions in an interior peripheral surface for preventing the necking down of the body during the drawing thereof. The integral portions are a plurality of ribs extending from an upper edge and gradually merging into a smooth continuous unbroken surface adjacent a bottom wall. The ribs range in height upwardly from about .005 in., and in number between 5 to 110 for each inch of periphery of the body wall.

3,367,555
CONTAINER CONSTRUCTION
Richard H. Montgomery, Franklin Park, N.J., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
Filed Sept. 14, 1966, Ser. No. 579,367
4 Claims. (Cl. 229—31)

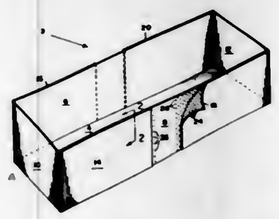
Container construction folded from a flat blank adapted to have all glue areas applied to one side of the blank and a release coating applied to the other side. The side-

walls of the container are interconnected by gusset folds and at the top of the sidewalls there is provided a first outwardly folded flange member, a second flange mem-



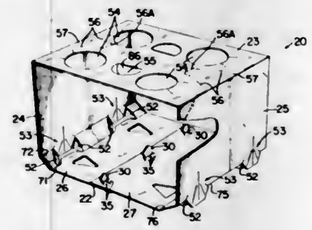
ber folded inwardly over the first flange member and an inwardly folded flap tucked under the second flange member and adapted to be glued to a container cover.

3,367,556
BOX
James F. Whitby, Richmond, Va., assignor to Southern Special Products Corporation, Richmond, Va., a corporation of Virginia
Filed Jan. 6, 1966, Ser. No. 519,143
4 Claims. (Cl. 229—32)



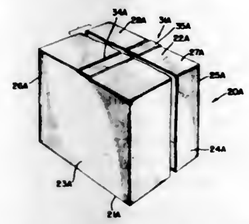
A box of solid fiberboard having a minimum of three plies has bottom side and end panels with a flap hingedly connected to each end of each end panel. At least two plies of the abutting portions of the flaps and side panels are perforated with a multiplicity of small perforations to provide a high shear strength when the flaps and side panels are secured together with an adhesive.

3,367,557
FASTENING MEANS FOR CONTAINER MEANS AND BLANKS THEREFOR
Melville T. Farquhar, Bon Air, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Apr. 15, 1966, Ser. No. 542,903
10 Claims. (Cl. 229—40)



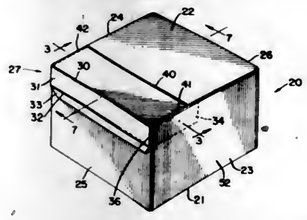
This disclosure relates to a container construction having overlapping walls thereof locked together by a locking tab of one wall being pushed through an opening in the other wall and being held at an angle relative thereto by retaining tab means of the other wall whereby locking ears of the locking tab prevent the walls from being pulled relative to each other, the retaining tab means comprising a pair of retaining tabs each having its hinged end angularly disposed relative to the locking tab and to the other retaining tab and engaging the locking tab at spaced apart points to assure the holding of the locking tab at an angle relative to the overlapping walls.

3,367,558
CONTAINER CLOSURE AND BLANKS FOR MAKING SAME
Melville T. Farquhar, Bon Air, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Sept. 21, 1965, Ser. No. 488,948
2 Claims. (Cl. 229—48)



This disclosure relates to an improved lap joint closure for an exterior wall of a container comprised of a pair of cooperating flaps in which one of such flaps has rectilinear score means provided in its terminal outer end defining an overlapping area means which is overlapped against the terminal end portion of the other of such flaps to enable such pair of flaps to be fastened together substantially in a common plane, whereby a smooth sealed joint is provided having minimum projection transverse such common plane, high strength, and a pleasing appearance.

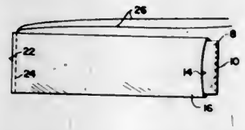
3,367,559
CONTAINER AND BLANKS FOR MAKING SAME
Robert L. Waldrop, Bon Air, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Oct. 13, 1965, Ser. No. 495,648
14 Claims. (Cl. 229—51)



This disclosure relates to a container of the type used as a container-dispenser for a plurality of bars of toilet soap, for example. The container has an extension flap extending from one end of its top wall with a strip which overlaps an upper end portion of its front wall and is held in such overlapped position solely by concealed fastening tabs attached to the container side walls. A protective overcoat may be provided between such strip and an associated portion of the front wall to prevent inadvertent adhering of the strip to the front wall and marring or defacing thereof. The container is opened by tearing along tear means provided in its top wall and along the

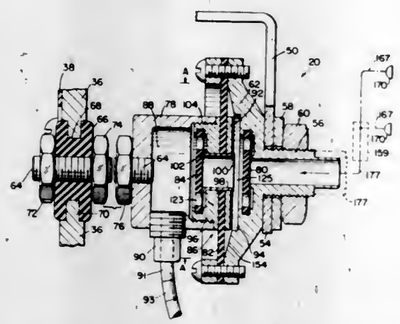
side edges of the strip to define an access opening and is reclosed by inserting the overlapped strip within the container as a closure flap.

3,367,560
BAG AND METHOD FOR INTRODUCING INSULATING FILLERS INTO SLEEPING BAGS AND THE LIKE
Dale L. Johnson, 1965 Dartmouth Ave., Boulder, Colo. 80302
Filed June 3, 1966, Ser. No. 555,207
6 Claims. (Cl. 229—62)



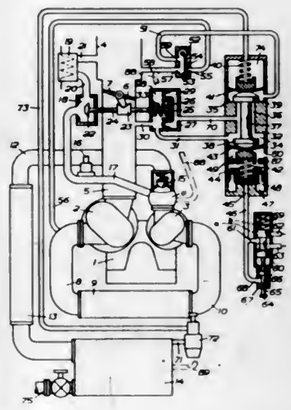
This invention relates to an elongate tubular bag closed at one end and folded back upon itself to form a cuff. The open end is filled with material and then closed with a removable closure that can be inserted into a receptacle, removed and the contents dispensed by turning the bag inside out. The invention also contemplates the method of packaging and discharging the contents of the bag.

3,367,561
DIAPHRAGM TYPE AIR PUMP
Roland D. Beck and Thomas H. David, Jr., Anaheim, Alva R. Davis, Jr., Corona Del Mar, Donald A. Doyle, Santa Ana, and John H. Geiger, Los Alamitos, Calif., assignors to Robertshaw Controls Company, a corporation of Delaware
Application Jan. 21, 1965, Ser. No. 428,605, now Patent No. 3,255,956, dated June 14, 1966, which is a continuation of application Ser. No. 149,990, Nov. 3, 1961. Divided and this application May 11, 1966, Ser. No. 568,996
2 Claims. (Cl. 230—20)



This disclosure relates to a vacuum control system utilizing an electromagnetically driven pneumatic pump means for maintaining a vacuum requirement in the system, the pneumatic pump means having an inlet housing body secured to a frame means that carries an electromagnetic motor means that will operate a cantilevered mounted armature relative to the core of the motor means when the coil thereof is energized. The armature is secured to an exhaust chamber body of the pump to move the exhaust chamber body relative to the inlet pump housing in order to oscillate a flexible diaphragm interconnecting the inlet housing body and the exhaust chamber body together. The flexible diaphragm cooperates with one of the housings to define a pumping chamber and the pump is so constructed and arranged that the same will automatically vary its volumetric pumping capacity by changing the effective pumping surface area of the diaphragm even though the diaphragm is being oscillated at a constant frequency by the electromagnetic motor means.

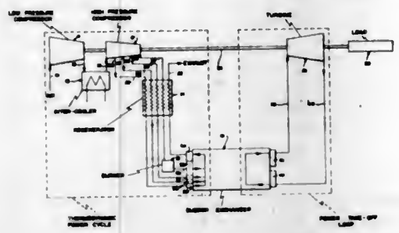
3,367,562
MEANS FOR UNLOADING AND CONTROLLING COMPRESSOR UNITS
Jan Edvard Persson, Ektorp, and Hans Kristofer Olofsson, Segeltorp, Sweden, assignors to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed June 23, 1966, Ser. No. 564,474
12 Claims. (Cl. 230—24)



1. A compressor unit for supplying and maintaining a compressed working fluid under predetermined superatmospheric pressure and comprising a compressor, a working fluid intake conduit in flow communication with said compressor, a throttle valve in said intake conduit movable from a first throttle position to a second fully open position and vice versa, a compressed working fluid receiver, a compressed working fluid delivery conduit leading from the compressor to said receiver, a check valve in said delivery conduit, a vent passage communicating with the delivery conduit between the compressor and said check valve, a vent valve in said vent passage movable from a first open position to a second closed position and vice versa, spring means arranged for moving said throttle valve and said vent valve to said first positions for unloading the compressor, and working fluid pressure responsible means arranged for moving the throttle valve and the vent valve to said second positions for loading the compressor.

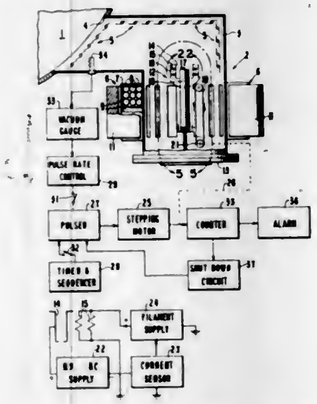
3,367,563
METHOD INVOLVING THE INTERACTION BETWEEN A DRIVER GAS AND A DRIVEN GAS
Abraham Hertzberg, Tonawanda, Frank J. Stoddard, Depew, and Roger C. Weatherston, Williamsville, N.Y., assignors to Cornell Aeronautical Laboratory, Inc., Buffalo, N.Y., a corporation of New York
Filed July 19, 1965, Ser. No. 473,248
1 Claim. (Cl. 230—69)

Energy is transferred more efficiently from a driver gas to a driven gas by subjecting the driven gas to a successively more energetic driver gas, either by increasing the pressure of the driver gas, by increasing its temperature or by decreasing its molecular weight, under conditions to generate a fan of focused shocks which propagate through the driven gas. Also, the temperature of the driven gas can be reduced by selecting a driver gas



that has a higher molecular weight than the driven gas so that the speeds of sound on opposite sides of the interface are made as close as practical.

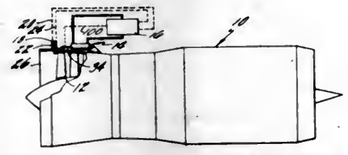
3,367,564
SUBLIMATION GETTER PUMP EMPLOYING A CONSUMABLE GETTER SOURCE ELEMENT HEATED BY RADIATION
William A. Lloyd, San Jose, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed May 16, 1966, Ser. No. 550,383
10 Claims. (Cl. 230—69)



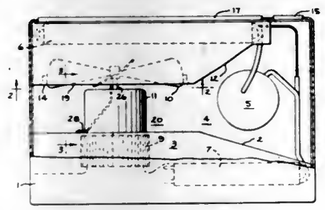
1. A sublimation vacuum pump apparatus of the type having a source of getter material which is sublimed onto interior surfaces of a vacuum system for gettering and thus pumping gases within the system to be evacuated including, means for forming a thermal radiator disposed adjacent the source of getter material for producing a sublimation zone having a temperature in operation above the sublimation temperature of the getter material for subliming the getter material in said zone, and means for directing a stream of electrons onto said radiator means for heating said radiator to its operating temperature.

3,367,565
COMPRESSOR STATOR VANE CONTROL
Louis A. Urban, Granby, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Jan. 21, 1965, Ser. No. 426,796
11 Claims. (Cl. 230—114)

1. For nozzles having walls movable to different positions for defining an opening adapted to control the velocity and direction of air passing therethrough, actuator means connected to said nozzles to vary the position thereof, and control means responsive to the ratio of the difference between total and static pressure to total pressure to control said actuator means for moving said walls to a given position for each value of the ratio of the difference between total and static pressure to total pressure.

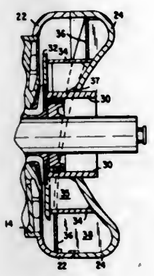


3,367,566
FAN ARRANGEMENT
James L. Schulze, Middletown, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 1, 1965, Ser. No. 510,831
4 Claims. (Cl. 230—120)



A fan arrangement compising an axial flow propeller fan and a generally rectangular inlet chamber including a front wall having a fan orifice surrounding the fan. The chamber includes an air inlet at one end so that air flows into the fan in a direction parallel to the blades. A baffle extending from one side wall of the chamber to a point overlapping the ends of the blades prevents reverse flow of air through the inlet.

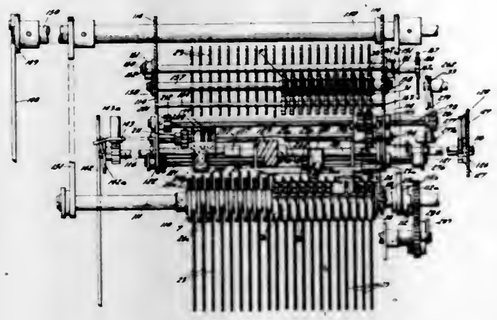
3,367,567
COMPRESSOR CASING
Rodney C. Burns, Greensburg, Pa., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Aug. 1, 1966, Ser. No. 569,179
5 Claims. (Cl. 230—133)



1. A gas compression machine comprising a casing including a central section, an inlet section and an outlet section arranged to provide a path for the flow of gas through the machine, the outlet section comprising a first substantially annular part having an opening and a second

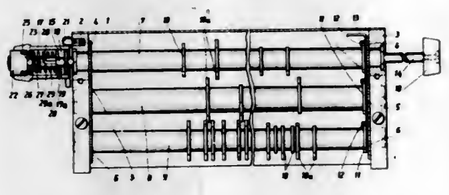
substantially annular part having an opening, said first and second parts being joined in edge-to-edge contact with the opening in registry, a plurality of webs extending from the inner surface of said second part, at least two of said webs being of unequal length, the free ends of said webs defining a substantially helical path of increasing width, wall means attached to the edges of said webs opposite the connection thereof with said second part and discharge means connected to said outlet section for discharging gas flowing from said path.

3,367,568
MULTIPLICATION CONTROL MEANS
Herman Gang, Morris Plains, N.J., assignor to Litton Business Systems, Inc., a corporation of New York
Filed Jan. 16, 1964, Ser. No. 338,242
27 Claims. (Cl. 235—60)



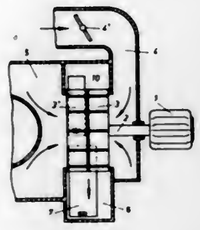
1. In a calculating machine having
a register; and
cyclic rotary digital actuators for said register adjustable for additive or for substractive registering operation:
means operable to adjust said actuators for one of said registering operations; and
means operable during a cycle of said actuators to adjust said actuators for the other of said registering operations.

3,367,569
SELECTIVE MONITOR DEVICE FOR ACCOUNTING MACHINES
Horst Priebs, Bielefeld, Germany, assignor to Anker-Werke Aktiengesellschaft, Bielefeld, Germany, a corporation of Germany
Filed Mar. 31, 1965, Ser. No. 444,326
Claims priority, application Germany, Apr. 2, 1964, A 45,655
5 Claims. (Cl. 235—60.5)



A monitor device for selectively programing an accounting machine having mechanisms for performing different component accounting operations respectively includes means for mounting the monitor device on the paper carriage of an accounting machine, rotatable control columns mutually intercoupled for correlated rotation in a given ratio to each other, each of the columns having control members angularly adjustable by rotation of the column and selectively engageable with the accounting-machine mechanisms for selectively programming the machine in dependence upon the rotational setting of the columns, setting means connected with one of the columns for rotationally setting the columns, and a latch-key lock device connected with the setting means.

3,367,570
BLOWER FOR OIL GASIFICATION BURNERS
Horst Reichmann, Wuppertal-Elberfeld, Germany, assignor to Joh. Vaillant K.G., Remscheid, Germany
Filed Jan. 12, 1966, Ser. No. 520,270
Claims priority, application Germany, Feb. 6, 1965, V 27,697
6 Claims. (Cl. 236—12)

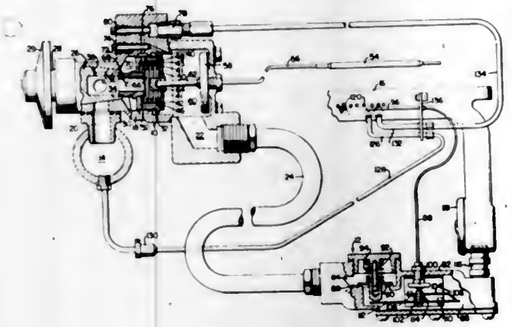


A double blower having two inlets and a single outlet is provided for an oil gasification burner. One of the inlets brings in fresh air and the second inlet brings in exhaust gas from the area of the burner. The air and exhaust gas are fed side by side into a discharge channel leading to the burner. Primarily on the side of the discharge channel occupied by the exhaust gas flow is a bimetallic spring which, at temperatures substantially below the burner operating temperature, protrudes into the discharge channel and throttles primarily the flow of discharge gas therethrough. A second bimetallic spring also is positioned in the discharge channel in the side occupied by the exhaust gas flow. This spring performs no throttling action at burner operating temperatures but at temperatures above the burner operating temperatures the second spring moves into the path of flow of the exhaust gas to throttle the same.

3,367,571
FUEL CONTROL MEANS
Clarence Wantz, 4104 Wren Lane S., Rolling Meadows, Ill. 60008; Charles D. Branson, 530 Hamel Ave., Greensburg, Pa. 15601; and James R. Willson, Rte. 5, Waynesboro, Tenn. 38485
Application Apr. 29, 1964, Ser. No. 370,748, which is a division of application Ser. No. 833,742, Aug. 14, 1959, now Patent No. 3,132,803, dated May 12, 1964. Divided and this application Oct. 21, 1965, Ser. No. 502,779
12 Claims. (Cl. 236—68)

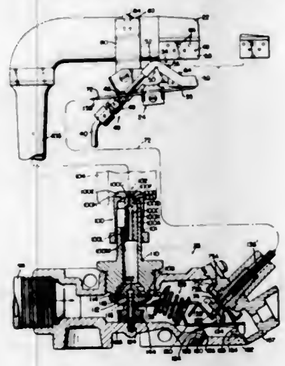
1. In a fuel control system for a cooking oven, a main burner to be disposed in said oven, a first valve means for directing fuel to said main burner, pilot burner means for controlling said first valve means, and control means having manual selector means provided with at least two ranges of positions, one of said ranges of positions including a position of said selector means for selecting a temperature for said oven below a minimum temperature that would be maintained in said oven if said main burner

were supplied a minimum amount of fuel to support continuous combustion at said main burner, the other of said ranges of positions including a position of said selector means for selecting a temperature for said oven above said minimum temperature that would be maintained in said oven if said main burner were supplied said minimum amount of fuel to support continuous combustion at said main burner, said control means when manually set in said position of said one range thereof causing cyclic action of said pilot burner means to cycle



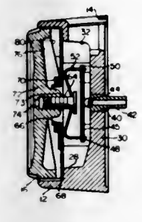
said first valve means between its opened and closed positions and cause on-off action of said main burner to maintain the temperature in said oven at said selected temperature below said minimum temperature, said control means when manually set in said position of the other range thereof causing continuous on operation of said pilot burner means to hold said first valve means in the open position thereof and cause continuous operation of said main burner to maintain the temperature in said oven at said selected temperature above said minimum temperature.

3,367,572
PILOT AND BURNER VALVE CONSTRUCTION AND METHOD FOR AN OVEN AND THE LIKE
Charles D. Branson, James Robert Willson, and Arthur Harry Malcom, Greensburg, Pa., assignors to Robertshaw Controls Company, a corporation of Delaware
Original application June 15, 1962, Ser. No. 202,789, now Patent No. 3,233,830, dated Feb. 8, 1966. Divided and this application Dec. 7, 1965, Ser. No. 578,915
10 Claims. (Cl. 236—68)



This disclosure relates to a control system for a main burner means wherein a supply of fuel is adapted to be thermostatically controlled and passed to a safety valve means that is intermediate the thermostatic valve and the main burner means, the safety valve means only permitting the fuel to pass therethrough to the main burner means when the safety valve means senses that a heater flame is present at a pilot burner means. The pilot burner means has a first outlet means and is normally supplied with a continuous flow of standby fuel to produce a small standby flame at the first outlet means thereof. The thermostatic valve means increases the flow of fuel to the pilot burner means to cause a large ignition flame at a second outlet means of the pilot burner means and a heater flame spaced from and below the ignition flame at a third outlet means of the pilot burner means whereby the heater means causes the safety valve means to open and permit fuel to flow to the main burner means to be ignited by the ignition flame.

3,367,573
MINIATURE PNEUMATIC THERMOSTAT
Larry S. Smith, Goshen, Ind., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Aug. 11, 1966, Ser. No. 571,771
8 Claims. (Cl. 236—87)

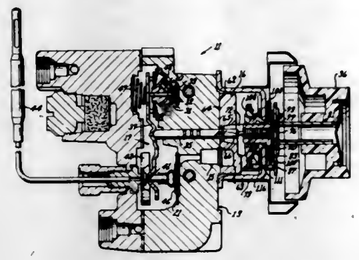


1. A pneumatic thermostat comprising
a casing having pneumatic port means adapted to receive a pneumatic flow,
valve means in said casing controlling said pneumatic port means,
bimetal means for actuating said valve means,
range spring means attached to said bimetal means,
temperature setting means movably disposed on said casing, and
adjustment means defining an operative connection between said temperature setting means and said range spring means for adjusting the same to a desired set point,
said adjustment means retaining said temperature setting means in assembled relationship on said casing, and
said bimetal means comprising a bimetal element having a central portion engaging said valve means and end portions engaging internal walls of said casing.

3,367,574
CONTROL DEVICE AND PARTS THEREFOR OR THE LIKE
Hugh J. Tyler, Jeannette, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed June 7, 1965, Ser. No. 462,033
17 Claims. (Cl. 236—99)

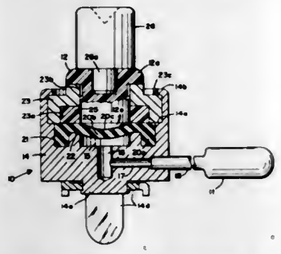
This disclosure relates to a control means for a fuel burning main burner means wherein the control means has a single selector means for controlling the main fuel inlet valve means through part of the movement of the selector means and has a second valve means for thermostatically controlling the on-off operation of the main burner means with the selector means adjusting the operating effect of the second valve means throughout the en-

tire range of movement of the control knob, the second valve means being thermostatically controlled to cycle on and off the flow of fuel to a controller pilot burner



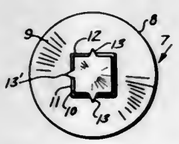
means that has the flame means thereof sensed by a safety valve means that is located downstream from the control means and controls the flow of fuel to the main burner means at a point downstream from the control means.

3,367,575
ACTUATOR
Richard O. Davis, Delaware County, Ohio, assignor to Ranco Incorporated, Columbus, Ohio, a corporation of Ohio
Filed Nov. 19, 1965, Ser. No. 508,802
9 Claims. (Cl. 236—100)



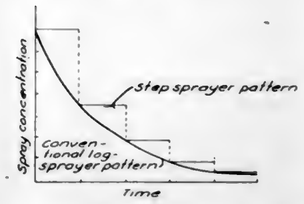
An actuator including a body having a cavity therein for the reception of a thermally expansible substance, a flexible, thin walled diaphragm extending across the cavity having a central portion forming a concave, constant radius spherical section, a plunger having a lubricous end part in engagement with the spherical section and in full surface contact therewith when the diaphragm is relaxed, and a plastically flowable guide for the plunger positioned in the body and in compressive engagement with the diaphragm.

3,367,576
SPIKE AND PLATE FOR RAILROADS
Leslie J. Suermann, 3232 Berwyn Place, Cincinnati, Ohio 45209
Filed Mar. 13, 1967, Ser. No. 622,489
1 Claim. (Cl. 238—366)



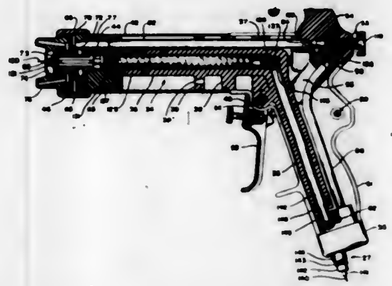
An improved railroad spike and plate associated therewith which together function to provide a more effective and durable fastening of rails to the underlying ties besides expediting and making easier the labor involved.

3,367,577
METHOD FOR LOGARITHMIC STEP SPRAYING
John K. Leasure, Carbondale, Ill., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed June 6, 1966, Ser. No. 555,592
2 Claims. (Cl. 239—11)



A method of applying fluids in a logarithmic or other exponential series of discrete steps by applying for a predetermined time at a starting concentration and automatically stopping, whereupon the concentration is adjusted to the next desired level and application is again continued for a predetermined time.

3,367,578
ELECTROSTATIC SPRAY COATING APPARATUS
James W. Juvinall and Erhard Kock, Toledo, Ohio, William L. Smart, Indianapolis, Ind., and Herschel A. Williams, Manchester, Tenn., assignors to Ransburg Electro-Coating Corp., Indianapolis, Ind., a corporation of Indiana
Continuation of application Ser. No. 306,808, Sept. 5, 1963, which is a continuation of application Ser. No. 85,532, Jan. 30, 1961. This application Dec. 27, 1966, Ser. No. 605,085
18 Claims. (Cl. 239—15)

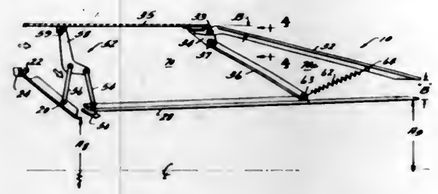


This application relates to an electrostatic hand spray gun of L shape designed for the spraying of liquids using air and electrostatic atomization and having an interior L shaped body of insulating material, one leg of the L receiving the high voltage cable and the second leg of the L containing a resistor which is connected to an electrode externally of the interior L body.

3,367,579
SUPERSONIC CONVERGENT-DIVERGENT JET EXHAUST NOZZLE
Hans P. Mehr, Mason, Ohio, assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed Dec. 8, 1965, Ser. No. 512,317
10 Claims. (Cl. 239—265.41)

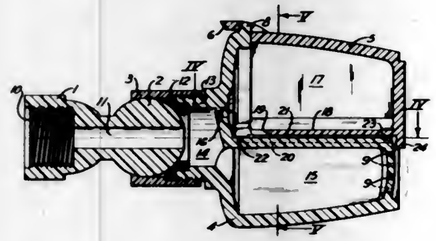
The invention comprises a jet engine exhaust nozzle of the convergent-divergent type, wherein the secondary or divergent portion thereof includes a plurality of movable

flaps used for variation of the nozzle exit area and, simultaneously, to effect a variation of the nozzle expansion ratio (A_9/A_8). The divergent section of the nozzle includes a first plurality of outer flaps which are movable between an inward preselected "boattail" angle position and an outer zero angle for subsonic and supersonic operation, respectively. The divergent portion of the nozzle also includes a second plurality of movable flaps. The second set of flaps are pivotally connected to a plurality of longitudinally-extending inner movable wall members or flaps. Resilient means are connected between the second plurality of divergent section flaps and the first plurality of outer flaps. The first or outer plurality of movable flaps of the divergent section are then utilized to



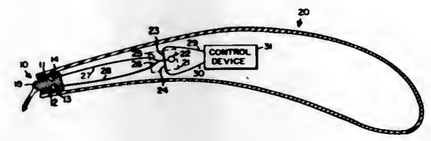
automatically control the base area or "boattail" angle with or without variation of the nozzle expansion ratio, for improved external, as well as internal nozzle performance under subsonic operating conditions. In addition, for a given aircraft mission requirement the ratio of the axial length (L) of the longitudinally-extending inner flaps of the divergent section to the distance (L_o) between the point which the outer divergent flaps are hingedly supported and the nozzle exit plane will be selected so that the secondary or divergent section of the nozzle will be "free-floating," i.e., the inner and both pluralities of outer flaps will move without application of mechanical force to a position of optimum performance.

3,367,580
SHOWER HEAD WITH DISPENSER
John J. Hronas and James A. Alexander, Jr., Pittsburgh, Pa., assignors to Calgon Corporation, Pittsburgh, Pa.
Filed May 16, 1966, Ser. No. 550,288
5 Claims. (Cl. 239—312)



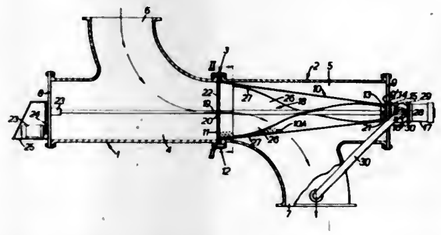
1. A shower head for dispensing an additive to the shower spray comprising
(a) a shower head body having a spray nozzle at its downstream end and an inlet at its upstream end, said body having a generally flat top the inside of which forms a spray chamber with the remainder of the body and the outside of which has open-topped channels therein,
(b) means for joining the shower head body to the shower water line including a jet element,
(c) an additive container having a jet inlet at its upstream end and also having an outlet at the upstream end communicating with the upstream end of the open channels on the shower head body.

3,367,581
CONTROL APPARATUS UTILIZING A FLUID AMPLIFIER
Apostolos P. Kizilos, Minneapolis, and Richard J. Reilly, St. Paul, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,306
4 Claims. (Cl. 239—520)



A control system having a fluid amplifier for controlling the direction at which two combined fluid streams exhaust from a control surface.

3,367,582
COMMINUTING APPARATUS
Thomas Cropper Ryley Shepherd, Moraston House, Bridstow, near Ross-on-Wye, England
Filed July 20, 1965, Ser. No. 473,378
Claims priority, application Great Britain, Apr. 26, 1965, 17,438/65
12 Claims. (Cl. 241—81)

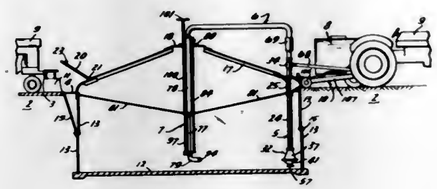


A frusto-conical tubular filter has a driven, helical-spiral wiper located therein to move solid matter to a lower outlet from the filter, with liquid passing therethrough.

3,367,583
MANURE HANDLING SYSTEM
Charles W. Kellogg, Palatine, Ill., assignor to A. O. Smith Harvestore Products Inc., Arlington Heights, Ill., a corporation of Delaware
Filed July 6, 1965, Ser. No. 469,461
20 Claims. (Cl. 241—98)

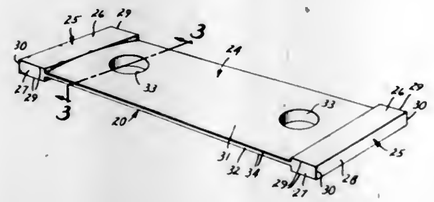
A liquid storage tank, buried, with a ground level opening, contains a pump unit disposed near one side wall of the tank and a rotatable, hydraulic jet unit disposed centrally within the tank. The pump unit includes a vertically disposed connecting conduit which contains a coaxial drive shaft that projects through the upper end of the conduit externally of the tank and into a gear box assembly designed for purposes of access to a tractor power take-off. The pump and conduit assembly is secured by means of a tubular slide which is an integral

part of a trailer unit used to move the entire assembly to and from vertical and horizontal positions. The rotatable jet unit utilizes a horizontal off center nozzle connected at the bottom end of a conduit assembly centrally and vertically disposed within the tank. This conduit assembly consists of two telescoping conduits, the upper portion of which is securely fastened to a wall of the tank and the lower portion of which is secured by means of a rack and pinion assembly allowing vertical positioning of



the jet nozzle. The jet nozzle is secured to the vertical conduit assembly in a freely rotatable manner, but is connected to a ring gear and pin assembly which is part of a rotatable shaft assembly extending upwardly through the top of the tank for purposes of manual locking in place of the jet nozzle. The jet unit and the pump unit are connected by means of a transfer conduit which is fitted at both ends with quick detachable joints so that the conduit can either connect the pump to the jet unit or the pump to a discharge tank trailer unit.

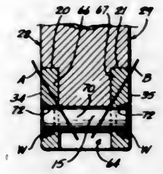
3,367,584
HAMMER FOR HAMMER MILLS
Richard W. Steinberg, Owatonna, Minn., assignor to Owatonna Manufacturing Company, Inc., Owatonna, Minn., a corporation of Minnesota
Filed June 9, 1965, Ser. No. 462,698
7 Claims. (Cl. 241—195)



A hammer mill hammer having an outer generally rectangular head end portion defining sharp corner edges and a blade-like shank portion for mounting on a hammer mill rotor and having opposite side surfaces uniformly curved between the opposite side edges thereof to provide a cross sectionally streamline form.

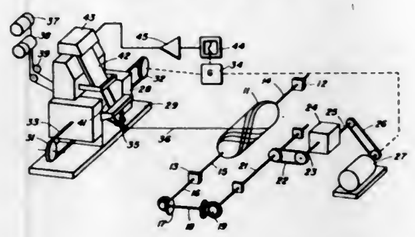
3,367,585
REPLACEABLE TIP MEMBER FOR A TWO-PART HAMMER
Thomas A. Ratkowski, Chicago Heights, Ill., assignor to Abex Corporation, a corporation of Delaware
Filed Sept. 28, 1965, Ser. No. 490,898
4 Claims. (Cl. 241—197)

Replacement of a worn tip on a two-part hammer or a hammer mill is achieved more readily by forming an aperture in a side wall of the tip aligned with an outwardly opening recess in the shank of the hammer with an elongated retainer entered in the aperture and recess.



The retainer may be secured in place as by welding, and the outwardly opening recess affords access for cutting the retainer to displace the tip from the shank.

3,367,586
THIRD MOTION SYSTEM FOR FILAMENT WINDING MACHINE
Robert W. Eshbaugh, Norristown, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 26, 1965, Ser. No. 510,455
3 Claims. (Cl. 242—2)



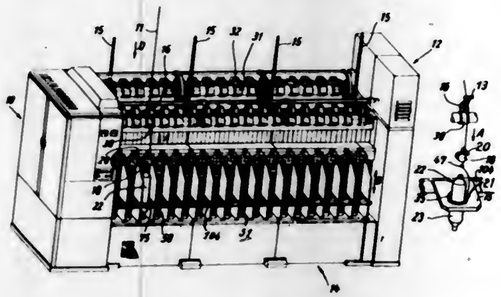
A filament winding machine is provided having a third controlled motion in order to wind geodesic or isotensoid filament paths on compound curved surfaces. The third motion servo-system includes metallized function generator paper on a rotating drum in conjunction with a curve follower.

3,367,587
METHOD FOR FORMING AND PACKAGING ROVING
Jerome P. Klink, James C. Belue, and James H. Sears, Anderson, S.C., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed May 14, 1965, Ser. No. 455,753
5 Claims. (Cl. 242—18)



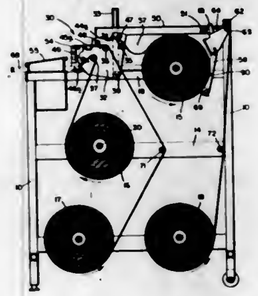
The invention relates to a roving and to a method of and apparatus for forming fibers or filaments of the roving by attenuating streams of mineral material into fibers or filaments and winding the roving in a package having ends in parallel planes, the method including compacting the roving at the package ends to form a package of cylindrical shape throughout its length.

3,367,588
METHOD AND APPARATUS FOR WINDING YARN ON BOBBINS IN SELECTIVELY VARIABLE PATTERNS
Horst Wolf, Albershausen, Germany, assignor to Zinser-Textilmaschinen G.m.b.H., Ebersbach (Fils), Germany
Filed Nov. 29, 1965, Ser. No. 510,196
Claims priority, application Germany, Dec. 9, 1964, Z 11,218
30 Claims. (Cl. 242—26.3)



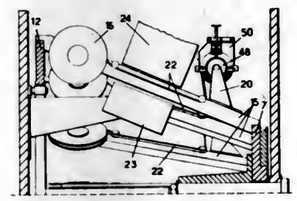
Method of and apparatus for controlling the longitudinal position of the moving point of application of yarn being wound on a bobbin to control the final shape of the wound body including motion reversing control elements for determining the path of reciprocating movement of the point of application of the yarn and means for adjusting the position of at least one reversing control element during each of successive time intervals inversely proportional to the delivery speed of the yarn by a path increment which is independent of the delivery speed of the yarn.

3,367,589
FILM SELECTOR FOR PLASTIC FILM WRAPPING STATION
Albert H. Chant, Jr., Holland, and William F. Wilson, Jr., St. David's, Pa., assignors to J. B. Dove & Sons, Inc., Bristol, Pa., a corporation of Pennsylvania
Filed Jan. 23, 1967, Ser. No. 611,161
6 Claims. (Cl. 242—55.3)



1. In a wrapping station having a wrapping position; means supporting at fixed axial positions a plurality of rotatable supply rolls of plastic film of different widths or other different characteristics; and a selector mechanism for presenting selected ones of said film to the wrapping position in any sequence as desired, said selector mechanism comprising: a plurality of squeeze assemblies for squeezing and holding a plurality of ends of film at spaced apart positions, there being a different squeeze assembly for each different end of film to be presented to the wrapping position; common support means for supporting said plurality of squeeze assemblies near the forward end of the wrapping position; and lever means secured to said common support means for moving said squeeze assemblies as a unit to carry the end of a selected one of said films to the wrapping position and to carry the end of a nonselected film away from the wrapping position while maintaining said supply rolls at their respective fixed axial positions.

3,367,590
PROJECTING APPARATUS
Rene Girard, 72 Blvd. du Montparnasse, Paris 14, France
Filed Nov. 4, 1965, Ser. No. 506,314
Claims priority, application France, Nov. 4, 1964, 993,858, Patent 1,421,538
6 Claims. (Cl. 242—55.11)

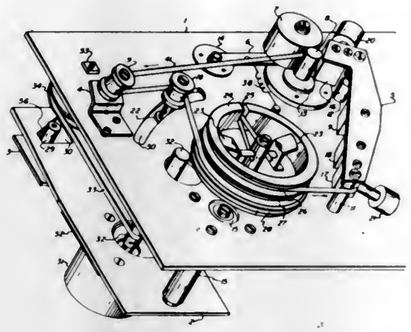


Apparatus for selectively projecting any one of a plurality of films, which apparatus comprises a rotatable turret, a first set of flanged film reels at one end of the turret, a corresponding second set of substantially flangeless film reels at the other end of the turret, and a pair of stationary spaced plates having registering recesses through which the second set of reels passes as said turret rotates. The plates serve to prevent film being fed onto or off of a film reel of the second set from being transversely displaced when that film reel is positioned between the plates.

3,367,591
TAPE TRANSPORT MECHANISM FOR ANNOUNCEMENT/RECORDER MACHINES
Kenneth LeGros, West Allis, and Joseph J. Zimmermann, Elm Grove, Wis., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed May 25, 1966, Ser. No. 552,749
9 Claims. (Cl. 242—55.12)

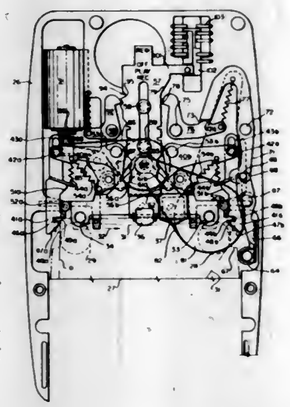
1. In a tape transport mechanism adapted for use with variable message recording and repeating machines; a support; a unitary tape storage reel having a pair of adjacently positioned tape storage grooves formed in the periphery thereof mounted on said support for rotation about its axis; a length of tape secured at one end and normally stored in one of said storage grooves and extending over a loop through said mechanism, and secured at the other end in the other storage groove; means operative to rotate said storage reel about its axis to transfer said tape from said one groove to said other groove by way of said loop; and compensating means mounted on said support and engaging said tape at a point in said loop

for preventing slack in said loop resulting from the varying difference between the effective diameters of said pair



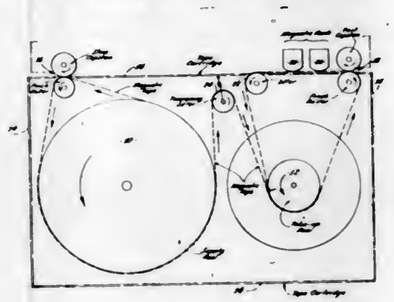
of grooves caused by tape build-up therein during transfer of said tape from said one storage groove to the other.

3,367,592
TAPE APPARATUS AND CARTRIDGE
Kobert Rey Smith II, 24119 Summerhill Ave., Los Altos, Calif. 94022
Filed Feb. 11, 1966, Ser. No. 526,756
12 Claims. (Cl. 242—55.13)



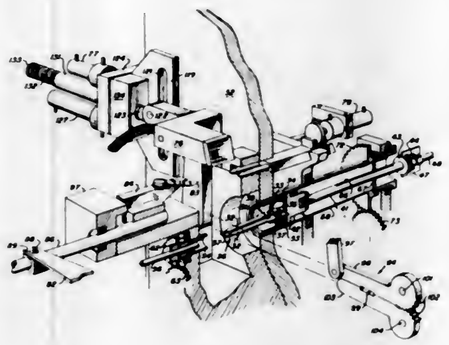
1. A tape apparatus adapted to receive a cartridge carrying tape extending over a pinch roller and selectively operate on the tape to record and reproduce signals therefrom comprising a housing having an opening adapted to receive said cartridge, a transducer mounted in said housing to cooperate with the magnetic tape presented thereto by a cartridge placed in said opening, a drive capstan assembly mounted in said housing to cooperate with the cartridge pinch roller to drive the tape past the transducing means, means carried in said housing for driving said capstan assembly, means for engaging and yieldably urging a cartridge inserted in said housing into cooperative engagement with said capstan assembly and said transducer whereby the capstan assembly cooperates with the pinch roller to drive the tape past the transducing means, a slide adapted to be moved to selected positions for controlling the apparatus to selectively record and reproduce from and rewind tape, and means cooperating between said slide and said cartridge engaging means to move the cartridge responsive to movement of the slide.

3,367,593
TAPE DRIVE MECHANISM
Frederic F. Grant, Bellflower, Calif., assignor, by mesne assignments, to Astro-Science Corporation, South El Monte, Calif., a corporation of Texas
Filed May 5, 1966, Ser. No. 547,906
5 Claims. (Cl. 242—55.13)



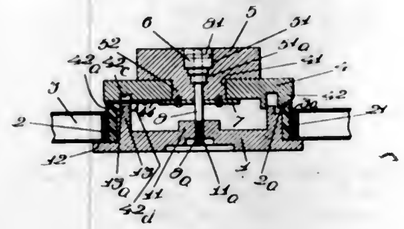
A tape drive mechanism is described in the ensuing specification, in which a tape is driven by a capstan from a supply reel to a take-up reel; the tape itself being used to drive the supply reel and take-up reel so that there is no need for separate drive mechanisms for these reels.

3,367,594
SINGLE STATION CAPACITOR WINDER
Frederick J. Jannett, West Millington, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 28, 1965, Ser. No. 490,927
11 Claims. (Cl. 242—56.1)



Wound capacitor bodies are automatically wound at a single station where a plurality of tapes are (1) held in registration with each other, (2) threaded between bifurcated portions of a bifurcated mandrel, (3) wound on the mandrel, (4) cut and sealed to the wound capacitor body, and (5) stripped from the mandrel without displacement to a plurality of work stations. This permits that automatic winding of capacitor bodies at a high rate of speed with a relatively simple, inexpensive and reliable device.

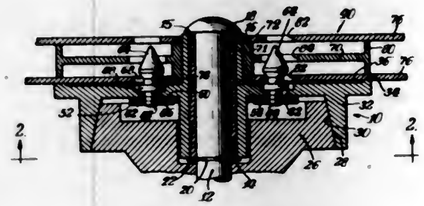
3,367,595
ROTARY DRUM FOR MAGNETIC TAPE REELS
Hideo Yokota, 2–27 1-chome, Nishinakanobu, Shinagawa-ku, Tokyo, Japan
Filed July 11, 1966, Ser. No. 564,123
Claims priority, application Japan, May 25, 1966, 41/32,957
3 Claims. (Cl. 242—68.3)



A rotary drum for magnetic tape reels is disclosed as comprising a cylindrical wall slightly inwardly of the periphery of the drum. A cylindrical elastic ring surrounds this wall and is arranged to have frictional engagement with the wall and with a reel fitted on the drum. A cap member is arranged concentrically of the drum, guided by the cylindrical wall, and is formed to be axially displaced to clamp the cylindrical ring against the cylindrical wall of the drum and against a reel mounted on the drum.

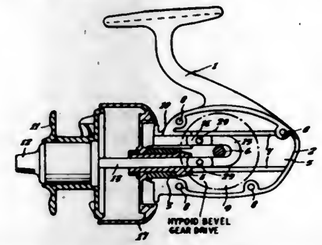
This cap member is provided with a rotary operating knob and a cam is rotatable with the knob and operable to effect the axial displacement of the cap member. Elongated pieces or fingers are reciprocable radially through slots in the cap member and are operable to be projected outwardly over the outer surface of the tape reel to prevent separation of the latter from the rotary drum.

3,367,596
REEL MOUNTING AND REEL MOUNTING ASSEMBLY
Lloyd Osborn, Stevensville, Mich., assignor to V-M Corporation, Benton Harbor, Mich., a corporation of Michigan
Filed Dec. 16, 1966, Ser. No. 602,333
16 Claims. (Cl. 242—68.3)



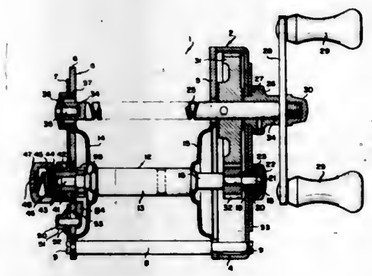
1. In a reel mounting assembly, the combination comprising a rotatable reel mounting hub including a reel engaging surface thereon, said reel engaging surface having a plurality of elongated apertures therein, a plurality of reel retaining pins extending outwardly from said surface and being slidably mounted within said apertures for movement therein, each of said pins having a locking recess therein disposed outwardly from said reel engaging surface, and a reel releasably supported against said reel engaging surface, said reel having a plurality of apertures therein adapted to receive the upper portions of said pins, said reel apertures being positioned within said reel such that peripheral edge portions of said apertures releasably engage corresponding locking recesses in said pins when said reel is disposed on said pins adjacent said reel engaging surface.

3,367,597
TRAVERSING DEVICES FOR SPINNING REELS
Kenneth Patrick Morritt, Cheam, England, assignor to K. P. Morritt, Limited
Filed Nov. 25, 1964, Ser. No. 413,729
Claims priority, application Great Britain, Nov. 29, 1963, 47,243/63
6 Claims. (Cl. 242—84.21)



1. A fishing reel having a U-shaped spool mounting shaft, a spool mounted on the spool mounting shaft, a flier drum, a casing, two elongate apertures in the casing extending parallel to each other, a gear fast with the flier drum and bearing in one of said apertures to be rotatable about one leg of the U-shaped spool mounting shaft, the other aperture slidably receiving the other leg of the U-shaped spool mounting shaft, drive means fast with each of the legs of the spool mounting shaft, drive means on a rotatable member, an axis of rotation for the rotatable member on a line midway between the axes of the elongation of the apertures, a rotatable drive wheel meshing with the gear fast with the flier drum, the rotatable member being rotated by rotation of the drive wheel, the drive means on the legs of the spool mounting shaft and the drive means on the rotatable member being in abutting engagement to drive the shaft in reciprocating movement upon rotation of the rotatable member.

3,367,598
FISHING REEL HAVING IMPROVED BRAKING MEANS
Gerald Dale Harrington and Clifford E. Willis, Fayetteville, Ark., assignors to Shakespeare Company, Kalamazoo, Mich., a corporation of Michigan
Filed Apr. 26, 1966, Ser. No. 545,482
14 Claims. (Cl. 242—84.52)



1. In a fishing reel comprising a frame structure, a line spool rotatably mounted within said frame structure, and manually operable drive means operatively connected to one end of said spool for driving said spool, the improve-

ment which comprises a braking assembly operatively connected at an end of said spool, said braking assembly comprising:

(1) means providing a rotatable braking surface operatively connected to the end of sid spool,

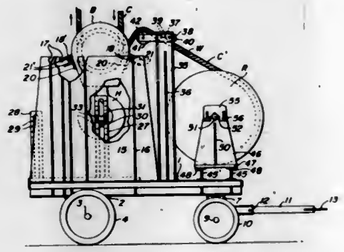
(2) means providing a braking surface rotatably fixed with respect to said frame structure and normally engaging said rotatable braking surface,

(3) means providing a force spring-biasing said fixed braking surface against said rotatable braking surface, and,

(4) means providing a film of oil between said rotatable and said fixed braking surfaces,

whereby when said spool is rotated at a sufficient velocity, said rotatable braking surface rides on a film of oil and the braking force between said rotatable and said fixed braking surfaces reaches a minimum, and whereby when the rotational velocity of said spool is reduced, said film of oil is penetrated and the braking force between said surface is increased.

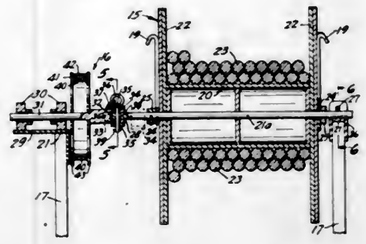
3,367,599
APPARATUS FOR RETHREADING ROPES OR CABLES FOR CRANES, HOISTS AND THE LIKE
Rothey Thompson, Jr., 2604 Lawrence St., East Gary, Ind. 46405, and Orris M. Fellman, Rte. 1, Box 102, Lake Village, Ind. 46349
Filed Aug. 11, 1966, Ser. No. 571,894
8 Claims. (Cl. 242—86.5)



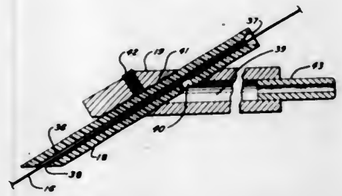
1. A vehicle of the character described comprising a horizontal bed, means projecting upwardly from the bed for receiving horizontal pulley block supports, block supporting means carried by said upwardly projecting means, means carried by the bed for securing a block hook when a block is disposed on said block supporting means with its hook depending there below, cable guiding means mounted adjacent the block supporting means and cable reel supporting means carried by the bed oppositely disposed from said block supporting means with respect to said cable guiding means.

3,367,600
SPOOL MOUNTING DEVICE
Buford W. Olson, Hopkins, Minn., assignor to Chas. Olson & Sons Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 6, 1966, Ser. No. 584,750
4 Claims. (Cl. 242—86.7)

A trailer is provided with oppositely disposed frame members having bearings mounted thereon for rotatively supporting the opposite ends of a shaft extending axially through a wire or cable carrying spool. A stub shaft carrying a brake drum and cooperating, adjustable brake band is mounted on one of the frame members. The inner end of the stub shaft is provided with a socket having a transverse opening in one side thereof into which one of the outer ends of the spool shaft may be conveniently moved into place in a downward, vertical direction. A collar or sleeve slidably positioned on the end of the spool shaft is utilized to firmly couple the spool shaft end in place in the socket of the stub shaft.

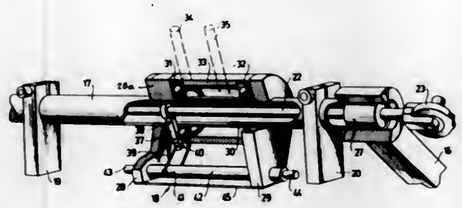


3,367,601
WIRE COIL WINDING GUIDE
Andrew C. Thompson, 6909 McCollum Lake Road, Wonder Lake, Ill. 60097
Filed Dec. 15, 1965, Ser. No. 557,327
9 Claims. (Cl. 242—157)



1. A wire guide for coil winding apparatus comprising: an elongated needle having a wire eye of uniform diameter substantially the full length of said needle from its tip to its butt, a port in the wall of said needle communicating with said eye, said port being located a substantial distance from said tip and said butt, and a holder for said needle having a passage communicating with said port.

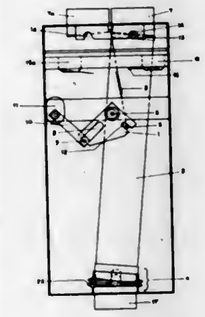
3,367,602
MACHINE FOR WINDING UP WIRES, ROPES, CORDS, STRANDS AND SIMILAR PRODUCTS ON A COLLECTOR DRUM
Claes Hugo Vilhelm Mörling, Alvsjo, Sweden, assignor to ABH Morlings Mekaniska Verkstad, Alvsjo, Sweden, a corporation of Sweden
Filed Mar. 29, 1965, Ser. No. 443,212
Claims priority, application Sweden, Apr. 6, 1964, 4,227/64
8 Claims. (Cl. 242—158.1)



A machine for winding wires, ropes, cords, strands or similar products on a rotating collector drum which includes a wire guide mounted to slide on a support parallel

to the axis of rotation of the drum, a slide member mounted in the wire guide to pivot on an axis generally perpendicular to the support and adapted to alternately grip a reciprocal rod which reciprocates parallel to the support in either of two gripping positions, the first permitting the reciprocal rod to move in one direction freely while gripping the rod and moving the wire guide in unison with the rod in the other direction, and the second permitting the rod to move freely in the first-mentioned direction while gripping the rod and moving the wire guide in unison with the rod in the second-mentioned direction, a spring urging the slide member to maintain a selective one of the two gripping positions, a pair of stops on the support defining the limits of movement of the wire guide, a shiftable rod coupled to the spring to shift the slide member to one of its two gripping positions as the shiftable rod strikes one of the stop elements, and a crank and toggle type linkage having an adjustable eccentric coupling the reciprocal rod to the drive mechanism for rotating the drum.

3,367,603
PNEUMATIC DISPATCH SYSTEM
Alexander Feyerherd, Bad Honnef, Germany, assignor to Rotterdamse Telecommunicatiemaatschappij N.V., Rotterdam, Netherlands
Filed July 11, 1966, Ser. No. 564,435
Claims priority, application Germany, July 10, 1965, F 46,575
6 Claims. (Cl. 243—29)



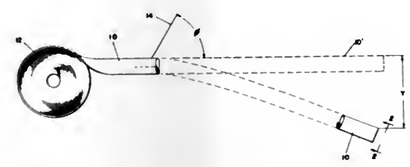
A pneumatic dispatch system in which the ends of two pneumatic tubes are adapted for being selectively coupled to a trunk pipe line by a switch tube pivotably connected at one end to the trunk pipe line with axial freedom and elastically urged against said line, the switch tube being subjected to the action of a pivotal carrier driven through a limited angle for moving the switch tube between the pneumatic tubes, the carrier having a slot receiving a pin on the switch tube to displace the pin and thereby the switch tube axially away from the pneumatic tubes when the switch tube is moved from one pneumatic tube to the other.

3,367,604
EXTENSIBLE STRAIGHT ROD-LIKE STRUCTURE
Donald Nicholas Matteo, Brookhaven, Pa., assignor to General Electric Company, a corporation of New York
Filed Apr. 10, 1964, Ser. No. 358,756
2 Claims. (Cl. 244—1)

1. The method of orienting a space vehicle in a gravitational field which comprises:

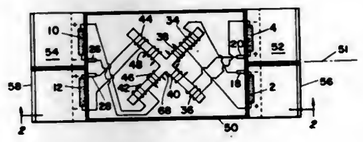
(a) providing a roll of strip of a material having a thermal sensitivity factor as defined of less than 1.6×10^{-6} attached to said vehicle;

(b) the said strip being preformed to have a permanent set which causes it to assume, when released from constraints, a shape approximating a circular cylinder with its axis parallel to the length of the strip;



(c) unrolling a portion of the said strip to extend from the said vehicle, free from constraints, whereby it is permitted to assume the said shape and to extend in the said gravitational field.

3,367,605
RADIATION-OPERATED ATTITUDE CONTROL
Robert P. Wanger, Valley Forge, Pa., assignor to General Electric Company, a corporation of New York
Filed Sept. 16, 1964, Ser. No. 396,930
5 Claims. (Cl. 244—1)



1. A space satellite comprising:

a plurality of pairs of solar batteries

radiation control means to permit radiation from any given direction to illuminate effectively not more than one pair of said plurality of pairs of batteries;

an open magnetic core provided with a plurality of windings connected directly to said solar batteries and so arranged that passage of electric current through various windings of the said plurality will polarize the said core in various directions.

5. In a servo system having a natural period and comprising an error signal generator whose output amplitude is a measure of the magnitude of the error being signalled, and is applied to a correction device to reduce the magnitude of the said error, the improvement comprising a thermally sensitive resistor having a time constant comparable with but less than the said natural period connected between the said error signal generator and the said correction device to receive energy solely from the said error signal generator.

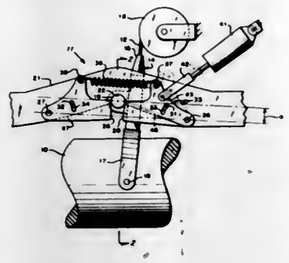
3,367,606
SAFETY LATCH MECHANISM
Harold M. Troxell, Burlington, N.J., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 27, 1966, Ser. No. 561,660
8 Claims. (Cl. 244—3)

1. In a launcher for securing and towing a vehicle by a cable means from an aircraft, a safety latch mechanism comprising:

crossbar means formed to be fixed to the cable means adjacent to the vehicle in a position normal to the length of the vehicle;

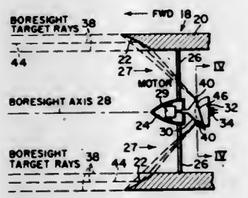
elongated support means rigidly connected at the opening of the launcher and forming an integral part thereof;

a pair of opposed elongated keepers each pivotally connected to said support member and having arcuate surfaces at the free ends thereof for registering with said crossbar means;



stop means connected between said support member and said keepers for limiting rotation of said keepers; and force exerting means operatively connected between said keepers for urging the latter to a closed position.

3,367,607
BORESIGHT AXIS DISCRIMINATOR
William A. Bowen, Jr., 225 E. Guava St., Oxnard, Calif. 93030
Filed Oct. 19, 1960, Ser. No. 63,698
14 Claims. (Cl. 244—3.16)



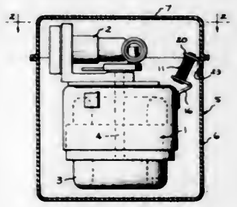
1. In a guidance system responsive to radiant energy from a target source, means for focusing rays of radiant energy from the target source into a focal ring about a boresight axis of the guidance system so that a lateral movement of the target source with respect to the boresight axis and the direction of the lateral movement around the boresight axis will be indicated by a proportional lateral movement of the ring with respect to the same axis which is directed in the same direction as the target's lateral movement, and means for chopping the rays at the ring according to a predetermined pattern whereby rays passing the chopper form a modulated beam indicating target movement characteristics needed for guidance, the focal ring being circular when the target is on the boresight axis and the chopping means, as seen in a plane parallel to the ring for an on-axis target, being divided into two parts by one continuous chopping edge, the edge having two equal portions diametrically opposing each other with respect to the boresight axis with one portion of the edge being convex and the other portion being concave, each of these portions conforming in shape to the periphery of the ring when the ring is offset by its own radius from the boresight axis, whereby there is one hundred percent modulation of rays from the ring when the ring is offset by its own radius from the boresight axis.

3,367,608
BARRICADE NET ARRESTING SYSTEM
Ronald J. Charno, Drexel Hill, James J. Murray, Havertown, Marvin S. Shinbaum, Springfield, and John S. Strance, Drexel Hill, Pa., assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed May 25, 1966, Ser. No. 552,952
5 Claims. (Cl. 244—110)



The disclosure relates to an aircraft arresting system designed to raise and lower a cross-runway barricade member such as a textile net adapted to be engaged by a distressed aircraft which would otherwise overrun the safe limits of the runway. A pair of stanchions at opposite sides of the runway support the net. Each stanchion is operated by an hydraulic system synchronized by a unified control. A cylinder is actuated by the hydraulic fluid to raise or lower each stanchion in unison. A feature of each hydraulic system includes an automatic accumulator and recharge. During raising or lowering cycles, the hydraulic pressure in each accumulator is quickly restored to its initial balanced value by the recharger to permit rapid sequential raising and lowering operations.

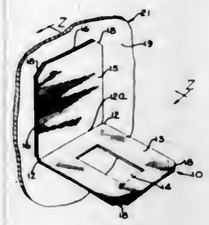
3,367,609
HERMETIC COMPRESSOR UNIT AND SPRING SUPPORT MEANS THEREOF
Bruce B. Latter, Anchorage, Ky., assignor to General Electric Company, a corporation of New York
Filed July 1, 1966, Ser. No. 562,365
1 Claim. (Cl. 248—18)



A hermetically sealed compressor comprising a casing and a vertical shaft compressor unit yieldably suspended in the casing by support means comprising a plurality of spaced coil springs each disposed in an inclined position between the casing and the unit. The lower end of each spring is threaded into internally threaded socket means on the unit and the upper end of each

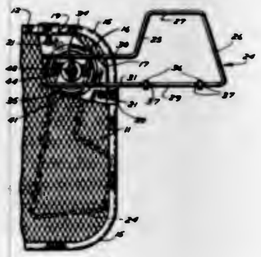
spring is rigidly secured to the interior of the casing by anchoring means comprising a slotted bracket rigidly secured to the case and an externally threaded stud threaded into the upper end of the spring and having a shank received in the bracket slot.

3,367,610
TOOTHBRUSH HOLDER
Alberta M. Lindquist, Pleasant Hill, Calif. (690A Rand Ave., Oakland, Calif. 94610)
Filed Aug. 17, 1965, Ser. No. 480,320
3 Claims. (Cl. 248—110)



A facility for making, without the use of tools, a fixture including a horizontal platform element having an aperture therein for receiving the handle of a toothbrush for supporting the latter and a vertical back element provided with pressure adhesive for securing the fixture to a wall.

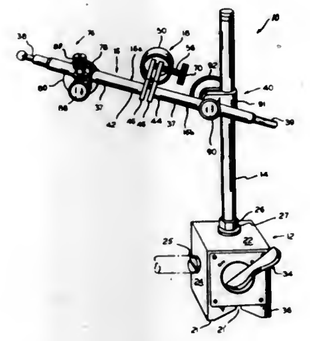
3,367,611
IRON REST
Donald J. Munson, Minneapolis, Minn., assignor to The J. R. Clark Company, Spring Park, Minn., a corporation of Minnesota
Filed Dec. 29, 1965, Ser. No. 517,386
3 Claims. (Cl. 248—117.1)



An iron rest comprising a bracket plate fixed on and adjacent the rim of an ironing board, a holder for supporting an iron in a tilted position and vertically pivoted mounting means for pivotally connecting the iron holder to the bracket plate.

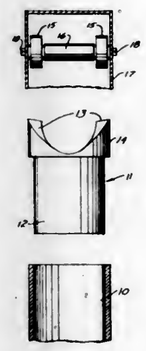
3,367,612
ADJUSTABLE INDICATOR HOLDER
Charles A. Usiskin, Chicago, Ill., assignor to Enco Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 11, 1966, Ser. No. 519,923
7 Claims. (Cl. 248—124)

An indicator holder capable of providing rigid support and fine adjustment of an indicator device mounted thereon has a post mounted on a magnetic base and an indicator arm slidably mounted on said post; said post comprises a plurality of sections connected together by a



fine adjustment means for incrementally varying the position of one of the sections of the indicator arm.

3,367,613
GRAVITY RETURN MECHANISM FOR MAIL BOXES, GATES OR THE LIKE
Lars N. Christensen, Viborg, S. Dak. 57070
Filed June 15, 1966, Ser. No. 557,695
3 Claims. (Cl. 248—145)

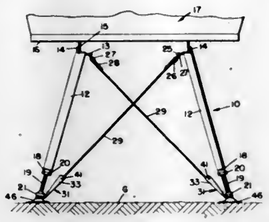


A gravity return mechanism for a mail box or gate or the like in which a cover is provided over the mechanism to protect it and in which the movable cover co-acts with pin means on the stationary part of the mechanism to limit the amount of movement allowed.

3,367,614
MOBILE HOME SUPPORT
Frank W. Leonard, Boise, Idaho, assignor to William A. Teel, Ada, Okla.
Filed June 30, 1965, Ser. No. 468,215
11 Claims. (Cl. 248—354)

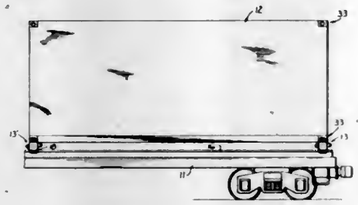
1. A support for mobile homes or the like comprising a pair of confronting triangular supporting plates each having a shoulder at its base adapted to seat beneath and engage the opposite main floor girders of a mobile home, a threaded bolt fixed to the lower apex of each triangular supporting plate, reinforcing members extending from the base of each plate to the bolt at the apex of the opposite

plate, means adjustably securing the ends of the reinforcing members to said bolt, said means adjustably securing comprising foot plates having openings therein through



which said bolts extend and adjusting nuts on said bolts, and means for varying the effective length of the reinforcing members.

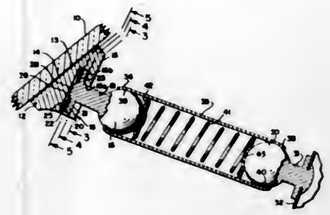
3,367,615
UNIVERSAL BOLSTER
Russell L. Turpen, 2200 Central St., North Richmond, Calif. 94804
Filed Jan. 19, 1966, Ser. No. 521,566
5 Claims. (Cl. 248—361)



A bolster for facilitating the anchoring of cargo containers on the bed of a railroad flat car or truck, etc. is described. The bolster includes an elongated beam having turrets rotatably mounted at its opposite ends. Each of the turrets is provided with an assortment of bolster heads of different configurations and sizes. The turrets are rotatably mounted so as to present different ones of the heads into proper positions for reception into bolster sockets adjacent the corners of a cargo container, and a latch arrangement is provided for selectively securing the turrets in such positions. Because different heads can thereby be presented for reception into cargo container sockets, different shapes and sizes of sockets can be accommodated, thereby permitting the bolster to be used with different cargo containers.

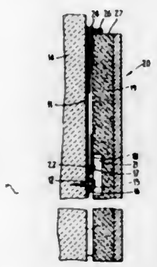
3,367,616
SUPPORT FOR REAR VISION MIRROR
William G. Bausch, West Falls, and Ronald C. Perison, Sr., East Aurora, N.Y., assignors to Standard Mirror Company, Inc., Buffalo, N.Y., a corporation of New York
Filed Oct. 15, 1965, Ser. No. 496,454
8 Claims. (Cl. 248—483)

For supporting a rear vision mirror panel from a glass windshield, a small base has one face cemented to the windshield and has an undercut slot in its opposite face extending from one side to its center. A ball and socket mount for the panel includes a plate fixed to a neck of the ball and slidable into the undercut slot, with the neck protruding outwardly therefrom. A concave spring plate in the slot between the base and the plate retains



the ball in place. A central wooden block and two helical compression springs and followers in the tube bias the balls apart and provide the required friction against losing adjustment from body vibrations.

3,367,617
WALL ATTACHMENT FOR MIRRORS
Alan G. Ellis, 7 Canberra Grove, East Brighton, Victoria, Australia
Filed Mar. 11, 1966, Ser. No. 533,595
4 Claims. (Cl. 248—497)

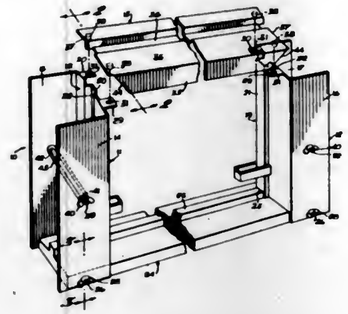


A wall attachment for mirrors, comprising a plate member having a hole therein for a fixing device to secure the member to a wall and lug means formed integrally with said plate member and adapted to attach said mirror to said plate member. A tensioning plate is affixed to said plate member on the upper portion thereof, is adapted to overlie said plate member, and is provided adjacent its upper end with a hole and a spacing screw threadably engaged therein, whereby rotation of said spacing screw in one direction causes said tensioning plate to be moved away from said plate member and rotation of said screw in a counter direction causes the tensioning plate to be moved, under its own spring pressure, towards said plate member.

3,367,618
FORMS FOR CAST-IN-PLACE WINDOW FRAMES
Richard W. Masur, 1480 NE. 108th St., Miami, Fla. 33138
Filed July 15, 1965, Ser. No. 472,281
1 Claim. (Cl. 249—39)

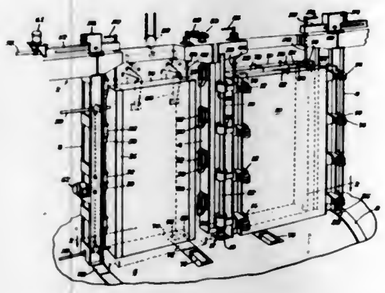
A form for casting in place concrete window frames in a building wall opening including a pre-cast concrete sill, a pair of jamb members and a header member removable connected in spanning relation thereover, and including bolts extending through the sill and end por-

tions of the jamb members for securing them temporarily in interfitting relation, and bolts extending transverse-



ly through the jamb members intermediate their ends for temporarily clamping them in place with respect to marginal side portions of the building wall openings.

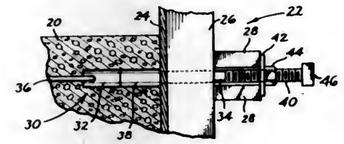
3,367,619
REVERSIBLE MOLD FOR CASTING HIGH MELTING POINT METALS
Edmund Q. Sylvester, 2749 Landon Road, Shaker Heights, Ohio 44120
Filed Apr. 20, 1965, Ser. No. 449,492
10 Claims. (Cl. 249—118)



Mold apparatus comprises two pairs of billets **34** and **36** seated on a bed **6** which has gate openings **64**, one between each pair of billets. Slabs **10**, seated on the bed, engage a pair of billets and may be lifted by a power cylinder **15** and a power actuated track segment **28** so that the slabs are supported above the bed **6** on bearing **17** and roller **26** whereby power means **23** connected to shaft **22** rotate the slabs **10** to engage the other pair of billets **34**, **36** whereupon bearing **17** and roller **26** are lowered to re-engage the slabs **10** with the bed **6**. The slabs are clamped against each pair of billets by power actuated wedges **30** received in aligned slots **16** or **18** of brackets **12** or **14** attached to the slabs.

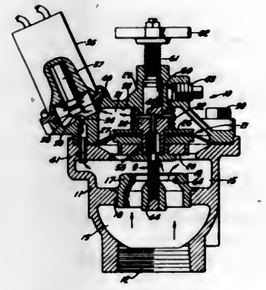
3,367,620
CONCRETE FORM ANCHOR AND TIE
Henry Jack Holt, 1218 E. 17th, The Dalles, Oreg. 97058
Filed Mar. 29, 1965, Ser. No. 443,290
1 Claim. (Cl. 249—213)

A pair of axially aligned rod sections are secured together releasably by segmental rotary threads or wedge blocks upon relative rotation of the sections through a fraction of a turn. When secured together the adjacent ends of the rod sections abut each other to securely engage the threads or blocks and form a unitary rod. At least one rod section is dimensioned to pass through a concrete



form, and the outer end of said rod section is provided with a form clamp to abut the outer side of the form. In one embodiment, one rod section terminates within the form and is provided with a hair pin anchor adapted to be embedded in concrete filled into the form.

3,367,621
DIAPHRAGM OPERATED VALVE INCLUDING AN ADJUSTABLE CHOKE PASSAGE
David E. Griswold, Costa Mesa, Calif., assignor to Griswold Controls, Santa Ana, Calif., a corporation of California
Continuation of application Ser. No. 344,448, Feb. 12, 1964. This application Nov. 10, 1966, Ser. No. 593,590
32 Claims. (Cl. 251—35)



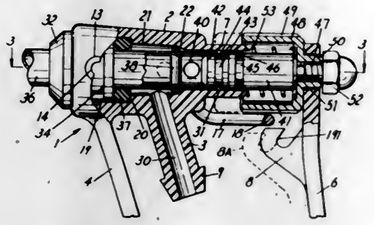
1. In a pressure-actuated valve having an axially movable closure member co-operable with a stationary valve seat, the combination of: an axial stem fixed centrally to the valve seat and projecting axially therefrom, an element on the movable closure member having a central opening slidably receiving said stem, a pin extending axially from said stem, a second element on said closure member and having an axial bore slidably receiving said pin, said axial bore being smaller than said central opening, the clearance space between the stem and said first element and between the pin and said second element providing a restricted passage extending through the closure member.

3,367,622
THROTTLE VALVE FOR SPRAY NOZZLES
Robert J. Moore, Grand Rapids, Mich., assignor to Leigh Products, Inc., Coopersville, Mich.
Filed Sept. 20, 1965, Ser. No. 488,360
15 Claims. (Cl. 251—114)

6. A throttle valve comprising an integral molded body of resilient material having a supply nipple projecting from one side,

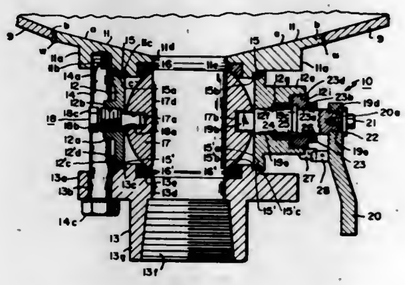
a grip handle having a front arm depending integrally

from the bottom of said body and connected by a bottom cross-piece to an upwardly extending rear arm,
said body having a passage formed therethrough in the general plane of said grip handle and having a rearwardly converging tapered central portion,
said nipple defining a supply passage opening to said tapered portion,
a delivery tube extending slidably into said passage from the front of said body,
first seal means engaged between said tube and the inside of said passage forwardly of the tapered portion of the passage,



second seal means movable with said tube and engageable between said tube and the smaller rear end of said passage,
said tube defining an opening in its side located rearwardly of said second seal means,
means closing the rear end of said tube,
third seal means positioned in sealing relation between the closed rear end of said tube and the interior of said passage rearwardly of said tapered portion of said passage,
and means arranged in two way thrust transmitting relation between the closed rear end of said tube and the upper end of said rear arm.

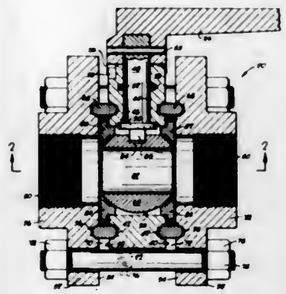
3,367,623
TANK BOTTOM FLUSH VALVE
George A. Piel, Gibsonia, Pa., assignor to Pittsburgh Brass Manufacturing Co., Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of abandoned application Ser. No. 280,608, May 15, 1963. This application Oct. 7, 1965, Ser. No. 498,196
16 Claims. (Cl. 251—144)



A spherical valve having a three-part housing is constructed particularly for use as a flush bottom valve for a walled body including a pipe or conduit and for which the term tank is employed as a general designator. Upper and lower housing body parts are held in a sealed-off and aligned relation with a central or intermediate housing body part by aligning gaskets or gasket portions that are positioned between the parts; bolts extending between upper and lower parts and across the central body part removably-secure them together as an assembly. The upper part is constructed to be secured to the bottom or a bottom corner of a tank, and a ball valve part is rotatably-operatively-carried in a central chamber of the assembly by upper and lower, resilient, sealing gaskets in such a manner as to provide resilient spaced-apart feather edge, circular line, sole points of engagement and to support the valve part with a minimized frictional surface contact. The upper valve part is constructed to form an unobstructed downward continuation of the tank bottom or bottom corner, and the ball valve part has a passageway therethrough that corresponds to the size of inlet and outlet passageways of the assembly.

The valve part is removably-positioned in the central housing body part by a pair of axially-aligned opposed shafts, on one of which it is adapted to rotate. The other shaft has a complementary latching fit with the valve part to rotate it by means of a handle. The valve part may be rotated between an open, down-flushing position in which its passageway is fully aligned with inlet and outlet passageways through the top and bottom body parts, and a closed position in which its passageway is at substantially right angles to the inlet and outlet passageways. The valve part when closed has the apex of the periphery of its upper surface along a transverse plane defined by surrounding edges of a declining inner face of the upper housing body part.

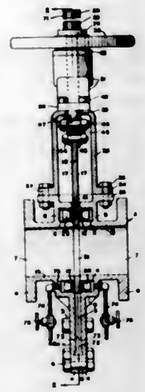
3,367,624
VALVE FOR USE BETWEEN RING-JOINT FLANGES
Domer Scaramucci, 3245 S. Hattie, Oklahoma City, Okla. 73129
Filed June 4, 1965, Ser. No. 461,334
14 Claims. (Cl. 251—148)



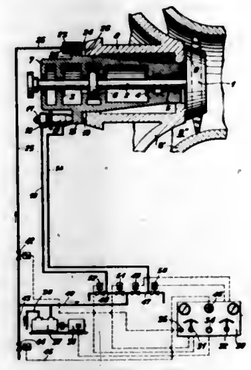
A spherical ball valve assembly for use between a pair of flanged connecting members each of which has an annular groove in the face thereof. The valve assembly and flanged members are positioned and maintained in spaced relation by rigid annular members which sealingly engage the annular grooves. Seating ring means are provided to slidingly and sealingly engage the valve body.

3,367,625
SLIDE GATE VALVES
Ronald Fortune, 42 James St. N., Hamilton, Ontario, Canada
Filed June 22, 1965, Ser. No. 465,920
12 Claims. (Cl. 251—172)

1. A gate valve comprising two matching body sections with a passageway therethrough, means for holding the two sections assembled in matching relationship to form a body, an annular recess in each section encircling said passageway, an annular member snugly but movably mounted in each recess, a gate, adapted to be moved from open to closed position and vice versa, mounted between said sections with the opposite faces of said gate in contact with said annular members, an opening in said gate adapted to be brought into varying degrees of alignment with said passageway as the gate moves between fully open and fully closed position, means for moving said gate from open to closed position and vice versa, and means for exerting pressure against said annular members in the direction of said gate in order to form a fluid-tight seal between said members and said gate, said body being formed with a pocket for snugly receiving said gate during movement from open to closed position.

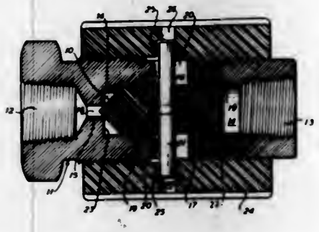


3,367,627
TURBINE-TYPE MACHINE CONSTRUCTION
Hans Benz, Winterthur, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed Feb. 5, 1965, Ser. No. 430,713
Claims priority, application Switzerland, Feb. 14, 1964, 1,877/64
8 Claims. (Cl. 253—39)



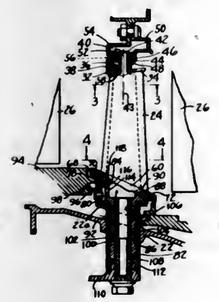
1. A turbine comprising a rotor, a bearing housing, bearings in said housing for support of said rotor, an outer housing in which said bearing housing is axially movable, said outer housing and bearing housing having complementary abutting surfaces extending at least in part radially of said rotor, means to stress said bearing housing against said outer housing at said surfaces, said stressing means including spacing means, and remotely controlled means to withdraw said spacing means.

3,367,626
VALVE
George T. Stern, 4 Cromwell Drive W., Morristown, N.J. 07960
Filed May 11, 1965, Ser. No. 454,932
3 Claims. (Cl. 251—340)



1. A valve comprising:
(a) a generally tubular housing;
(b) a constriction in the tubular housing defining a narrowed passage;
(c) a plug in the housing movable to seal the narrowed passage;
(d) an offset bore in the plug out of alignment with the narrowed passage;
(e) a longitudinally elongated slot in the tubular housing;
(f) a pin engaged with the plug and extending through the slot, passing beside the offset bore;
(g) sealing means inside of the housing on both sides of the slot, engaging the plug;
(h) means to reciprocate the pin in the slot whereby the plug is linearly and axially manipulated.

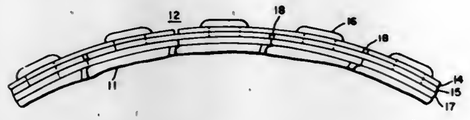
3,367,628
MOVABLE VANE UNIT
David L. Fitton, East Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 31, 1966, Ser. No. 590,809
10 Claims. (Cl. 253—39.1)



1. A movable vane unit for a fluid flow system including:
a vane having
a body section of general airfoil shape in cross section,
a first end platform at one end of said body section, at least part of said first end platform being circular in shape, and
a second end platform at the other end of said body section, said second end platform having a circular segment;

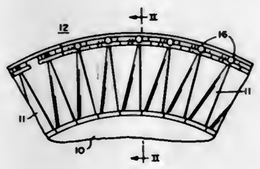
a first housing for said first end platform, said first housing having an opening at least partly circular in shape and conforming in shape to said circular shape of said first end platform, and said first housing receiving said first end platform;
sealing means between said first end platform and said first housing for preventing leakage between said first housing and said first end platform;
means for imposing a pressure differential across said sealing means to urge said sealing means into sealing contact with said first housing;
a second housing for said second end platform, said second housing having a circular segment for receiving said circular segment of said second end platform;
a journal element extending from said second end platform;
bearing means rotatably supporting said journal element to allow rotation of said one vane about a predetermined axis;
housing means for said bearing means;
a ball section on said bearing means to allow relative angular movement between said housing means and said vane; and
actuating means connected to said first end platform to rotate said vane about said predetermined axis.

3,367,629
CONTINUOUS SHROUD FOR ROTOR BLADES
Albert J. Partington, Media, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 19, 1966, Ser. No. 602,652
8 Claims. (Cl. 253—77)



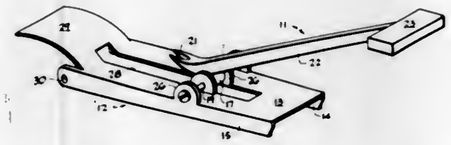
This invention provides a shrouded blade structure for an elastic fluid axial flow turbine or compressor and comprises two annular concentric layers of staggered segments disposed in mutual face-to-face abutment with each other and firmly connected to the blades by rivets formed on the blades. The blades are firmly connected in pairs by the segments. This arrangement provides frictional damping due to the area of contact between the layers of segments and a reduction in thermal stresses due to expansion of the shroud in operation.

3,367,630
CONTINUOUS SHROUD STRUCTURE
Paul D. Saunders, Montain View, Calif., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 16, 1967, Ser. No. 609,477
8 Claims. (Cl. 253—77)



The invention provides a shrouded turbine rotor blade structure comprising two circular half shroud sections having circular grooves therein, within which the blade tenons are received, the half sections being secured to each other by securing means, such as units extending between the blades. The shroud half sections are formed by a plurality of arcuate segments disposed in staggered or overlapping relation with each other to provide a continuous unitary shroud of 360° circumferential extent.

3,367,631
NAIL PULLER FOR USE ON CORRUGATED SHEETS
Jack F. Hedemark, Rte. 1, Box 17, Covelo, Calif. 95428
Filed Apr. 3, 1967, Ser. No. 627,998
3 Claims. (Cl. 254—27)



Nails are removed from corrugated sheet material by means of a claw ended bar pivoted on a down-facing channel that has flanges that ride in the valleys of the sheet while the web of the channel clears the ridge between such valleys and the claw operates on the heads of nails thru a slot in the channel's web under the actuation of a handle end of such bar.

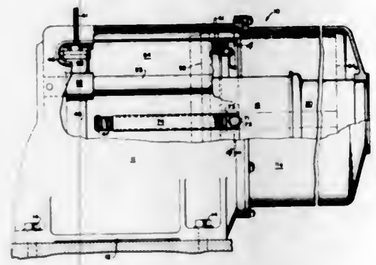
3,367,632
RAISING AND LOWERING MECHANISM FOR BIRDHOUSE
Arthur E. Vail, Griggsville, Ill., assignor to Trio Manufacturing Company, Griggsville, Ill., a corporation of Illinois
Filed Oct. 25, 1966, Ser. No. 589,253
7 Claims. (Cl. 254—139)



A birdhouse and associated supporting assembly providing for the rising and lowering of said birdhouse relative to the ground level so as to facilitate servicing and cleaning of said birdhouse. The supporting assembly

including a mounting pole and selectively operable apparatus associated therewith to effect the raising and lowering of said birdhouse along a path coaxial with said birdhouse.

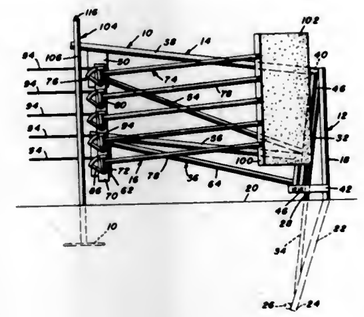
3,367,633
ANTI-FOULING DEVICE FOR CABLE HOIST
Blair S. Kratzer and Nathaniel L. Rosin, Torrance, Calif., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Oct. 4, 1963, Ser. No. 313,958
5 Claims. (Cl. 254—186)



1. In a hoist, the combination comprising:
a frame;
a drum rotatably mounted on the frame and having around its periphery a helical groove adapted to receive a cable wound around the drum;
a shroud surrounding the drum and the cable thereon to hold the turns of the cable on the drum in the groove;
means supporting and guiding the shroud for movement axially of the drum;
means moving the shroud axially of the drum in response to rotation of the drum to uncover a shifting point of cable delivery;
and means positively rotating the shroud in unison with the drum, said means positively rotating the shroud includes axially extending guide means in the shroud and a roller rotatably mounted on the drum to turn about a substantially radial axis and extending beyond the cable on the drum to engage the guide means on the shroud whereby the engagement of the roller with the guide means causes the shroud to rotate in unison with the drum.

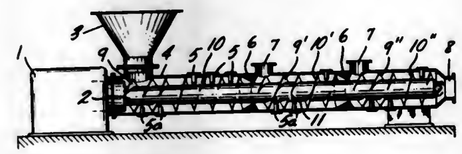
3,367,634
FENCE TENSIONING DEVICE
Floyd P. Nielsen, Rte. 3, Box 822, Glendale, Ariz. 85301, and Bernard O. Anderson, 6320 N. 30th Drive, Phoenix, Ariz. 85017
Filed Jan. 5, 1966, Ser. No. 518,960
5 Claims. (Cl. 256—38)

A tensioning and anchoring device for fence cables including an upstanding support anchored in the ground and a stress distributing assembly characterized by a plurality of strut members mounted at one end of the upstanding support. Interconnected plate members are attached to the opposite sides of the strut members. A number of pivot members are affixed to the interconnected plate members. An arcuate member is pivotally mounted upon each of the pivot members and the terminal end of a fence cable is affixed to the arcuate member. Each arcuate member is further connected to a lever bar, the opposite end of the lever bar being attached to a weighted block. Thus, an equal proportion of the moment produced by the weighted block is assumed by each arcuate member by means of the interconnecting lever bars and the weighted block maintains the tension in the fence



cables regardless of expansion or contraction due to temperature variation.

3,367,635
ARRANGEMENT FOR THE DEGASIFICATION OF PLASTIC MASSES DURING THEIR TREATMENT BY MEANS OF A CONTINUOUS MIXING AND KNEADING WORM
Walter Gresch, Lachmattstrasse 55, Muttenz, Switzerland
Filed Jan. 26, 1966, Ser. No. 523,083
Claims priority, application Switzerland, Feb. 8, 1965, 1,691/65
2 Claims. (Cl. 259—4)

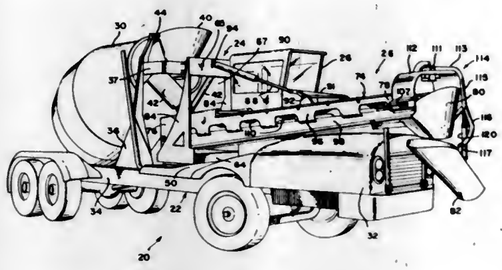


A device for the degasification of plastic masses during treatment in a continuous mixing and kneading operation wherein the plastic material is subjected to the action of rotating and axially reciprocating interrupted conveyor worms. The device includes at least one baffle ring of predetermined configuration for maintaining the axial distance between the worm vane and the baffle ring constant.

3,367,636
CEMENT TRANSPORTING AND PLACING MACHINE
George P. Duecy, Everett, Wash. 98201
Filed Mar. 29, 1967, Ser. No. 626,842
25 Claims. (Cl. 259—169)

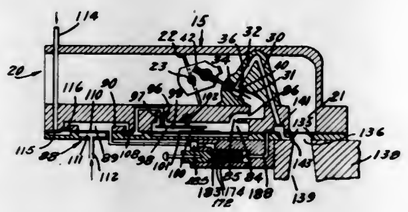
A concrete transporting, elevating and placing machine having mixer means for discharging concrete on to a continuous conveyor for accurate placement of the concrete. The conveyor is supported by a conveyor boom frame which rotates about a horizontal axis generally from side to side of the machine and at the same time pivots about a horizontal axis for raising and lowering the outer end of the boom frame. An operator's cab or control housing is attached to the boom frame structure for

rotational side to side movement with the boom frame. The outer end of the boom frame has appropriate chute



means for accurate placement of the concrete falling off the end of the continuous conveyor.

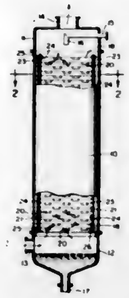
3,367,637
CARBURETOR
Harry I. Hazzard, Los Angeles, Calif., assignor to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin
Continuation of application Ser. No. 431,091, Feb. 8, 1965. This application Aug. 10, 1966, Ser. No. 571,645
10 Claims. (Cl. 261—37)



An improved carburetor including an emulsion chamber for premixing air and fuel prior to its transmission in an emulsion form to a venturi throat of the carburetor. Metering control means regulate the flow of air and fuel into the emulsion chamber throughout the full range of carburetor operation. This metering control means is connected by rigid link means to a throttle valve in the induction passage of the carburetor. The metering control means is operably independent of air flow through the induction passage and operably independent of means in the carburetor for regulating the flow of fuel to the emulsion chamber.

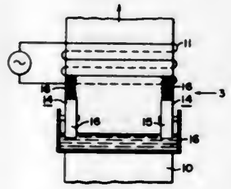
3,367,638
GAS-LIQUID CONTACT APPARATUS
Max Leva, 1030 Dallett Road, Pittsburgh, Pa. 15227
Filed Oct. 25, 1963, Ser. No. 318,912
3 Claims. (Cl. 261—113)

1. Gas-liquid contact tower comprising an outer tower shell, a plurality of superimposed, relatively thin-gauge, flat, horizontal plates for carrying a thin film of liquid arranged within said tower shell, said horizontal plates being vertically spaced apart in close proximity to one another to provide a series of shallow, horizontal chambers from ½ inch to 6 inches in depth, said horizontal plates being provided with a plurality of apertures relatively large in size and relatively few in number, said apertures being distributed uniformly over the surface of said plates, said apertures permitting the thin liquid film on said plates to flow downwardly through said apertures from plate to plate and permitting gas to flow upwardly from plate to plate through said apertures, means for supporting said plates in vertically spaced apart relationship and for sealing the periphery of the chambers defined thereby against gas and liquid bypass along the inner wall of said tower shell, said means comprising ring-shaped members from one-half inch to 6 inches in height disposed between said plates having a diameter slightly less than the diameter of said plates and a height equal to the interplate spacing, a plurality of holes in said plates spaced radially inwardly from but adjacent to the periphery of said plates and closely adjacent to said ring-shaped members, said holes being located on the inner side of said ring-shaped members, said ring-shaped



members comprising two closely spaced ring elements fastened to one another by a plurality of pins sandwiched between said ring elements and having portions projecting beyond at least one edge of said ring elements, said projecting pin portions engaging holes provided in said plates, a plurality of vertical rods passing through the holes in said plates located on the inner side of said ring-shaped members and extending through the entire assembly of plates and ring-shaped members, means provided on the extremities of said rods to clamp the superimposed layers of plates and ring-shaped members into a rigid, self-supporting assembly, fluid-tight in its lateral portions, the periphery of said plates being spaced from the inner wall of said tower shell to provide sufficient clearance to permit the entire assembly of plates, rods, and ring-shaped members to be inserted into and removed from said tower shell as a self-sustaining unit.

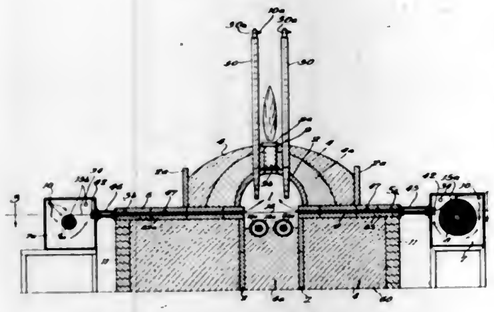
3,367,639
CONTINUOUS STRIP HEATING APPARATUS
Ashley P. Bock, Baltimore, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 9, 1965, Ser. No. 478,301
6 Claims. (Cl. 263—3)



An apparatus for continuous heating of coated metal strip such as electrolytically-coated low-carbon-steel tin-

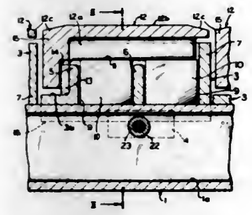
plate strip to alter the condition of such coating by passing the strip through an induction heating coil, wherein miscoloration at the edges of the strip due to overheating at such locations is prevented by use of means for applying a volatile non-coloring liquid to such edges prior to subjection to such induction heating coil.

3,367,640
HEATING ASSEMBLY FOR HEAT-TREATING OR GRAPHITIZING CONTINUOUSLY MOVING MATERIALS AND PROCESS OF HEAT-TREATING AND/OR GRAPHITIZING FLEXIBLE FIBROUS MATERIALS
William E. Russell and Grady R. Hogg, Jr., Morganton, N.C., and Edward C. Thomas, Lancaster, Calif., assignors to Great Lakes Carbon Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 28, 1966, Ser. No. 546,098
22 Claims. (Cl. 263—3)



1. A heating assembly including a furnace for heating materials to substantially elevated temperatures while said materials are continuously transferred from a compartment near the inlet of said furnace to a compartment near the outlet of said furnace, said heating assembly comprising:
(A) closed compartments at the inlet and outlet of the furnace for containing the material to be heated and the material after it has been heated, said compartments being closed to the atmosphere and substantially gas-tight;
(B) means for continuously transferring the material to be heated and for continuously taking up the heated material while permitting the material being processed to be maintained in a substantially oxygen-free gas environment;
(C) a furnace between said substantially gas-tight compartments in which the material to be processed is heated to the desired temperature, said furnace comprising an entry passageway leading from the substantially gas-tight inlet compartment, an exit passageway leading to the substantially gas-tight outlet compartment, and a heating chamber interposed in between; and
(D) means for injecting substantially oxygen-free gases under pressure into the furnace, said gases being injected in such a manner that they sweep substantial portions of the entry and exit passageways and are vented through a chimney in the heating chamber;
said entry passageway, said heating chamber, and said exit passageway all being so constructed and so arranged that the material being processed is able to be maintained in a substantially stress and strain free condition, and substantially impurity-free and oxygen-free environment while moving and while it is heated;
said heating chamber being heated by at least one externally electrically powered heating element unit, said heating element unit having a primary and a secondary header, coaxially positioned but electrically insulated from each other, on the same side of the heating chamber, and coaxially disposed, concentric current-conducting, heating members electrically coupled to said headers and to each other at their ends opposite from the headers so that current from the external power source flows from one header, through one member of the concentric heating element unit and then back to the other header via the other member of the concentric heating element unit; and
said heating chamber having chimney means therein for permitting escape of the injected gases and any volatile products of decomposition which might be evolved from the material being processed.

3,367,641
PUSHER TYPE FURNACE
Josef Molz, Mulheim-Menden, Germany, assignor to Koppers-Wistra Ofenbau, G.m.b.H., Dusseldorf, Germany
Filed Mar. 23, 1966, Ser. No. 536,691
Claims priority, application Germany, Apr. 6, 1965, K 55,738
7 Claims. (Cl. 263—6)

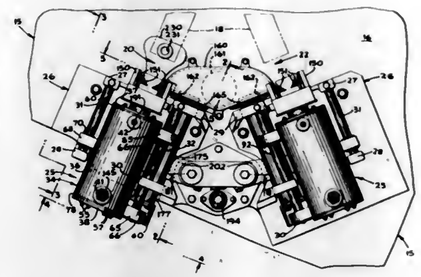


A work supporting structure in a pusher type furnace comprises an elongated hollow support beam which can be internally cooled by water, a row of elongated frames arranged end to end and carried on top of the support beam, connecting means securing at least one frame at one end of the row to the support beam, a row of rails which are guided by the frames and are indirectly carried by the support beam to provide a composite upper surface along which a billet can be pushed through the furnace toward the one end of the row of frames. The combined length of those frames which are connected to the support beam at least equals the width of the widest workpiece and the frames hold the rails against movement upwardly and away from the support beam, against tilting and against movement longitudinally of the support beam. External pockets provided in the frames accommodate fillers of heat-resistant material.

3,367,642
AIR HEATING APPARATUS
Francis L. Hoff, Santa Clara, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Sept. 29, 1965, Ser. No. 491,275
14 Claims. (Cl. 263—19)

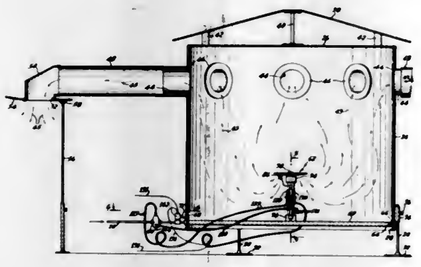
A heating apparatus having a housing with an inlet opening for receiving a flow of air and a discharge opening for expelling the air therefrom. A series of walls in the housing defining a sinuous passage from the inlet

opening to the discharge opening through which the air travels. A heater disposed within the innermost wall



whereby heat loss to the outer atmosphere is reduced to a minimum.

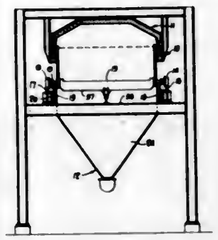
3,367,643
TOBACCO CURING APPARATUS
Walter C. Copeland, Jr., Madison, Fla. 32340
Filed Nov. 23, 1965, Ser. No. 509,383
7 Claims. (Cl. 263—19)



A gas-fired tobacco curing system for curing tobacco hung in a barn including a cylindrical combustion chamber, having an open bottom, a closed top and a spaced conical cap, being centrally located in the barn and spacedly supported above the floor of the barn. The combustion chamber is provided with heat ducts connected to its upper portion which extend radially outward therefrom to distribute heat to the outer portions of the barn away from the combustion chamber. A rectangular non-rotatable gas-manifold is connected to the lower portion of the combustion chamber and supported thereby. A gas burner and pilot light are supportedly maintained on the upper surface of this gas manifold in a vertically upstanding position. The system further includes a thermocouple controlled, solenoid operated, control valve connected to the gas manifold and a solenoid operated, thermocouple controlled, safety valve connected to the gas manifold which is capable of shutting-off the entire gas supply to the gas burner and pilot light.

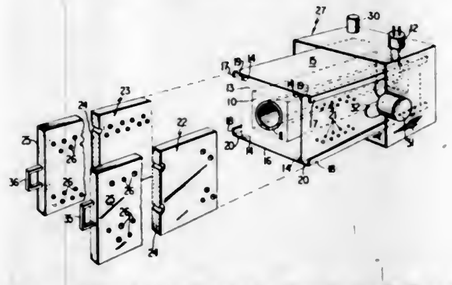
3,367,644
LIQUID TROUGH SEAL
Thomas E. Ban, Cleveland Heights, Ohio, assignor to McDowell-Wellman Engineering Co., a corporation of Ohio
Filed Feb. 7, 1966, Ser. No. 525,775
15 Claims. (Cl. 263—28)

A flexible strip used in conjunction with a liquid seal comprising a trough partially filled with liquid and a flange extending from a moving pallet into the trough and liquid intermediate the sides of the trough, for trans-



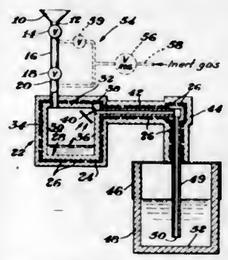
versely sealing the space between the flange and an adjacent trough side to keep fluid under pressure from passing through said space.

3,367,645
FURNACE HAVING VARIABLE AIR PASSAGES THEREINTO
Ewald R. Werych, Elm Grove, Wis., assignor to Basic Products Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed July 13, 1965, Ser. No. 471,548
6 Claims. (Cl. 263—40)



A furnace combination having a chamber including an insulating mass surrounding the chamber and having an air passage therethrough including control means for varying the dimension of the passage.

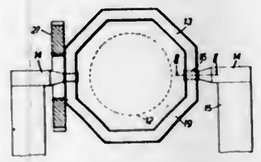
3,367,646
APPARATUS FOR INJECTING METAL VAPORS INTO A MOLTEN METAL
John C. Robertson, Midland, Mich., and Thomas G. Hagemeier, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Feb. 23, 1965, Ser. No. 434,461
1 Claim. (Cl. 266—34)



An apparatus for introducing a low boiling metal into a molten metal of higher boiling point which comprises a storage and metering chamber connected to a cham-

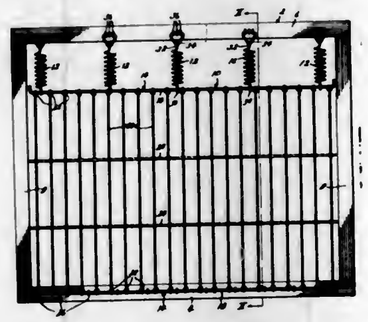
bered furnace assembly, said furnace assembly communicating by means of a conduit with a metal holding vessel for a molten metal bath and the furnace assembly fitted with a baffle adjacent the junction of the furnace assembly and the conduit communicating with the metal holding vessel.

3,367,647
TRUNNION RING FOR TILTABLE CONVERTOR
Richard James Dain, London, England, assignor to Davy and United Engineering Company, Limited, Sheffield, England, a British company
Filed Dec. 16, 1963, Ser. No. 330,891
Claims priority, application Great Britain, Dec. 21, 1962, 48,430/62
4 Claims. (Cl. 266—36)



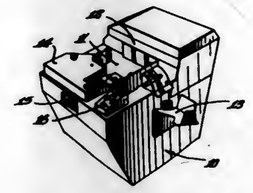
1. In combination a frame for supporting a steel making vessel for rotation within the frame about the axis of the vessel, stationary shafts, each including a journal on which said frame is rotatably supported for rotation about an axis perpendicular to the axis of the vessel, and self-aligning bearings carried by said frame and in which said journals are removably received.

3,367,648
SPRING DECK FOR UPHOLSTERED SEATING
William F. Richardson and Raymond L. McQuitty, Carthage, and Robert O. Isaacs, Joplin, Mo., assignors to Flex-O-Lators, Inc., Carthage, Mo., a corporation of Missouri
Filed Nov. 23, 1966, Ser. No. 596,514
8 Claims. (Cl. 267—112)



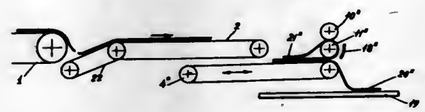
This application discloses a spring deck for upholstered seating comprising a planar sheet which is inelastic in its own plane but is resiliently flexible transversely to its plane, means affixing the forward edge of said sheet to the rigid frame in such a way that the rearward portion thereof cannot pivot downwardly, and resiliently extensible members extending between and interconnecting the rearward edge of said sheet to the rearward edge of said frame, said sheet being free of attachment along its side edges, whereby the spring deck formed by said sheet tends to tilt downwardly and rearwardly when loaded.

3,367,649
AUTOMATIC PAPER HANDLING MECHANISM
Wilbur E. Thomas, Wayne, David D. Bradley, Butler, and Walter Lee Floyd, Jr., Pompton Plains, N.J., assignors to General Binding Corporation, Northbrook, Ill., a corporation of Illinois
Filed Sept. 7, 1965, Ser. No. 485,186
12 Claims. (Cl. 271—10)



Apparatus providing extremely high speed handling and processing of thin sheet material. An automatic, completely adjustable, storage bin and supply means is arranged to provide insertion of a relatively small portion of the supply into a high speed punch mechanism. Additional automatic means causes energization of a processing device, such as, for example, a punch or stapling mechanism, and then transfers the processed sheets to a storage bin. Simple adjustments are provided permitting utilization of substantially any conventional size sheet in the apparatus.

3,367,650
CONVEYOR SYSTEM FOR STACKING HIDES, THEIR FLESH SIDES BEING OPPOSITE TO EACH OTHER AND THEIR OUTER SIDES BEING OPPOSITE TO EACH OTHER RESPECTIVELY, ON SUBSTANTIALLY HORIZONTAL LOADING PLANE
Giacomo Bocciardo, Via Canevari 39, Genoa, Italy
Filed Dec. 6, 1965, Ser. No. 511,730
Claims priority, application Italy, Jan. 4, 1965, 509/65, Patent 748,598
7 Claims. (Cl. 271—68)

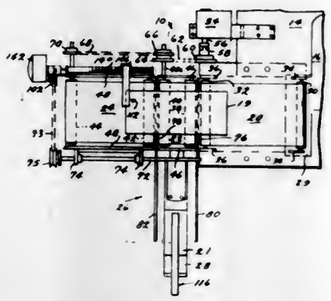


Conveyor system in which flexible sheets or hides are stacked automatically. The sheets or hides have different kinds of major side surfaces and are stacked with the alike surfaces in contact with another even though they are received in the system otherwise.

3,367,651
STACKING MACHINE FOR FLEXIBLE WORKPIECES
Dale L. Eller, Lebanon, and Trigg R. Barton, Cleveland, Va., assignors to Top Form-Yolande, Inc., Lebanon, Va., a corporation of Virginia
Filed Apr. 12, 1966, Ser. No. 542,008
9 Claims. (Cl. 271—70)

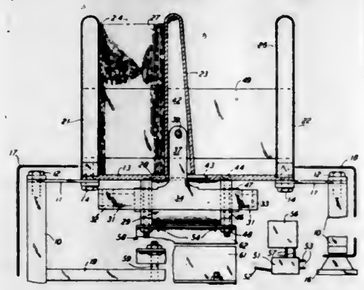
1. An automatic stacking machine for stacking flexible workpieces such as garment components and the like comprising: movable stacking means for engaging one face of a workpiece and for subsequently depositing the workpiece on the exposed end of a stack of previously handled workpieces with the other face in contact with said exposed end, said stacking means including a pair of generally parallel coextensive arms mounted in spaced apart relationship for simultaneous rotation about a com-

mon axis through one end of said arms; a stationary workpiece receiving stand having a receiving surface at least partially within the cylinder of revolution defined by rotation of said arms, said receiving surface having a dimension in the direction of said axis of rotation which is less than the minimum distance between said arms whereby during rotation said arms can sweep past said surface without engaging the same; and drive means for



intermittently rotating said arms through a predetermined arc past said receiving surface remote therefrom whereby said arms may engage one surface of a workpiece at said remote position and cause the workpiece to drape over said arms and whereby the workpiece will be deposited with its other face in contact with said receiving surface or with the exposed end of a stack of workpieces on said receiving surface during sweeping of said arms past said receiving surface.

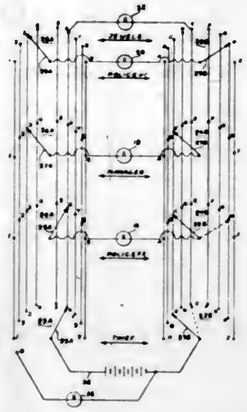
3,367,652
PAPER JOGGER AND COMPRESSOR
Anton R. Stobb, R.D. 1, Pittstown, N.J. 08867
Filed Aug. 2, 1965, Ser. No. 476,353
4 Claims. (Cl. 271—89)



A sheet jogger and compressor having three upright walls forming two pockets for receiving sheets. The center one of the walls is movable toward the other two walls, and away from the other two walls, so that it forms the two pockets with the other two walls. Vibrating means is connected to the walls, and to floors which are extending between the walls, and the means vibrates the sheets in the pockets between the walls for alignment of the sheets.

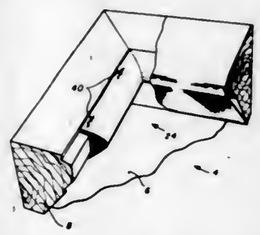
3,367,653
GAME
Mark E. Brown, 5 Maynard Lane, East Islip, N.Y. 11730
Filed Aug. 16, 1965, Ser. No. 479,930
6 Claims. (Cl. 273—1)

1. In a game apparatus having a given plurality of player stations; a plurality of first multiple position switches, one first switch being located at each of said stations respectively, each of said first switches respectively comprising a chosen plurality of correspondingly differently designated fixed terminals and a movable terminal adapted to be selectively placed in contact individually with any of the fixed terminals, each of the like designated fixed terminals of said first switches being electrically connected in series arrangement, a plurality of second multiple position switches, one second switch being located at each of said stations respectively, each of said second switches respectively comprising a selected plurality of



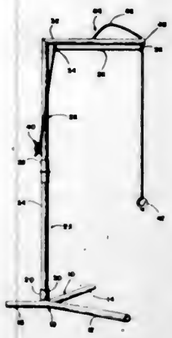
correspondingly differently designated fixed terminals and a movable terminal adapted to be selectively placed in contact individually with any of the last named fixed terminals, each of the like designated fixed terminals of said second switches being connected in series arrangement, a source of potential connected between the first and second switches at one of said stations, and electrically actuated indicating devices respectively connected between the movable terminals of the first and second switches at the others of said given plurality of stations.

3,367,654
BILLIARD TABLE CUSHION
Michael K. Woods, Bloomington, Minn., assignor, by mesne assignments, to Larson Industries, Inc., St. Paul, Minn., a corporation of Minnesota
Filed Nov. 9, 1964, Ser. No. 409,908
3 Claims. (Cl. 273—9)



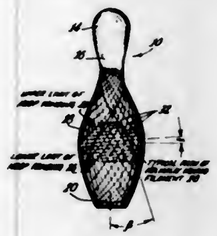
1. In a billiard table, a side rail, the inner edge of which is a flat surface that intersects upper and lower converging surfaces; and a cushion projecting inwardly from said side rail formed of resilient material having a body portion which is substantially triangular in cross section forming a top surface, a nose, a working face, a back surface, and wing-like projections formed integral with said body portion extending rearwardly in prolongation of said top surface and said working surface beyond said back surface of said cushion and overlying the converging surfaces of said side rail.

3,367,655
BASEBALL BATTING PRACTICE DEVICE
Leslie Navran, Los Angeles, Calif.
(12045 Viewcrest Road, Studio City, Calif. 91604)
Filed July 20, 1965, Ser. No. 473,348
2 Claims. (Cl. 273—26)



A portable stand having an upright stanchion and a crossarm, with a ball suspended from the crossarm by a cord. A downwardly and outwardly sloping upper surface carried by the crossarm causes the cord to dissipate the kinetic energy thereof at a safe elevation above the player and then wind off the end of the crossarm and fall back into batting position whenever the ball is struck in a direction to cause the cord to wrap around the crossarm.

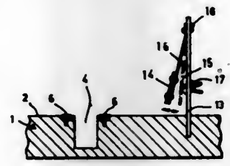
3,367,656
BOWLING PIN AND METHOD OF MAKING SAME
Jonas Medney, Oceanside, N.Y., assignor to Koppers Company, Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 119,632, June 26, 1961. This application May 11, 1966, Ser. No. 549,269
8 Claims. (Cl. 273—82)



1. A bowling pin of standard size and shape including a core having head, neck, belly, and base portions, positioned successively along the longitudinal axis of said pin, and a layer comprising a plurality of contiguously arranged first filaments wound in the hoop direction over said belly portion, wherein the improvement comprises:
(a) a plurality of layers of second filaments wound successively over and contiguous with said first filaments and extending onto said neck and base portions, the filaments of each successive layer lying across the filaments of the next previously applied layer and helically with respect to the longitudinal axis of said pin; and
(b) thermosetting resin holding said filaments in position as a unitary structure on said pin.

4. The method for producing a bowling pin comprising the steps:
(a) shaping material to form a bowling pin core with head, neck, belly and base portions; the belly and a portion of the base and neck being slightly smaller in size than that of a standard finished pin;
(b) applying a first layer comprised of a first plurality of resin impregnated contiguously arranged filaments to said belly portion in the hoop direction thereof;
(c) applying over said first layer a plurality of layers of other filaments, each comprised of a plurality of second resin impregnated filaments, said second filaments being arranged helically on said shaped material and contiguous with said first layer, with the filaments of successive layers lying across the filaments of the next previously applied layer, said other layers of filaments terminating on the neck and base portions;
(d) curing said resin.

3,367,657
GAME HAVING ANGULAR DEVIATION DETECTING MEANS FOR TRACKED OBJECT
Jan M. Cobbenhagen, Alphonsus Cobbenhagen, and Edmond Cobbenhagen, all of Geulhem, Netherlands
Filed June 16, 1964, Ser. No. 375,578
Claims priority, application Netherlands, June 17, 1963, 294,170
6 Claims. (Cl. 273—86)

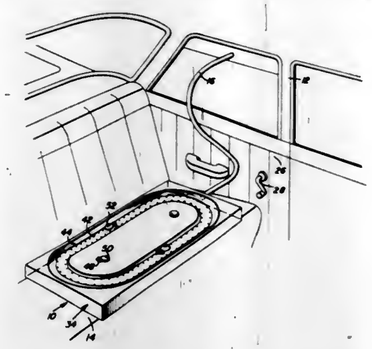


1. A game comprising a body constituting a track, an object movable along a path on said track, said object having a rest position and a particular angular attitude in said position, said track having a guide groove defining said path for the object, said object including a guide pin of electrically insulating material extending in said guide groove, the guide pin being received in the guide groove with clearance and thereby enabling the object to vary its attitude as it traverses its path according to its speed and direction conductor means on said track adjacent said guide groove for the supply of electrical energy to propel the object, means on the object for contacting the conductor means, sensing means independent of the conductor means supported from said track for being contacted by the object when it undergoes a prescribed amount of angular deviation of attitude from its at rest position, and electrical circuit means separate and apart from the conductor means and normally open and adapted for being closed when the sensing means is contacted, to indicate such angular deviation of the object.

3,367,658
AIR JET TOY
Edwin H. Bayha, 1306 Cowpath Road, Hatfield, Pa. 19440
Filed Nov. 19, 1964, Ser. No. 412,529
12 Claims. (Cl. 273—86)

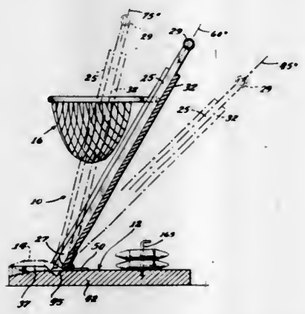
A toy having a course and air urged elements movable over said course including pressurized air housing disposed in a vehicle and including at least one air outlet open-

ing, a ram air conduit having its outlet end opening into said housing and its inlet end supported on the exterior



of said vehicle in forwardly opening position with said conduit passing through a variably closable window open- of said vehicle.

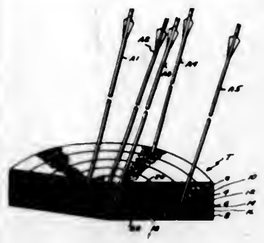
3,367,659
GAME MISSILE AND PROJECTOR THEREFOR
Gabriel J. Lopez, 1500 N. Wood St., Chicago, Ill. 60622
Filed Sept. 1, 1965, Ser. No. 485,674
6 Claims. (Cl. 273—95)



1. A game of skill comprising a base member having disposed thereon an elongated guide extending upwardly from said base member, a pad on said base member adjacent said elongated guide, a missile on said pad, said missile having a tapered end portion, said guide defining a channel and being open at the end thereof adjacent said pad, a hammer disposed in said channel for movement longitudinally thereof, the tapered end of said missile protruding into said channel through the opening therein so as to be strikable with said hammer to cause said missile to be propelled from said pad toward a target and means for moving said hammer.

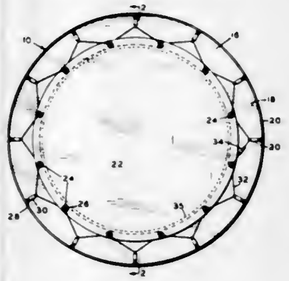
3,367,660
FIBROUS ARCHERY TARGET WITH LAMINATED REINFORCING MEANS
Dominic P. Di Maggio, 74 Albion Road, Wellesley, Mass. 02181
Filed July 21, 1964, Ser. No. 384,072
7 Claims. (Cl. 273—102)

1. An archery target comprising a laminated body of elastically adhesively bonded fibres arranged in a plurality of layers and each of the adjacent layer surfaces being separated by a reinforcing screen mesh element which is bonded to the surfaces and arrow trapping barrier sheets



secured between the said layers, said sheets consisting of a dense highly needled mass of intermingled fibres which are resistant to arrow penetration.

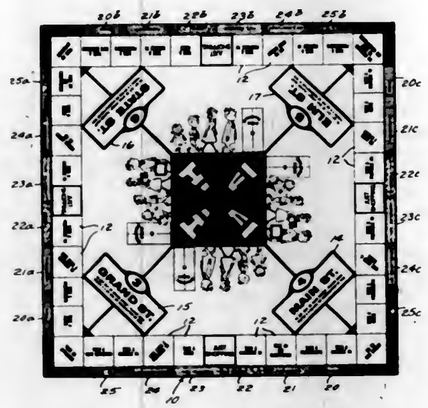
3,367,661
ELECTRICALLY INDICATING TARGET SYSTEM WITH ADJUSTABLY TENSIONED TARGET MEMBER
George J. Dean, Jr., 5541 Marshall, Arvada, Colo. 80002
Filed June 24, 1964, Ser. No. 377,578
5 Claims. (Cl. 273—102.2)



1. A target system comprising a flexible planar target member, a target holding means having a bottom which is electrically conducting provided with upstanding sidewall portions, the target member being peripherally supported in tension from the sidewall in spaced parallel relation to the bottom of the target holding means by a cord connected in a uniformly spaced relation to the periphery of said target member and attached in a uniformly spaced relation to said sidewall portion, the end of said cord having a turnbuckle attached thereto to insu e proper tension of said target member and said cord, said target member having a layer of electrical conducting material attached to the surface opposite the bottom of the target holding means adapted to make momentary electrical contact with said bottom when a hit is received by said target to complete an electrical circuit connected between said target member and said target holding means thereby constituting a target switch means.

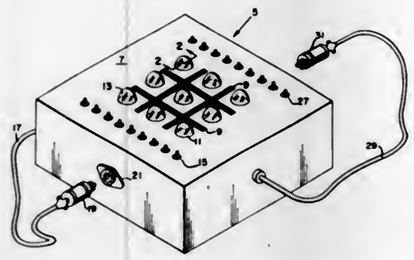
3,367,662
GAME BOARD APPARATUS
Alan Charles and David Charles, both of 35 W. 9th St., New York, N.Y. 10011
Filed July 17, 1964, Ser. No. 383,314
3 Claims. (Cl. 273—134)

A board having a central area with a plurality of player starting squares and a peripheral area enclosing the central area with marked spaces constituting a playing course. Playing tokens commencing from the starting squares are advanced around the playing course, by chance means, such as dice. Certain of the marked spaces indicate a penalty and others indicate that the player is to select a card from a specific set of cards. A plurality of sets of cards is used, each set relating to a different category of goods. Each set of cards is marked with a different color and each card within a set is marked with the same color. Further, each card in a set has a different point count. Disposed along at least two side edges of the board are strips substantially parallel to the side



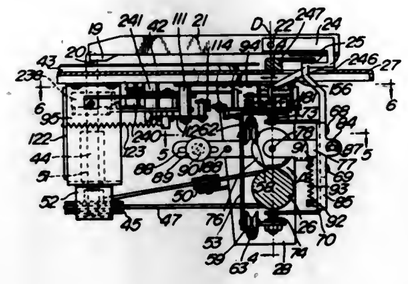
edges of the board and disposed exteriorly of the playing course. The strips are divided into sections and each section contains indicia similar to that shown on one of the sets of cards. Each of the strip sections is marked with a different color which corresponds to the color of the set of cards having corresponding indicia. The sections in each strip indicate a number of items of goods corresponding to a "House" of the cards, and the player who first achieves the "House" is entitled to a bonus score in addition to the point score indicated on the individual cards making up the "House."

3,367,663
ELECTRICAL TIC-TAC-TOE GAME
Leland A. Marks, 105 Inner Circle, Redwood City, Calif. 94062
Filed Sept. 17, 1964, Ser. No. 397,153
1 Claim. (Cl. 273—135)



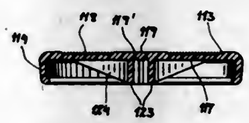
An electrical tic-tac-toe game including a playing board with light bulbs and two banks of switches with random connections between the switches and the bulbs and rotatably adjustable plug and socket connectors between the banks of switches and the playing board whereby the connections can be altered or interchanged by rotating the plug and socket connectors.

3,367,664
PHONOGRAPH
Isao Kozu, Osaka, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed June 3, 1965, Ser. No. 461,124
Claims priority, application Japan, June 6, 1964, 39/32,274; June 6, 1964 (utility model), 39/45,017; Nov. 21, 1964 (utility model), 39/90,909; Dec. 4, 1964 (utility model), 39/95,672; Dec. 26, 1964, 39/73,380; Dec. 26, 1964 (utility model), 39/100,791; Dec. 28, 1964, 39/74,157
18 Claims. (Cl. 274—14)



1. A phonograph comprising a chassis and a turntable mounted thereon, carrier member means movably disposed in said chassis so as to travel along a path parallel with the line joining the point of pickup needle placed on the edge of a record placed upon said turntable and the center of said record, bracket means mounted for horizontal pivotal movement on said carrier member means, a rotary cylinder rotatably supported in said chassis and having its axis disposed in parallel with the path of said carrier member means, a tone arm mounted for vertical pivotal movement on said bracket means, a roller supported by said bracket means in a manner to make rolling contact with said rotary cylinder and having its axis of rotation arranged at right angles with respect to the line connecting said pickup needle with the axis of horizontal pivotal movement of said tone arm, and means for causing the vertical pivotal movement of said tone arm in a direction in which said pickup needle is lifted away from the record and for forcedly inclining the axis of rotation of said roller with respect to the axis of rotation of said rotatory cylinder to effect automatic return of said tone arm to its rest position.

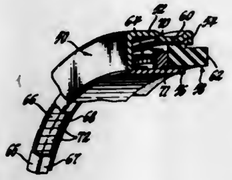
3,367,665
SOUND-REPRODUCING CONTAINER COVER
Harry Gorman, 2717 Holland Ave., Bronx, N.Y. 10467
Filed Apr. 19, 1966, Ser. No. 543,630
5 Claims. (Cl. 274—42)



A synthetic resin cover for containers including a container-engaging flange and a planar surface, the planar surface having a sound-reproducing channel engraved therein. To facilitate the playing of the record on con-

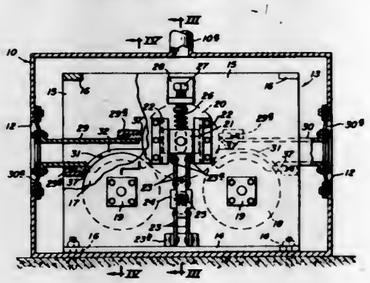
ventional phonographs, the underside of the planar surface is provided with leveling formations of the same height as the container-engaging flange.

3,367,666
SEAL
James D. Symons, Southfield, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 23, 1965, Ser. No. 516,036
11 Claims. (Cl. 277—40)



A lip-type seal wherein a metallic spring member comprising a plurality of slender columns, located in load transfer relationship with the seal member, urges the sealing lip into engagement with the surface to be sealed. Each of the columns is of a length such that it elastically deflects along its axis in assembly to exert a predetermined constant loading between the seal lip and the surface to be sealed.

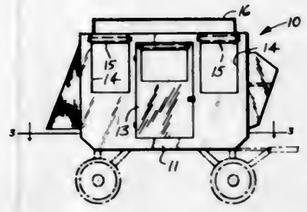
3,367,667
ROLL SEAL FOR VACUUM STRIP-TREATING CHAMBER
William S. Allen, Pittsburgh, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed July 16, 1965, Ser. No. 472,516
4 Claims. (Cl. 277—237)



A unit of a multiple-box seal for the entry of traveling strip into a vacuum chamber contains a cluster of three rolls journaled in the box, in parallel arrangement, two alongside one another and the third in the valley between the other two. Adjustable toggle linkages are provided for raising the middle roll against spring pressure so that slight clearance is provided for strip threaded between the rolls. Sealing blades engage the faces of the rolls and sealing shrouds the ends of the rolls.

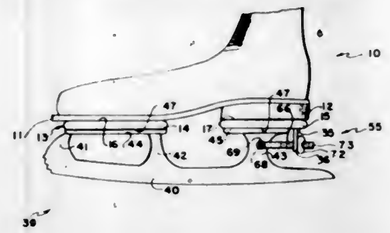
3,367,668
TOY STAGE COACH
Walter W. Jenkins, Box 453, Upton, Wyo. 82730
Filed Aug. 12, 1965, Ser. No. 479,141
1 Claim. (Cl. 280—1.1)

1. In combination with a toy wagon including a substantially rectangular, vertically extending wall, a simulated stage coach comprising a hollow wooden body and compartment means for carrying articles, said body including front, rear and sidewalls, and a substantially rectangular open bottom having dimensions slightly larger than said rectangular wall, a rectangular base member having dimensions slightly less than said rectangular wall, said base member spaced from and se-



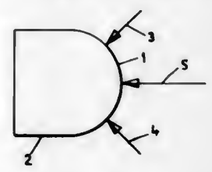
cured to the inside lower portions of said front, rear and side walls for forming a channel receiving said rectangular wall, whereby said simulated stage coach can be easily attached to or removed from said toy wagon.

3,367,669
CONVERTIBLE SKATE
James P. Collins, Vancouver, British Columbia, Canada, assignor to Exemplary Enterprises Ltd., Vancouver, British Columbia, Canada
Filed Oct. 18, 1965, Ser. No. 496,751
2 Claims. (Cl. 280—11.3)



A convertible skate assembly including a skate having a platform provided with upstanding lugs engageable with an apertured boot plate connectable to a skating boot and detachably maintained in engagement with the boot by means of an adjustable connector extending between the skate and boot plate.

3,367,670
BOOT CENTERING AND FORWARD THRUST APPLYING DEVICE FOR SKI SAFETY HARNESS
Georges Pierre Joseph Salomon, 34 Ave. de Loverchy, Annecy, Haute-Savoie, France
Filed Dec. 24, 1964, Ser. No. 421,756
Claims priority, application France, Dec. 24, 1963, 958,447; Nov. 2, 1964, 993,579
4 Claims. (Cl. 280—11.35)



1. A foot centering and forward thrust applying device for a ski comprising a resilient member fixedly mounted to a ski intermediate its length adjacent the locus
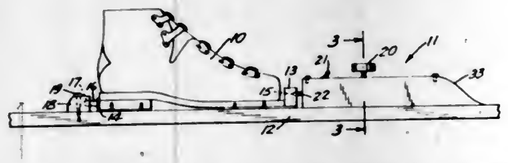
of a boot heel, said resilient member including flexible arms extending obliquely to one another for engagement with the rear face of the boot heel, said flexible arms exerting forwardly and inwardly directed pressure on the boot heel for directing the boot in a forward horizontal direction substantially along the longitudinal axis of the ski.

3,367,671
SAFETY BINDING FOR SKIS
Georges P. J. Salomon, 34 Ave. de Loverchy, Annecy, Haute-Savoie, France
Filed Feb. 9, 1966, Ser. No. 526,188
Claims priority, application France, Feb. 10, 1965, PV 5,082
12 Claims. (Cl. 280—11.35)



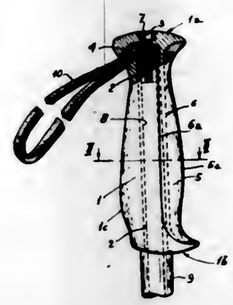
The invention and disclosure are directed to a safety securing device for skis wherein there is a boot engaging jaw connected to the ski to allow a lateral rolling displacement of the jaw whereby the jaw may move from a boot engaging position to a boot releasing position. The lateral rolling movement is effected by constantly meshing gears on the ski and the jaw.

3,367,672
SAFETY SKI BINDING
Joseph A. Tonozzi, 153 Taylor Ave., Fort Snelling, St. Paul, Minn. 55111, and Jasper Glen Shanholtzer, 9270 W. 22nd Lane, Minneapolis, Minn. 55426
Continuation-in-part of application Ser. No. 490,541, Sept. 27, 1965. This application July 11, 1966, Ser. No. 565,357
8 Claims. (Cl. 280—11.35)



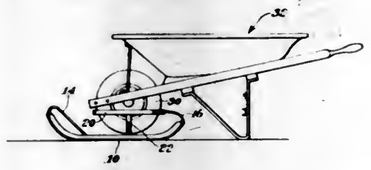
A safety binding adapted to be affixed to a ski to permit secure binding of a ski boot to the ski where the binding comprises a boot engaging member affixed to the ski for shiftable movement thereon and which has a release position and a secure position relative to the boot, further characterized by an electrically actuated release mechanism mounted on the ski and cooperating with the boot engaging member to shift the boot engaging member from a secure to a release position. The foregoing mechanism is in close combination related to a circuit means connected to the electrically actuated release mechanism and a switch member mounted upon the ski and actuated either by predetermined tilting of the ski on transverse and/or longitudinal axis or by application of predetermined pressure of the ski boot in the binding to cause release of the boot engaging member from the secure position.

3,367,673
GRIP FOR SKI POLES
Lorenzo Covini, Milan, Italy, assignor to Cober Fabbrica Articoli Sportivi, Milan, Italy
Filed Feb. 15, 1966, Ser. No. 527,533
Claims priority, application Italy, Mar. 3, 1965, 4,578/65
5 Claims. (Cl. 280—11.37)



A hand grip for a ski pole, with a rigid rear element to be engaged by the palm of the hand and an elastic forward element deformable under the action of the fingers of the hand. The pole is secured in a longitudinal passage in the rear element of the grip which is contoured to define hand confining enlargements at its opposite ends.

3,367,674
WHEELBARROW ATTACHMENT
Henry Erwin Puhl, Kendall, Wis. 54638
Filed Dec. 8, 1965, Ser. No. 513,659
5 Claims. (Cl. 280—13)

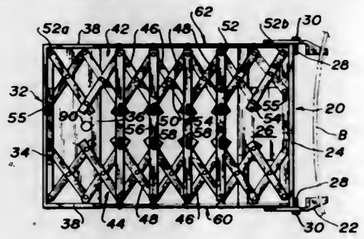


A wheelbarrow ski attachment having a wheel cradling loop and specific connecting means for connecting the loop to the ski runner to permit the wheelbarrow to be dumped without removing the wheel from the attachment and specific ski runner construction.

3,367,675
COMPACT FOLDABLE TRAILER
Dewey C. Gearin, Porterville, Calif., assignor to Compact Products, Inc., San Francisco, Calif., a corporation of California
Filed July 25, 1966, Ser. No. 567,511
10 Claims. (Cl. 280—34)

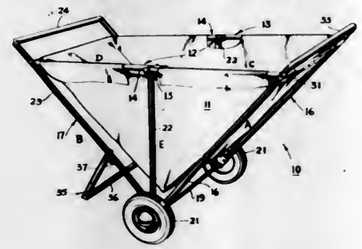
1. A foldable trailer adapted to be drawn by a vehicle comprising a front section having a horizontal plate and a panel extending vertically upwardly from said plate, means for attaching said front section to the vehicle, a rear section having a horizontal plate and a vertical panel rigid with said horizontal plate and extending vertically upwardly therefrom, first and second horizontally disposed lazy tong structures joined to respective said horizontal plates and extending between said forward section and said rear section, each said lazy tong structure

comprising a plurality of bars each having a first end and a second end, said plurality of bars constituting first and second groups, means for pivotally joining the midpoint of the bars of said first group to the midpoint of corresponding bars of said second group, and means for pivotally connecting the ends of alternate bars of said first group to the ends of corresponding alternate bars of said second group, third and fourth lazy tong structures substantially identical to said first and second lazy tong structures and extending between said vertically extending



panels on opposite sides thereof to define vertical side walls for said trailer, a plurality of angle brackets pivotally joining the first ends of the bars in said first and second lazy tong structures to the first end of corresponding bars in said third and fourth lazy tong structures, a cross bar spanning a transversely aligned pair of angle brackets, said cross bar being slotted centrally thereof for slidably supporting the second ends of the bars of said first and second lazy tong structures, and means for rigidly spacing said front section from said rear section in an expanded position, said spacing means being removable to permit folding of the trailer.

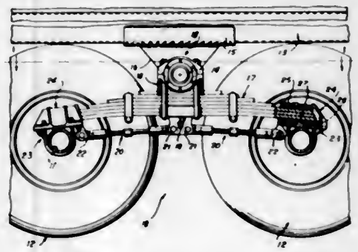
3,367,676
FOLDING CARTS
Robert D. Pearson, Mountain View Drive, Brookfield, Conn. 06804, and Albert E. Bole, Timber Top Trail, Wilton, Conn. 06897
Filed Mar. 15, 1966, Ser. No. 534,526
7 Claims. (Cl. 280—36)



A folding cart having two wheels on an axle pivotally joined to a collapsible tubular aluminum frame, pivotally erectable to form triangular truss side frames supporting a rectangular top frame from which a fabric cargo sling peripherally depends.

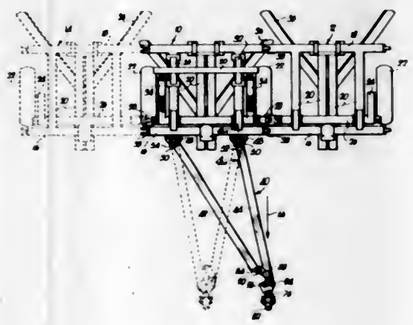
3,367,677
ALIGNING DEVICE FOR TANDEM VEHICLE AXLES
L. V. Preddy, Jr., Dallas, Tex., assignor to Dye Trucking Company, Dallas, Tex., a corporation of Texas
Filed June 13, 1966, Ser. No. 557,233
1 Claim. (Cl. 280—104.5)

1. In combination with a wheeled truck having a pair of axles arranged in tandem relation to each other, each of said axles having at least one pair of wheels thereon whereby the frame of a vehicle is adapted to be supported at one of its ends, said truck having a pair of leaf springs on opposite sides thereof each supported at its ends on the axles of said pair, and having a third, load carrying axle journaled at its ends in bearings therefor on said springs, intermediate their ends, the combination of a pair of clamping elements coacting with said bearings to secure them to said springs, and positioned on the opposite side of said springs from said bearings, two pairs of longitudinally adjustable links, each pivotally connected at its ends to one of said bearings and to one of the axles of said pair, and two other pairs of longitudinally adjustable links, each pivotally connected at its



ends to one of said clamping elements and to one of the axles of said pair whereby the axles of said pair are positively maintained in parallel relation to each other at all times, while at the same time permitting normal movement of said springs, and means connecting the ends of said springs to the axles of said pair for free sliding adjustment of the several leaves of each spring in a longitudinal direction relative to each other, in response to normal movement of the springs, said last mentioned means comprising a housing on one of the axles of said pair having an adjacent end portion of one of the springs received therein, and having resilient pads therein above and below the springs.

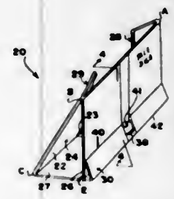
3,367,678
HITCH STRUCTURE FOR AGRICULTURAL IMPLEMENTS
Ronald Charles Towne, Norton, Kans., assignor to Richardson Manufacturing Company, Inc., Cawker City, Kans., a corporation of Kansas
Filed Oct. 21, 1965, Ser. No. 500,148
8 Claims. (Cl. 280—411)



A center draft hitch for a multiple section implement having a primary section and one or more removable secondary sections wherein the line of draft may always be maintained in the center of the implement regardless of the number of sections used. The hitch has a pair of

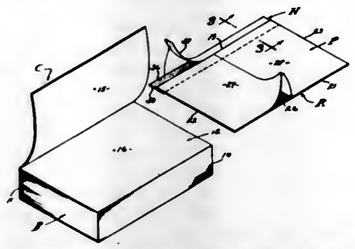
rigid arms pivotally connected to the primary section and structure permitting coupling of the outer end of one of the arms to the other arm at any one of a number of points along the length thereof located to cause the line of draft to be centered with the primary implement section when coupled at one point and to be centered between the pair of sections when one secondary section is used with the primary section.

3,367,679
BOOK COVER-EASEL COMBINATION
Bertram Slanhoff, 1243 Post Road, Scarsdale, N.Y. 10583
Filed Mar. 21, 1966, Ser. No. 535,789
10 Claims. (Cl. 281—33)



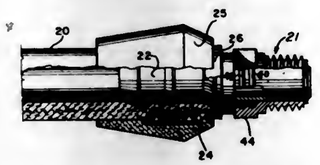
1. In a book cover-easel combination made of relatively heavy paper sheeeting, a horizontally positioned triangular tube comprising a base panel to rest on a surface, a rear leg panel and a rectangular front panel; the upper edge of said front panel having hinge connection with the upper edge of the leg panel; the lower end of the front panel having hinge connection with the forward edge of the base panel, a first flap extending upwardly in back of the leg panel; the lower edge of said flap having hinge connection with the rearward edge of the base panel; the upper edge of said flap having hinge connection with the leg panel intermediate the upper and lower edges of the leg panel; the distance between the said edges of said flap, being at most, one half the distance between said edges of the leg panel, second and third flaps, extending respectively from the side edges of the front panel and having hinged connection therewith respectively, so said second and third flaps may be swung towards each other to lie in front of the front panel; the lower edge of the leg panel resting on the inner vertex line of the dihedral angle formed by the base panel and the first flap; said front panel comprising a central upright rectangular section for covering the back of a book; that part of the front panel which is between said central section and the second flap, having hinge connection with said central section and adapted for covering one of the lids of the book; that part of the front panel which is between said central section and the third flap, having hinge connection with said central section and adapted for covering the other lid of the book; said second and third flaps being for placement against the inside surfaces of said lids respectively; said triangular structure being collapsible into a flat form whereupon the leg panel is positioned against the rear surface of the front panel; said leg panel, base panel and said first flap, when said triangular structure is so collapsed, being bendable in the same manner the front panel is bendable when the lid-covering portions of the front panel are swung towards each other forwardly of said central section; said front section, and said second and third flaps when swung towards each other to lie facing the front surface of the front panel, being adapted to serve as the jacket for the book; said triangular structure being sufficiently sturdy to support a book resting against the outer surface of the front panel, when said structure is set to rest on one of its other panels.

3,367,680
COVER REINFORCEMENT FOR SOFT-BACK BOOKS
Joseph Greenspan, 1120 Queensland St., Los Angeles, Calif. 90034
Filed Feb. 14, 1966, Ser. No. 527,161
4 Claims. (Cl. 281—37)



1. In combination with a soft-back book having a bendable cover, a cover reinforcement including, a prefabricated member in the form of a stiff panel of a configuration coextensive with and one face thereof adhesively coated for exposure to be affixed onto the inside of the book cover, and a prefabricated member in the form of a flexible hinge strip extending along the edge of said panel at the hinged joinder of the book cover to the binding thereof and one face thereof adhesively coated and with a portion permanently affixed to the face opposite said one face of the panel and with a projecting portion for exposure to be affixed onto the outside of the end page immediate to the cover, the said projecting portion of the flexible strip member being folded back toward the panel with said adhesive coatings on the panel and hinge strip respectively being oppositely disposed whereby either of said members is automatically positioned for affixing by the fixation of the other in working position.

3,367,681
SWIVEL FITTING
Clarence A. Braukman, Arvada, Colo., assignor to Screw Machine Products Co., Denver, Colo., a corporation of Colorado
Filed Oct. 11, 1965, Ser. No. 494,436
1 Claim. (Cl. 285—94)



The invention is a conduit fitting formed by a tubular body having at one end a smooth external sealing surface for receiving a rotatable head having a co-extensive internal smooth sealing surface and pair of spaced lubricant retaining O-rings between the body and the head. The body includes a nipple portion insertable into the end of a conduit and an external clamp is utilized for clamping the conduit to the nipple.

3,367,682
SEALED JOINT EMPLOYING PRESSURE LOADED AND MECHANICALLY LOADED SEAL
Albert P. Meriano, Fair Oaks, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Oct. 19, 1964, Ser. No. 404,705
3 Claims. (Cl. 285—106)

1 In combination,

(a) first and second members disposed in opposed relation and defining a joint therebetween,

(b) one of said members having an annular groove in its surface facing an opposed surface of the other member,

(c) an annular seal comprising

(1) an annular body portion,

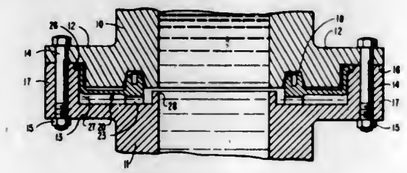
(2) an annular resilient diaphragm integral with said body portion and extending radially therefrom, said diaphragm having an axial flange at its end remote from said body portion,

(3) said body portion having a plurality of radial slots provided therein and disposed rearwardly of said diaphragm, and

(4) the axial flange at the end of said diaphragm remote from said body portion extending in a forward direction with respect to the radial slots provided in said body portion;

(d) said annular seal being disposed with its body portion received in the groove in said one member in sealing engagement with said one member,

(e) the rear end portion of said body portion being seated against the opposed surface of said other member,



(f) the axial flange of said diaphragm being rigidly secured in pressure-tight relation at its forward end to said other member, and

(g) means for drawing said first and second members together for forcing said body portion toward the bottom wall of the groove in said one member to increase the degree of sealing engagement between said body portion and said one member,

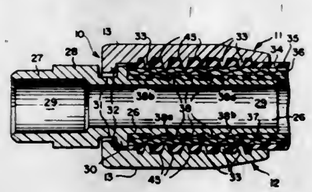
(h) whereby pressure fluid may enter between the opposed surfaces of said first and second members to be admitted through the radial slots in said body portion so as to be directed against said diaphragm for applying pressure thereagainst in a direction tending to urge said body portion toward the bottom wall of the groove for augmenting the degree of sealing engagement between said body portion and said one member.

3,367,683

HOSE COUPLING

Donald R. Mattson, Antioch, Ill., assignor to Anchor Coupling Co. Inc., Libertyville, Ill., a corporation of Illinois

Filed Aug. 27, 1965, Ser. No. 483,200
3 Claims. (Cl. 285—243)



A split clamp hose coupling embodying complementary half sections, each having a series of longitudinally spaced tines on one side and mating tine-receiving pockets on the other to minimize extrusion of hose material between the sections along the opposite sides thereof.

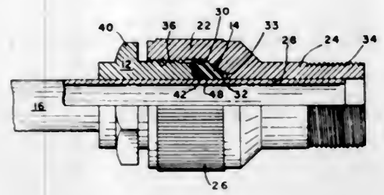
3,367,684

PRESSURE FITTING FOR A TUBE JOINT

Gerald L. Anderson, Bradford, Pa., assignor to Eclipse Fuel Engineering Co., Rockford, Ill., a corporation of Illinois

Continuation-in-part of application Ser. No. 439,638, Mar. 15, 1965. This application Aug. 12, 1966, Ser. No. 579,445

1 Claim. (Cl. 285—340)



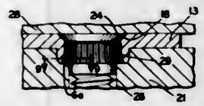
1. A tube-to-pipe type pressure fitting comprising an elongated one-piece fitting body having an axial bore and at one terminal end thereof an enlarged counterbore which merges with the bore by way of a frusto-conical surface at the juncture region of the bore and counterbore, a tube section having a cylindrical outer surface of uniform diameter, projecting through said counterbore, and extending snugly into said bore, said frusto-conical surface at the juncture region of the bore and counterbore having a slant angle of the order of 30° with respect to the axis of the tube section, said counterbore, in combination with the tube section, defining an annular socket surrounding the tube section, a socket-closing nut having a bore closely surrounding the tube section and provided with a cylindrical section which is threadedly received in said counterbore, a resilient deformable gasket disposed within said socket and encircling the tube section, a frusto-conical metal locking ring formed of spring material, surrounding said tube section, disposed within said socket between the nut and the gasket, and having its small base of such diameter that it will seize and bite into the tube section when the ring is urged towards a flattened condition, said locking ring having its slant angle of the order of 60° with respect to the axis of the tube section, the large base of said locking ring bearing against the inner end face of the cylindrical section of the nut at the extreme outer periphery thereof, said large base of the locking ring having a diameter appreciably less than the diameter of said counterbore so that an annular clearance is afforded between said large base and the inner cylindrical surface of the counterbore, said inner end face of the cylindrical section of the nut being of frusto-conical configuration and having a slant angle of the order of 80° with respect to the axis of the tube section, said gasket having a cylindrical section and also a frusto-conical section which opposes and abuts flatly against said frusto-conical surface at the juncture region of the bore and counterbore of the fitting body, said gasket also having at the outer end of its cylindrical section a concave frusto-conical end face directly opposing and fitting co-extensively against the convex side of the locking ring and contained entirely within the confines of said frusto-conical inner end face of the cylindrical section of the nut, all of the above defined angular sloping surfaces and faces being sloped inwards from said terminal end of the fitting body, the outer diameters of the cylindrical section of the nut, the locking ring, and the cylindrical section of the gasket being substantially equal whereby during progressive tightening of the nut to the fullest extent of which it is capable of being tightened, the large base of the locking ring will initially be engaged by the inner end face of the cylindrical section of the nut, the locking ring will be forced against the gasket, the latter will be partially compressed within the socket, the small base of the locking ring will bite into the tube section to lock the latter within the fitting body, and flexure of the locking ring will further compress the peripheral regions of the gasket and will terminate short of the fully flattened condition of said locking ring.

3,367,685

PLATE METAL STRUCTURE WITH INTEGRAL THREADED STUD

Herman S. Church, Cuyahoga Falls, and Don C. Price, Canton, Ohio, assignors to The Monarch Rubber Company, Hartville, Ohio, a corporation of Ohio

Filed Nov. 12, 1965, Ser. No. 507,414
2 Claims. (Cl. 287—20.3)



A plate metal product having an integrally connected threaded stud fastener projecting from one surface of the plate metal, the stud having a flat top head seated in a complementary recess formed in the plate metal with the flat top flush with the other plate surface to provide a uniform bond when said other plate surface is bonded to rubber; the stud having a threaded shank and spline ribs and grooves extending axially between the stud head and threaded shank; the ribs being embedded in the inner surface of an opening through a sleeve projecting integrally from said one plate surface around the stud spline formations; and portions of the spline formations being expanded into the sleeve metal at the open end of the sleeve.

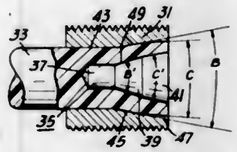
3,367,686

ATTACHMENT OF AN END FITTING TO A SOLID ELONGATE MEMBER

Charles B. Kurz, North Muskegon, Mich., assignor to Koppers Company, Inc., a corporation of Delaware

Continuation-in-part of application Ser. No. 372,041, June 2, 1964. This application May 23, 1967, Ser. No. 640,580

4 Claims. (Cl. 287—20.3)



Attachment of a fitting to the end of a solid elongate filament reinforced resin member comprises inserting a plug into a prepared hole in the end of the member which flares the member outwardly to mating relation with the walls of a bore in the fitting to be attached to the end of the rod. The contour of the plug has a single or a double taper corresponding to a single or double taper of the walls of the bore in the fitting. The plug is adhesively secured in the hole in the end of the member and the member is also adhesively secured in the fitting.

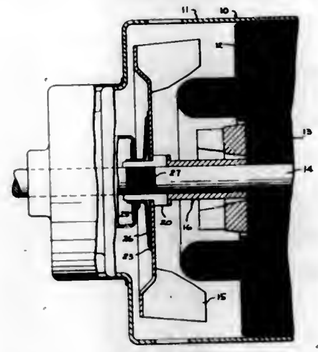
3,367,687

MEANS TO SECURE AN ELEMENT TO A SHAFT

Thomas E. Jenkins, Louisville, Ky., assignor to General Electric Company, a corporation of New York

Filed Jan. 27, 1966, Ser. No. 523,362
6 Claims. (Cl. 287—52.06)

Improved means for securing an element, such as a fan or the like, having an opening therethrough to a shaft. The securing means basically includes a collet and a sleeve. The collet has a bore adapted to be readily slipped over the shaft. One end portion of the collet is axially slotted and extends to an annular shoulder on the collet outer wall. The relaxed external diameter of the slotted collet end portion is small enough to fit into the



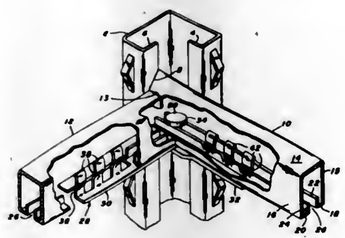
element opening. The sleeve has an internal diameter less than the relaxed external diameter of the slotted collet end portion and is adapted to be slipped tightly thereover to crimp the collet firmly to the shaft. A flange on the sleeve firmly secures the element against the collet shoulder, whereby the collet and the element are firmly secured to the shaft.

3,367,688

ADJUSTABLE RAIL CORNER ASSEMBLY

James E. Ashworth, Moraga, and August L. Bartz, Alamo, Calif., assignors to United States Steel Corporation, a corporation of Delaware

Filed July 29, 1966, Ser. No. 568,874
6 Claims. (Cl. 287—54)



An assembly for rail fencing having a pair of open section rails arranged at an angle to one another; and a pair of pivotally connected arms secured to and aligned with said rails by means of outwardly extending lips.

3,367,689

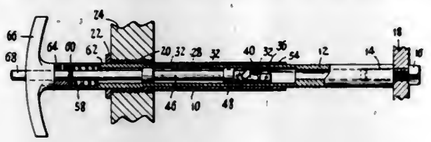
ADJUSTABLE STRUT

John J. McCarthy, Brookfield, Conn. (% Norco Incorporated, P.O. Box 405, Georgetown, Conn. 06829)

Filed Oct. 23, 1965, Ser. No. 503,023
7 Claims. (Cl. 287—58)

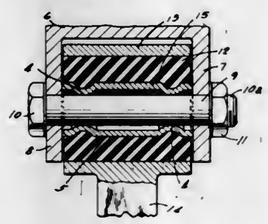
An adjustable strut comprising a pair of tubular relatively longitudinally movable telescoping members one of which has a pair of matched, notched longitudinal slots coextensive with each other. The other member has locking dogs which ride in the slots and which are movable laterally of the member to enable them to occupy pairs of

notches in the slots. A longitudinally movable release rod is mechanically coupled to the locking dogs to actuate the same for movement into and out of the notches. The



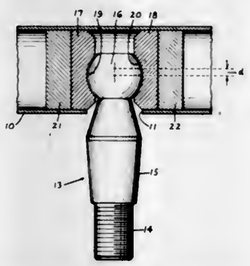
release rod is carried in the strut member which has the dogs, and is accessible at one end of the member for manual actuation.

3,367,690
BUSHING AND METHOD OF MAKING SAME
George M. Federspill, Kokomo, Ind., assignor to Steel Parts Corporation, Tipton, Ind., a corporation of Indiana
Filed Apr. 19, 1965, Ser. No. 448,924
1 Claim. (Cl. 287—85)



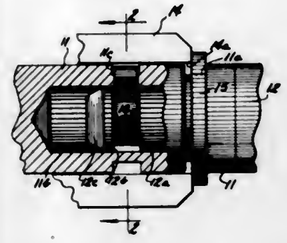
A bushing assembly for use in a steering or suspension joint of an automotive vehicle having a tubular bushing with indentations to form bearing contact surfaces to engage a bearing member inserted through the bushing. The bushing is attached to a concentric outer hollow member by an elastic body secured to the exterior surface of the bushing and the interior surface of the hollow member.

3,367,691
AUTOMATICALLY ALIGNING BALL STUD COUPLING
Paul W. Claar, Du Bois, Pa., assignor to Mack Trucks, Inc., Allentown, Pa., a corporation of New York
Filed July 27, 1966, Ser. No. 568,190
3 Claims. (Cl. 287—90)



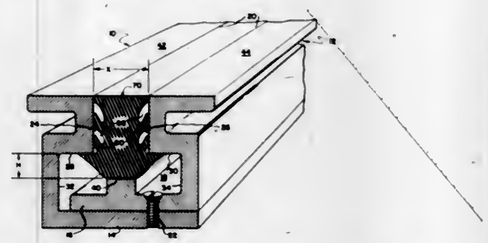
A ball coupling which is automatically self-aligning and includes a socket member having a pair of bearing members freely rotatable therein and having eccentrically located concave sockets therein for receiving a ball on a ball stud and enabling limited universal movement of the ball relative to the socket and compensating for misalignment of components by rotation of the bearing members relative to the socket member.

3,367,692
SHAFT CONSTRUCTION
George Kevork Ballan, Greenfield, Wis., assignor to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed Sept. 20, 1965, Ser. No. 488,700
9 Claims. (Cl. 287—103)



A shaft construction, especially for electronic components, wherein two coaxial sections are adapted for easy assembly and are resiliently interlocked against relative axial movement and against relative rotation.

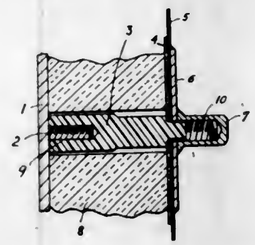
3,367,693
LEAK-PROOF JOINT STRUCTURES
William C. Weltman, Jr., Pittsburgh, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 1, 1964, Ser. No. 415,092
10 Claims. (Cl. 287—189.36)



1. A joint structure between adjacent members, each of said members being marginally profiled to provide, on marginal edge joint assembly therebetween, a wall surface in oppositely disposed transversely separated relationship constituting an axially extending channel entrance to a laterally expanded cavity below said channel entrance, a wall area of said cavity remote and opposite to the channel entrance thereto having an upstanding axially extending abutment in substantial alignment with the axis bisecting the transverse width of the channel entrance, said abutment having an upwardly directed surface located below a transverse plane defining coplanar wall areas of the cavity, one each of said coplanar wall areas being contiguous with and angularly disposed to one each of the wall surfaces constituting the entrance channel to said cavity, a defining wall of the cavity incorporating overlying contacting surface areas including at least one surface area of one of the members of said joint structure, said overlying contacting surface areas being permeable to vapor and moisture leakage into and out of said cavity; an elongate resilient moisture and vapor sealing strip of axially uniform transverse cross-section comprising a stem portion and laterally extending head portion carried thereby, said sealing strip responding under applied pressure to displaceable transformation within its elastic limit to forcible entrance head-first through the channel entrance to position the

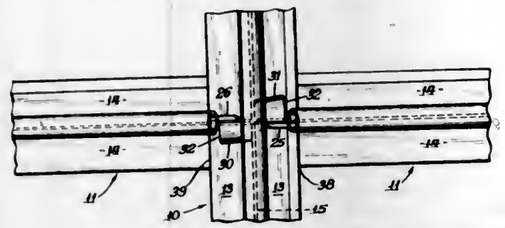
head portion thereof within said cavity in compressive abutting contact of an underlying surface of the head portion remote to said stem portion against the upwardly directed surface of the upstanding abutment underlying the same with the stem portion of the sealing strip in compressive engagement with the oppositely disposed wall surfaces constituting the channel entrance, and said head portion of the sealing strip presenting coplanar laterally oppositely outwardly extending surfaces in the plane of attachment to the stem portion thereof, one each of said laterally oppositely outwardly extending surfaces being in compressive sealing contact against one each of the oppositely disposed coplanar wall areas of the cavity adjacent the channel entrance thereto.

3,367,694
CONNECTING BOLT IN AN INSULATED JOINT
Johannes Witt, Kiel-Dietrichsdorf, Germany, assignor to Kieler Howaldtswerke, Aktiengesellschaft, Kiel-Dietrichsdorf, Germany, a firm
Filed Feb. 10, 1966, Ser. No. 526,504
Claims priority, application Germany, Feb. 15, 1965, K 50,347
1 Claim. (Cl. 287—189.36)



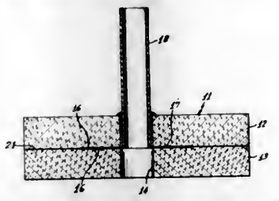
A connecting bolt assembly which comprises in combination a synthetic plastic bolt and a metal nut having a metal distributor disk. This assembly is adapted to externally support thin-walled tanks for liquid supercooled gases on ships as well as to take up all stresses from the wall of the tank (expansion and contraction) and the ship's movements in the sea (accelerative forces).

3,367,695
CEILING SUSPENSION APPARATUS
Mildred E. Haertel, Elmhurst, and John A. Cimaglia, Oak Lawn, Ill., assignors to W. J. Haertel & Co., Franklin Park, Ill., a corporation of Illinois
Filed Aug. 26, 1966, Ser. No. 575,291
9 Claims. (Cl. 287—189.36)



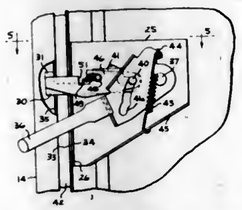
The present invention relates to a quickly attachable, detachable and re-usable grid type ceiling panel suspension system. A plurality of spaced, parallel T-beams is secured in one direction in a room at regular intervals in coplanar arrangement. A plurality of cross-T's interconnects the T-beams at desired intervals. Each end of the cross-T's has resilient, laterally-skewed locking ears which penetrate mating apertures at said desired intervals and lock each end of each cross-T to the T-beams. The resilient ears of the cross-T's may be readily deflected by a workman for undamaged withdrawal of the cross-T's when required.

3,367,696
METAL TO CERAMIC SEAL
Robert C. Langley, Millington, N.J., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed June 22, 1965, Ser. No. 465,908
6 Claims. (Cl. 287—189.365)



A novel seal between a ceramic body and a metal flange, wherein the flange is fitted into a recess between two ceramic elements and the recess is filled with a fused glass sealant to bond the ceramic bodies and metal flange in gas tight relationship.

3,367,697
DOOR LATCH MECHANISM
Joseph S. Fox, Sr., Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Mar. 10, 1966, Ser. No. 533,344
6 Claims. (Cl. 292—113)



A door latch mechnism as for use with a kitchen appliance such as a self-cleaning baking oven or an automatic dishwasher where the mechanism includes a supporting bracket having a pivoted latching bolt and a pivoted handle lever connected thereto by means of a cam follower arrangement to give the latching bolt both a swinging and a lineal movement to pull the door in tight. Also pivoted to the bracket and generally coinciding and moving with the latching bolt is a door sensor bar that serves to interrupt the closing action of the latch mechanism if the door is not present in its closed position. The door sensor bar is adapted to be deflected aside by the presence of the door so that the latching bolt may complete its travel to the fully closed position.

3,367,698
LOCKER HANDLE ASSEMBLY
William Paul Walker, Sr., King of Prussia, Pa., assignor to Penco Products Inc., Oaks, Pa., a corporation of Pennsylvania
Filed Mar. 30, 1966, Ser. No. 538,766
6 Claims. (Cl. 292—188)

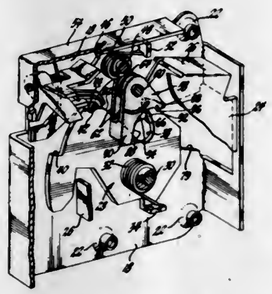
Steel lockers of the type used in gymnasiums and schools have swinging doors locked by a handle assembly and a sliding latch mechanism. The present invention

provides an improved locker handle assembly for actuating the latch mechanism, wherein the locker handle ro-



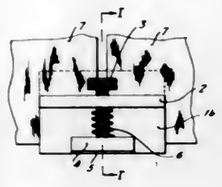
tates within a base enclosure whereby the assembly is protected from abuse such as force from kicking, and unauthorized entry into the locker is prevented.

3,367,699
CLOSURE LATCH
James D. Leslie, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 14, 1966, Ser. No. 579,279
9 Claims. (Cl. 292—216)



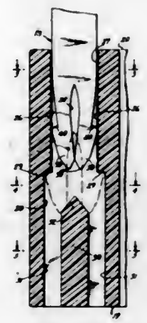
1. In a vehicle body having a closure member mounted thereon for movement between open and closed positions with respect to a body member, a closure latch, comprising, in combination, a support mounted on one of the members, a latch bolt rotatably mounted on the support for movement between latched and unlatched positions, a striker mounted on the other of the members, the bolt including an abutment surface located in the path of travel of the striker upon relative movement of the members and merging into a striker receiving bolt throat, wedge means independently rotatably mounted on the support, the wedge means including an abutment surface merging into a wedging surface, relative movement of the members moving the striker into engagement with the bolt abutment surface and the wedge means abutment surface, the striker moving relative to the bolt abutment surface and into the bolt throat as the bolt moves to latched position and moving relative to the wedge means abutment surface and into engagement with the wedge means wedging surface to retain the striker within the bolt throat in the latched position of the bolt.

3,367,700
SYSTEM FOR CLOSING OF GLASS PANE DOORS
Bonifacio de la Cruz Carnicero, Garcia Morato 43, Madrid, Spain
Filed Feb. 21, 1966, Ser. No. 529,139
18 Claims. (Cl. 292—288)



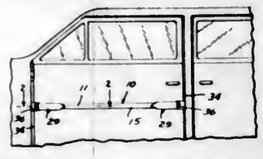
A removable locking arrangement for locking doors, particularly glass doors in closed position, including several different arrangements, whereby none of the arrangements are permanently fixed to either the door or the floor, thereby eliminating an abutment member protruding from the floor or from the door frame, permitting a more simpler locking arrangement, and also preventing the possibility of accidents as often occurs with the present locking arrangements in the prior art.

3,367,701
SELF-LOCKING PLASTIC SEAL
Norman B. Wenk, Jr., Garden City, N.Y., assignor to American Casting and Manufacturing Corporation, Plainview, N.Y., a corporation of New York
Filed Jan. 14, 1966, Ser. No. 520,776
2 Claims. (Cl. 292—321)



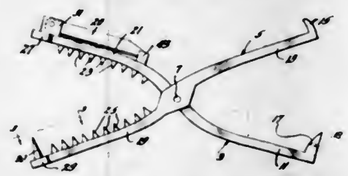
This disclosure relates to self-locking seals wherein the entire seal is made as one integral casting of plastics material and consists of a wafer-like body having a thickened portion along one side thereof, said portion having a socket extending longitudinally therethrough, with a reduced entry portion which opens into an enlarged inner chamber defining a pair of laterally spaced shoulders for reception of and engagement with a pair of resilient tines which extend in laterally spaced relation longitudinally from a shank of a tie member which flexibly extends from the side edge of the wafer-like structure opposite the side having the thickened edge, in combination with an abutment in the inner chamber which engages between said tines upon said insertion to positively space the tines and resist removal thereof.

3,367,702
DOOR GUARD OR THE LIKE
Oliver J. Sauer, 700 NE. 80th St., Miami, Fla. 33138
Filed June 18, 1965, Ser. No. 464,921
5 Claims. (Cl. 293—62)



A door guard for automobiles including a central member of channel shape having an internal longitudinal strengthening channel and a pair of end members of similar section. The end members have hooked portions to clamp over the edges of the door and have shoulders to rest on the outer surface of the door for holding the central member spaced away from the door surface. The end members are held in clamping position by a tension spring.

3,367,703
FISHERMAN'S TOOL
Harry Pittis, 3706 Harrison St. NW., Washington, D.C. 20015
Filed May 9, 1967, Ser. No. 637,137
1 Claim. (Cl. 294—16)



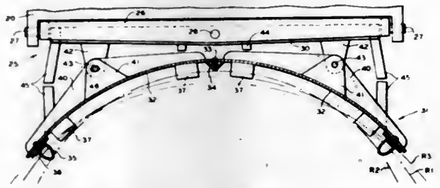
The invention relates to a plier type of toothed gripping tool for holding fish, crabs and the like while removing hooks, cleaning, etc., and is distinguished by the jaw shape and tooth position.

3,367,704
SHRUB SPADE
Frank M. Kleppin, 1462 S. 72nd St., West Allis, Wis. 53214
Filed Oct. 22, 1965, Ser. No. 500,884
4 Claims. (Cl. 294—58)



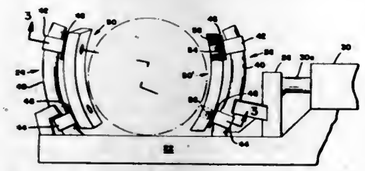
This invention embodies a main shrub spade structure the bottom or engaging portion of which is provided with a multiplicity of teeth with the longer tooth to the center to operate as a guide member when the structure is inserted in the ground. The blade member includes a socket for a handle, the axis of which is generally aligned with the blade member and terminates in a handle portion at the upper end. Attached to the blade member by a rivet is a second blade member which is seated upon the first blade member and is riveted thereto at its medial portion. The second blade member has teeth generally of the same structure and contour but slightly shorter than the first blade member and the upper end of this blade member is provided with an offset socket for the reception of a handle which generally overlies the handle of the first blade member so that the handles are positioned for control of the tool in the cutting of roots and the like and the transplanting of shrubbery. The upper marginal edge of the main blade member is provided at its top marginal edge with a foot cleat positioned on the blade assembly for inserting the same into the ground. By the provision of the second handle overlying the first handle, means are provided for manipulating the tool enabling an operator to use the strength of both hands in positioning, guiding and removing the tool when once inserted in the ground.

3,367,705
HINGED VACUUM ROLL GRIPPER
Victor H. Ames, Midlothian, Ill., assignor to Whiting Corporation, a corporation of Illinois
Filed Aug. 3, 1965, Ser. No. 476,966
19 Claims. (Cl. 294—64)



A vacuum roll gripper for handling cylindrical objects such as paper rolls is attached to a forklift truck and has several plate members pivotally movable on a frame to conform generally to the surface of the cylindrical object. A suction seal is mounted between each of the adjacent members and a gasket runs around the periphery of the gripper extending over several of the plate members and a suction system provides a suction within the area enclosed by the gasket.

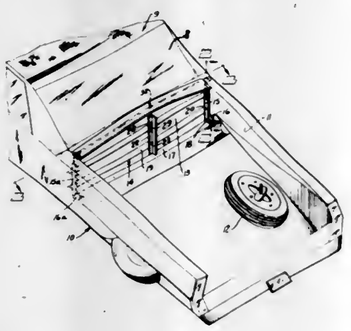
3,367,706
TREE CLAMP
William A. Gerrans, 15 Florimond Drive, Colusa, Calif. 95932
Filed Oct. 24, 1965, Ser. No. 504,888
1 Claim. (Cl. 294—103)



1. A tree clamp which comprises
a fixed jaw and
a second jaw mounted for movement toward and away from said first jaw,
each of said jaws including
a rod and

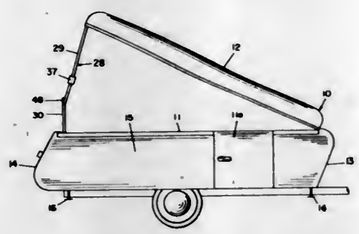
a resilient cushion secured to said rod at spaced points wherefore said cushion is flexible at intermediate points, said cushion being attached to said rod by spaced backing plates having pivotal connection with the adjoining resilient cushion section to allow pivotal motion of said cushion.

3,367,707
CONVERTIBLE TRUNK GUARD
Willie F. Merriweather, 8527 Dexter, Detroit, Mich. 48206
Filed Apr. 16, 1965, Ser. No. 448,655
3 Claims. (Cl. 296—24)



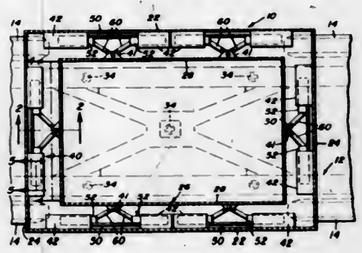
A convertible auto trunk guard disposed between the front end of the trunk and the convertible top storage compartment to prevent theft from the trunk by access through said storage compartment.

3,367,708
EXPANDABLE CAMPING TRAILER
William H. Brown, Carl F. Dretzke, and Ted J. Niemczyk, Manawa, Wis., assignors to Trade Winds Company, Inc., a corporation of Wisconsin
Filed Apr. 4, 1966, Ser. No. 539,822
3 Claims. (Cl. 296—27)



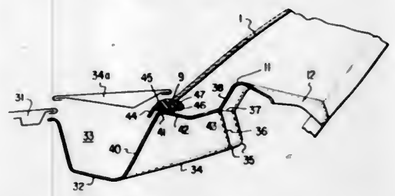
An expandable camping trailer having a rigid trailer body and a rigid, raisable trailer top supported on a pair of front arms and a pair of rear arms. Each arm has an upper and lower section pivotally pinned together so that the arms can be folded down into the front and rear walls of the trailer body perpendicular to the path of travel of the trailer. The upper sections of either the front pair of arms or the rear pair, or both pairs, are also pivotable on the connecting pins toward the other pair of arms parallel to the path of travel of the trailer so that one end of the trailer top can be raised at a time by one person.

3,367,709
VEHICLE PASSENGER COMPARTMENT SUSPENSION SYSTEM
Victor Sung, Syracuse, N.Y. (198—51 Foothill Ave., Hollis, Queens, N.Y. 11423)
Filed May 11, 1966, Ser. No. 549,382
11 Claims. (Cl. 296—35)



1. In combination with a vehicle including an elongated frame provided with sprung running gear, a passenger compartment, means guidingly supporting said passenger compartment from said frame for oscillation both transversely and longitudinally of said frame between limit positions of transverse and longitudinal oscillation and against vertical displacement in at least one direction relative to said frame, said means supporting said passenger compartment from said frame against downward vertical displacement relative to said frame and including rolling bearing means disposed between portions of said compartment and said frame supporting the weight of the former relative to the latter.

3,367,710
MOTOR VEHICLE
Béla Barényi, Stuttgart-Vaihingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Nov. 22, 1965, Ser. No. 508,934
Claims priority, application Germany, Nov. 21, 1964, D 45,894
10 Claims. (Cl. 296—84)

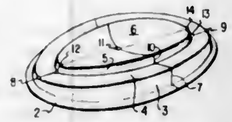


A sheet metal body panel for motor vehicles forming at least in part a dashboard for the vehicle which is disposed in the area of the lower edge of the windshield and projects into the passenger space in a freely-supported, cantilever-like manner.

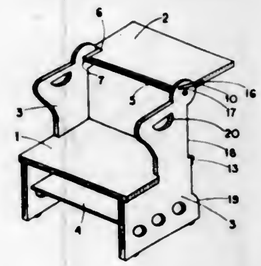
3,367,711
MULTI-STEP ROOF FOR MOTOR VEHICLES
Béla Barényi, Stuttgart-Vaihingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Jan. 3, 1966, Ser. No. 518,336
13 Claims. (Cl. 296—137)

A concave roof structure for a motor vehicle, comprising two or more roof portions in a vertically-stacked relationship, wherein a cross-section of the roof structure appears as a step-like configuration from the peripheral portions of the roof in the direction of the center of the roof,

each of the load-bearing transverse portions of the roof structure having a concave configuration, wherein a convenient and relatively strong load-supporting surface is provided.

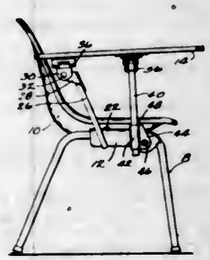


3,367,712
STEP STOOL-CHAIR-TABLE
Grover C. Greene, 201 S. Chester Road, Swarthmore, Pa. 19081
Filed Jan. 7, 1966, Ser. No. 534,258
4 Claims. (Cl. 297—124)



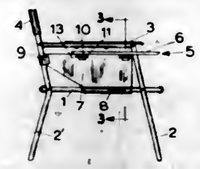
A convertible article of furniture having a support frame, a fixed seat and a pivotal member secured to the top of the frame above the seat. The pivotal member being capable of rotating about the frame to abut the top or the back of the frame, a latch is provided to retain the pivotal member in a position intermediate its abutting positions. The latch is pivotally secured by one end to the frame and its free end engages a lug on the pivotal member when it is desired to support the pivotal member in a non-abutting position.

3,367,713
SELF-LOCKING ADJUSTABLE TABLET ARM
Allison F. Krueger, 226 Miramar Drive, Green Bay, Wis. 54301
Filed Sept. 14, 1966, Ser. No. 579,353
6 Claims. (Cl. 297—162)



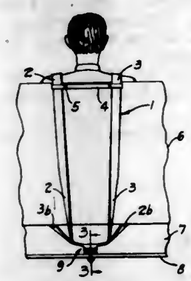
In a tablet arm chair having a collapsible forward post provided with a manually releasable latch and an automatically operable lock, a lock-engaging push rod is so positioned that when the tablet arm is moved to a position of use the lock is engaged to secure the forward post from collapse.

3,367,714
SIDE TABLES FOR CHAIRS
Edward H. Stone, 2247 Workley Road, Apt. 25, Ottawa, Ontario, Canada
Filed Feb. 1, 1966, Ser. No. 524,245
1 Claim. (Cl. 297—194)



1. The combination of a removable side table with a lawn chair or the like, said chair including a tubular framework providing a side seat frame member and a leg member having a portion extending upwardly from said side seat frame member and in the general plane of the latter, said side table comprising a tray and a supporting panel for said tray depending from an edge of said tray downwardly and substantially at right angles to said tray, said panel being substantially flat and having two edges running substantially parallel to the respective side seat frame member and leg member portion of said chair and spring clamps provided along said edges and resiliently and removably engageable with said respective side seat frame member and leg member portion so as to positively maintain said panel against displacement in all directions and to secure said panel in the general plane of said side seat frame member and leg member portion with said tray in substantially horizontal position and projecting outwardly from said plane on the side of said chair, said side table further including means for detachably connecting said tray to said supporting panel, said means including collars secured to the underside of said tray and U-shaped spring tongues protruding outwardly from the top edge portion of said side panel and resiliently and removably engageable with said collars.

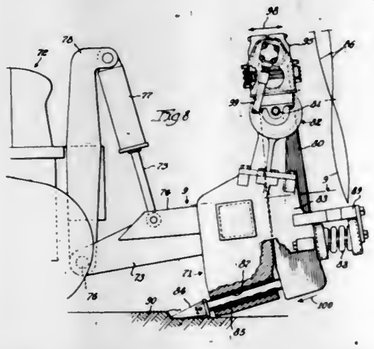
3,367,715
MULTIPLE-BELT SEAT HARNESS WITH COMMON ANCHORING SYSTEM FOR THE BELTS
Michael G. Curran, 11608 Detroit Ave., Cleveland, Ohio 44102
Filed Nov. 1, 1966, Ser. No. 591,173
16 Claims. (Cl. 297—385)



In a multiple-belt seat harness for vehicular use, (1) an anchor for said harness affixed to the vehicle body to the rear of the wearer; (2) right and left shoulder belts proceeding downwardly from a common reference zone above the vehicle seat, proceeding rearwardly to said anchor, proceeding upwardly behind the vehicle seat in two substantially parallel paths extending from said anchor to approximately the level of the wearer's shoulders,

and terminating in said reference zone in end portions depending from the wearer's shoulders; and (3) means in said reference zone for connecting said belts to each other, said anchor taking the form of a single assembly embodying primary mounting means, a lower clamping member, an upper clamping member, and a throat between them traversed in opposite directions by intermediate portions of said belts.

3,367,716
SONIC RECTIFIER COUPLING FOR ROCK CUTTING APPARATUS
Albert G. Bodine, 7877 Woodley Ave., Van Nuys, Calif. 91403
Continuation-in-part of application Ser. No. 402,136, Oct. 7, 1964. This application Mar. 31, 1967, Ser. No. 627,390
20 Claims. (Cl. 299—14)



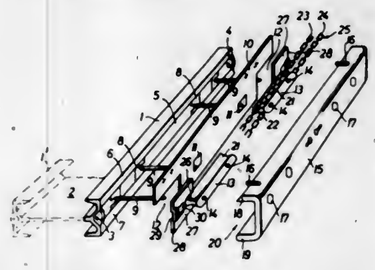
The sonic energy output of a sonic generator is coupled to a resonant vibration system. The output of the resonant vibration system is in turn coupled through a sonic rectifier device to a cutting bit which is biased against a rock formation to be planed. The sonic rectifier provides unidirectional high-level pulses of energy to the cutting bit causing such bit to be driven in one direction only in a pulsating manner at the sonic drive frequency.

3,367,717
MINING CONVEYOR ARRANGEMENT HAVING RAISED DUMPER END
Wulff Rösler, Altlunen, Helmut Temme, Waltrop, and Werner Georg, Altlunen, Germany, assignors to Gewerkeschaft Eisenhutte Westfalia, Wethmar near Lunen, Westfalia, Germany
Filed Mar. 25, 1966, Ser. No. 539,256
Claims priority, application Germany, Mar. 27, 1965, G 43,202
13 Claims. (Cl. 299—34)



1. Mining conveyor arrangement which comprises longitudinally extending mining conveyor means situated at a lower level, mining machine elongated guide means provided along said conveyor means, and dumper end support means having a lower portion at said lower level and an upper portion at a corresponding upper level vertically spaced from said lower level, said conveyor means having an upwardly slanting dumper end portion extending therefrom at said lower level to the upper portion of said dumper end support means at said upper level whereby to dump thereat conveyed material from said dumper end portion, and said guide means having a forwardly directed guide end portion extending therefrom separately from said upwardly slanting dumper end portion and along said lower level to the lower portion of said dumper end support means.

3,367,718
MINING CONVEYOR ARRANGEMENT WITH EASILY REPLACEABLE PARTS
Alois Hauschopp, Werne, Lippe, Germany, assignor to Gewerkschaft Eisenhutte Westfalia, Wethmar near Lunen, Westfalia, Germany
Filed Nov. 23, 1965, Ser. No. 509,385
Claims priority, application Germany, Dec. 17, 1964, G 42,297
10 Claims. (Cl. 299—43)

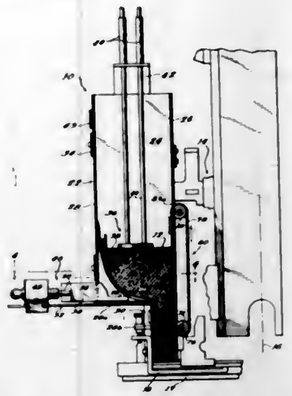


Longitudinal mining conveyor section arrangement of the type having at one side thereof laterally, in turn, a side wall, a backing plate, spacer means and a cover plate whereby to form a pair of superimposed guide channels along the corresponding side of the conveyor section to accommodate corresponding upper and lower drive cable means attached to a mining machine for conducting such machine back and forth along a mine face for extraction of mineral therefrom, in which the spacer means include a pair of replaceable spacer members each having a spacer element connected thereto to form a corresponding unit therewith and in which said spacer members and spacer elements in the form of such units are correspondingly replaceably positioned at the longitudinal ends of the backing plate adjacent the path of such cable means with each spacer element disposed thereat for abutment with a corresponding longitudinal end of an adjacently disposed conveyor section and at least in part for guiding contact with the corresponding cable means, whereby to permit a worm spacer element and spacer member to be replaced without replacing the backing plate.

3,367,719
BRISTLE MAGAZINE FOR BRUSHMAKING MACHINE
John I. Carlson, Geneva, Ill., assignor to Carlson Tool & Machine Co., a corporation of Illinois
Filed June 27, 1966, Ser. No. 560,740
8 Claims. (Cl. 300—7)

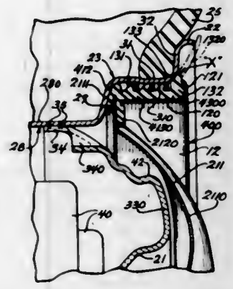
1. A bristle feeding magazine for use in a brush-making machine, comprising: a body having an open lower end and including spaced generally upright side walls forming part of an enclosure for receiving and feeding brush bristles, said side walls spaced apart a first enlarged distance at the upper end of said body and a second reduced distance at the lower feeding end of said

body, the upper and lower end portions of the body being joined by an intermediate wall portion to provide con-



tinuous even feeding of bristles out the reduced lower end.

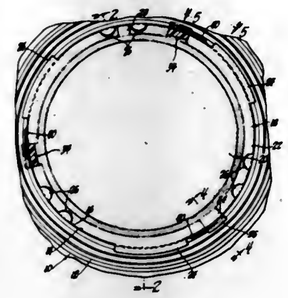
3,367,720
VEHICLE WHEEL TRIM
Charles B. Aske, Jr., Birmingham, Mich., assignor, by direct and mesne assignments, to Gar Wood Industries, Inc., a corporation of Michigan
Filed Oct. 22, 1965, Ser. No. 502,180
2 Claims. (Cl. 301—37)



A vehicle wheel trim for a conventional drop center rim type vehicle wheel consisting of a preferably plastic wheel cover and a preferably metal rim trim wherein the rim trim includes means removably securing the same to a vehicle wheel. The said wheel cover element being positioned concentrically wholly within the tire bead seat annulus of vehicle wheel rim adjacent but spaced in cushioned relationship with respect to the outer side wall of said drop center rim and said tire bead annulus thereof, and is maintained accurately in such position by the rim trim element and its securing which covers the remaining portion of said tire bead seat annulus; the said wheel cover and rim trim elements providing in effect a unitary whole when mounted on said vehicle wheel, and are completely cushioned therefrom.

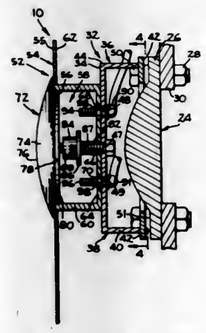
3,367,721
WHEEL COVER WITH CENTRAL MEDALLION
John Clare, Fraser, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 28, 1966, Ser. No. 530,651
4 Claims. (Cl. 301—37)

A wheel cover assembly comprises an annular formed metal outer cover member having an aperture therein which receives a formed plastic medallion member. The medallion includes extended peripheral flange segments which axially locate the medallion within the aperture in one direction, while the cover member includes a plurality of metal tabs adjacent the aperture which are deformable radially to position the medallion in the other axial direction. The medallion includes an axial projection



located between two of the tabs to circumferentially position the medallion. The medallion also includes a plurality of axially and radially extended projections having open slots which wedgingly receive spring fingers struck out from the cover member adjacent the aperture to resiliently position the medallion radially within the aperture.

3,367,722
WHEEL COVER
Frank H. Miyanaga, 1726 Mossbrook Ave., San Jose, Calif. 95130
Filed July 5, 1966, Ser. No. 562,573
3 Claims. (Cl. 301—37)



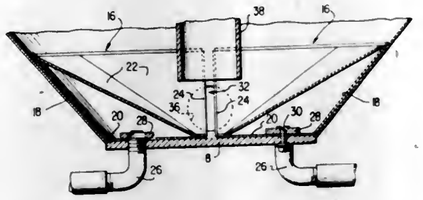
A wheel cover for a vehicle wheel in which a support bracket is attached to the rim flange of a hub of a wheel. Attached to the support bracket is a cover element of the wheel cover, which serves to cover the outer lateral surface of the vehicle wheel. The cover element includes a well which is adapted to contain the stem of at least one air valve for tire inflation purposes.

A portion of the cover element is removable to provide access to the well. Toward this end, a magnet is attached to the removable portion of the cover element and is disposed within the well. Also, a magnetizable element is attached to the support bracket and is disposed within the well.

3,367,723
STEADY FLOW BIN FOR PULVERULENT MATERIAL

Robert B. Emery and Richard F. Bailey, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed Apr. 7, 1966, Ser. No. 540,889
10 Claims. (Cl. 302—53)

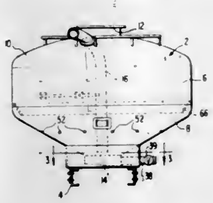


A storage tank for pulverulent material. The tank has sloping walls with an upright pipe inside the tank for discharging the contents of the tank. An aerating surface is provided at the bottom of the tank adjacent the open end of the pipe. A side discharge pipe is also provided adjacent the bottom. The aerating surface is adapted for effectively fluidizing the material adjacent the tank bottom for discharge through either the side discharge pipe or the upright pipe.

3,367,724
AERATING CARTRIDGE

Robert B. Emery and Richard F. Bailey, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed May 6, 1966, Ser. No. 548,302
4 Claims. (Cl. 302—53)

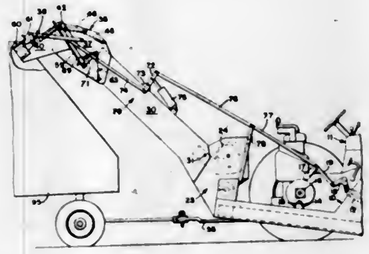


A bulk storage tank including a system for discharging particulate material from the tank by fluidizing the material. The tank has sloping side walls and a well at the bottom of the tank. An upright discharge pipe is mounted in the interior of the tank and is centered over the well. Another discharge pipe extends outwardly through the side of the well and either of these two discharge pipes may be used for discharging from the top or the bottom of the tank. An aerating cartridge is positioned in the well to facilitate discharge of the material through either pipe. The cartridge has a plurality of porous, rigid surface elements and air or other aerating fluid is introduced into the interior of the cartridge for aerating particulate material above the porous surfaces, as the air flows upwardly through the surfaces. The cartridge includes a channel which extends from the center of the cartridge to the outer edge adjacent the wall of the well, and the channel is aligned with the entrance to the side discharge pipe. The porous surfaces slope toward the center of the cartridge, but the bottom surface of the channel slopes downwardly from the center of the cartridge toward the entrance to the side discharge pipe. The sloping porous surfaces are positioned sufficiently close to the vertical discharge pipe to be useful in aerating material when the side discharge conduit is closed, and material is being discharged through the vertical pipe. The channel is sufficiently narrow that it does not interfere with efficient discharge through the vertical pipe. However, when material is being discharged through the side discharge pipe, the channel cooperates with the sloping porous surfaces to direct fluidized material into the side discharge pipe.

3,367,725
ELEVATOR

Leon Franklin Sanderson, Jimmy Jay Parker, and Glenn Dale Head, Des Moines, and Vernis Henry Meyer, Granger, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Feb. 14, 1966, Ser. No. 527,009
11 Claims. (Cl. 302—61)

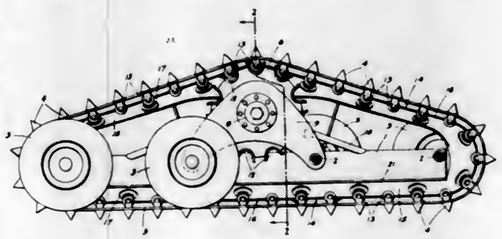


A hood structure adapted for support on the upper end of an elevator in which the hood structure includes horizontally disposed grates disposed in a row and extending in arch-like fashion across the path of a stream of air and cotton that is moving upwardly through the elevator, the entire grate structure being supported for vertical adjustment on the upper end of the elevator and the elevator being supported for vertical adjustment at its lower end, and linkage means interconnecting the hood, grates, and elevator whereby the hood will be adjusted downwardly as the elevator is adjusted upwardly and the grates will be moved vertically on the hood in response to vertical adjustment of the elevator.

3,367,726
ENDLESS TRACK UNIT FOR SNOW TRACTORS

Emmitt M. Tucker, Ashland, Oreg., assignor to Tucker & Sons, Grass Valley, Calif., a corporation of California

Filed May 16, 1966, Ser. No. 550,498
5 Claims. (Cl. 305—18)

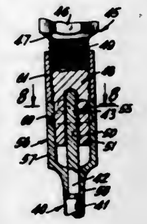


An endless track unit for a tractor, designed so that the unit is equally effective when traversing snow or bare ground. A device is provided between the track unit supporting means and the unit itself which prevents stretching of the track unit when in operation.

3,367,727
ORAL SURGERY TOOL WITH INTERCHANGEABLE BLADES

Abraham W. Ward, 1125 Greenwich St., San Francisco, Calif. 94109, and Raymond T. Whipple, 673 Bille Road, Paradise, Calif. 95969

Filed Oct. 22, 1965, Ser. No. 501,517
4 Claims. (Cl. 306—28)

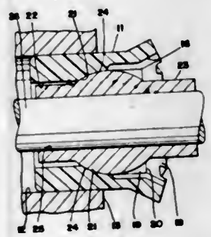


A tool for oral surgery is disclosed as including a handle having a longitudinally extending outwardly opening recess, a replaceable tool having a shank fitting the recess, and releasable detent means for anchoring the shank in the recess or permitting withdrawal of the shank from the recess. The recess has at least one aperture through its wall, receiving a ball detent whose diameter is greater than the thickness of the recess wall. A sleeve is reciprocable longitudinally of the handle and has an annular groove alignable with the recess or recesses. The combined depth of the annular groove and the thickness of the recess wall is at least equal to the diameter of the ball detent so that the ball detent may move outwardly into the annular groove to clear the recess when the annular groove is aligned with the recess. The tool shank may then be inserted into the recess and, by longitudinal displacement of the sleeve along the handle, the annular groove is moved out of alignment with the aperture in the recess wall so that the ball detent is forced inwardly to engage locking formations on the shank of the tool.

3,367,728
SELF-ALIGNING BEARING MEANS

Henry R. Labbie, Cleveland, Ohio, assignor to The Scott & Fetzer Company, Cleveland, Ohio, a corporation of Ohio

Filed June 1, 1965, Ser. No. 460,144
2 Claims. (Cl. 308—26)

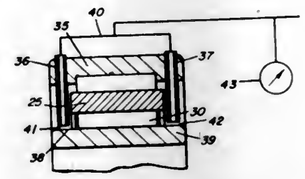


A bearing for receiving a ball member and having an outer cylindrical surface which is receivable in a cylindrical bore and another surface having a radial array of relatively thick ridges which are connected by relatively thin web portions so that, when the radial array of ridges are compressed to the diameter of the first mentioned cylindrical portion, the relatively thin web portions form a socket surface for a portion of the inner ball member.

3,367,729
ANTIFRICTION BEARINGS PROVIDED WITH BUILT-IN FEELER-MEANS

Heinz Korrenn, Schweinfurt, and Willi Kirchner, Schweinheim, Germany, assignors to Kugelfischer Georg Schafer & Co., Schweinfurt, Germany

Original application Nov. 8, 1963, Ser. No. 322,288, now Patent No. 3,252,745, dated May 24, 1966. Divided and this application Nov. 17, 1965, Ser. No. 521,473
10 Claims. (Cl. 308—173)

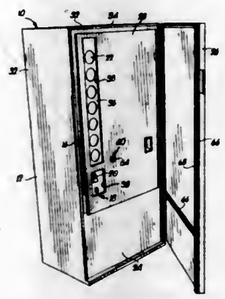


A feeler device in an antifriction bearing having an inner race member, an outer race member, at least one roller member and a roller cage, the device having at least one feeler means having one end fixed to one of the race members and the other end extending towards the other race member. Means are also provided which are associated with the feeler means to measure the distance between the other end thereof and the other race member.

3,367,730
REFRIGERATED DISPENSING CABINET HAVING OUTER DECORATIVE DOOR AND INNER LOCKED PRODUCT ACCESS DOOR

Boley A. Andrews, Mission, Kans., and Elmer C. Johnson, Raytown, Mo., assignors to The Vendo Company, Kansas City, Mo., a corporation of Missouri

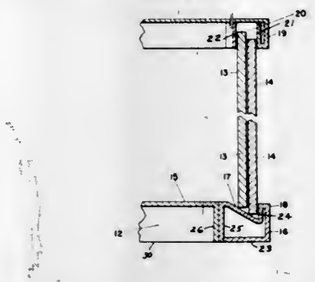
Filed July 25, 1966, Ser. No. 567,478
6 Claims. (Cl. 312—204)



A vending machine cabinet is provided with an inner, lockable, noninsulated door and an outer, unlocked, insulated door which conceals the inner door from view when closed. The inner door precludes customer access to the dispensing mechanism within the cabinet, but is apertured to permit product delivery therethrough and allow the customer to deposit the required coinage. The outer door is normally closed and is decorated to coincide with the decor of the vending area, thereby disguising the cabinet to provide no external clue that the latter contains a vending machine.

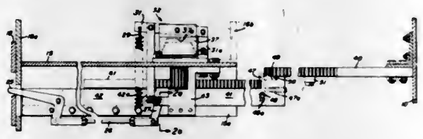
3,367,731
CABINET FRONT AND DOORS
William H. Kafferlin, Spring Creek, Pa., assignor to Corry Jamestown Corporation, Corry, Pa., a corporation of New York
Filed Mar. 14, 1966, Ser. No. 533,976
2 Claims. (Cl. 312—304)

The invention herein involves a sliding door type of cabinet wherein the bottom track is made of an integral piece of sheet metal bent in the form shown to provide an inclined bottom on which the bottoms of the doors



slide. The sheet metal track also has a real wall that may be fixed to a bottom of a cabinet.

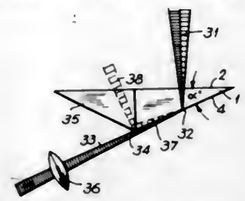
3,367,732
DRAWER SECURING APPARATUS
Willard R. Beye, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 20, 1967, Ser. No. 610,696
9 Claims. (Cl. 312—320)



The present invention relates to a drawer securing apparatus and more particularly to an apparatus which permits the positive securing of a drawer-chassis at any desired degree of extension from a cabinet for permitting inspection or repair of electronic modules mounted thereon. The invention utilizes a novel longitudinally extending rack assembly which, as successive sections are extended, automatically interlocks to provide a continuous rack. A spring-biased brake mechanism positioned to maintain a continuous longitudinal travel on the rack assembly is controlled by a release linkage, which extends to the outside of the cabinet, for allowing selective securing of the drawer-chassis at any position on the rack assembly.

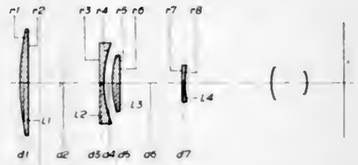
3,367,733
APPARATUS FOR MODULATING LASER RADIATION
Gerhard Grau, Munich, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Oct. 23, 1963, Ser. No. 318,458
Claims priority, application Germany, Oct. 25, 1962, S 82,175
4 Claims. (Cl. 350—160)

A monochromatic laser beam is projected through a deflector prism of solid material which has an electrical or magnetic field-responsive refraction index. The laser beam is deflected by the deflector prism at an angle of deflection having a vertex at a surface of the deflector prism. The radiation beam collector has an input focal



point coincident with the vertex of an angle of deflection of the laser beam from the deflector prism.

3,367,734
SUPPLEMENTARY OBJECTIVE WITH CONTINUOUSLY VARIABLE MAGNIFICATION
Karl Bystricky, Wiener Neudorf, and Trude Muszumanski, Vienna, Austria, assignors to Karl Vockenbuber, and Raimund Hauser, both of Vienna, Austria
Filed Feb. 13, 1964, Ser. No. 344,576
Claims priority, application Austria, Feb. 22, 1963, A 1,392/63
1 Claim. (Cl. 350—184)



1. In a supplementary objective with continuously variable magnification constructed in the manner of a Galilean telescope, a positive front member and a negative rear member defining an optical axis, both members being stationary relative to each other and relative to a following main objective, a positive and a negative member having refraction powers of the same absolute value and being located on said optical axis and between said front and said rear member, said inner members being movable along said optical axis in opposite directions, and one of said inner members being movable linearly and the other of said inner members being movable non-linearly in such a manner that during variation of the magnification the image position remains constant, and supplementary objective complies substantially with the following table and beginning from the front end of the said supplementary objective L_1 to L_4 designate said lens members, r_1 to r_8 designate the radii of curvature of the lenses, the + values of the radii indicate the surfaces of the lenses being convex toward the front of said supplementary objective, d_1 to d_7 designate the axial thickness and the axial separations, the values of the radii and axial thickness and separations are given in terms of millimeters, n_d are the refractive indices for the (Helium) d-line, ν are the Abbé's dispersion numbers:

L_1	$r_1=+70.12$	$d_1=2.0$	$n_d=1.623/\nu=58.1$
	$r_2=\infty$	$d_2=0.6\text{-}16.9$	
	$r_3=\infty$	$d_3=1.3$	$n_d=1.623/\nu=47.0$
L_2	$r_4=+28.23$	$d_4=32.4\text{-}2.0$	
	$r_5=+28.23$	$d_5=1.8$	$n_d=1.623/\nu=58.1$
L_3	$r_6=\infty$	$d_6=0.5\text{-}14.6$	
	$r_7=\infty$	$d_7=0.9$	$n_d=1.623/\nu=47.0$
L_4	$r_8=+46.86$		

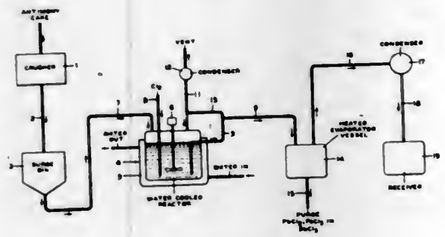
Magnification = 1:2.

CHEMICAL

3,367,735
SEPARATION AND RECOVERY OF SODIUM SULFATE AND SODIUM CARBONATE FROM ADMIXTURES THEREOF
John E. Hanway, Jr., Columbus, and George R. Smithson, Jr., Grove City, Ohio, assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware and Copeland Process Corporation, Oak Brook, Ill., a corporation of Illinois
Filed Sept. 23, 1965, Ser. No. 489,576
4 Claims. (Cl. 23—48)

1. A method for the selective separation and recovery of sodium sulfate and sodium carbonate from an aqueous mixture thereof comprising forming an aqueous admixture saturated with respect to sodium sulfate and unsaturated with respect to sodium carbonate, contacting said aqueous admixture with a second admixture comprising sodium sulfate and sodium carbonate thereby selectively extracting the sodium carbonate from said second admixture and forming a solid residue of sodium sulfate, recovering said solid residue of sodium sulfate, carbonating the resulting solution to precipitate therefrom sodium bicarbonate, recovering the precipitated sodium bicarbonate and heating to convert to sodium carbonate, and recycling the solution saturated with respect to sodium sulfate to a subsequent extraction step, said aqueous admixture and solutions being maintained at a temperature of from about 10 to 35° C.

3,367,736
PROCESS FOR PRODUCTION OF ANTIMONY TRICHLORIDE
Peter Sopchak, Clay, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed July 29, 1965, Ser. No. 475,756
4 Claims. (Cl. 23—98)



This specification discloses an improved process for the production of antimony trichloride whereby antimony metal is substantially all suspended by agitation in antimony trichloride at a concentration of 25–65 percent by weight at a temperature of 90–215° C., and passing chlorine gas into the suspension to react with the antimony. Antimony trichloride is removed from the reaction, and additional chlorine and antimony metal are added at rates to maintain the concentration of antimony as described above. This process is continuous and produces antimony trichloride essentially free of antimony pentachloride more economically than known processes.

3,367,737
TRIMETAPHOSPHATE PROCESSES
Edward L. Moore and Chung Yu Shen, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Sept. 23, 1964, Ser. No. 398,741
8 Claims. (Cl. 23—106)

For manufacturing an alkali metal polyphosphate product, containing at least about 25 weight percent of an alkali metal trimetaphosphate, a process comprising calcining an inorganic alkali metal phosphate composition having an M_2O/P_2O_5 ratio from about 0.8 to about 1.4 wherein M is an alkali metal cation at a temperature of from about 450° C. to about 620° C. and in an atmosphere containing at least about 95 volume percent of water vapor; the inorganic alakli metal composition containing at least 10 weight percent of a material selected from the group consisting of monosodium dihydrogen orthophosphate, disodium dihydrogen pyrophosphate and mixtures thereof.

3,367,738
PROCESS FOR PURIFYING WET PROCESS PHOSPHORIC ACID WITH ETHYL ETHER
Paul Otto Schallert, College Park, and Charles Clifford Fite, Jr., Atlanta, Ga., assignors to Tennessee Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 23, 1963, Ser. No. 310,842
The portion of the term of the patent subsequent to May 9, 1984, has been disclaimed
5 Claims. (Cl. 23—107)

1. A process for the purification of phosphoric acid which comprises contacting aqueous impure phosphoric acid of concentration about 39 wt. percent P_2O_5 to about 62 wt. percent P_2O_5, with diethyl ether, forming an aqueous impure acid phase and a purified acid-water-ether complex phase, separating said two liquid phases, and recovering said ether and a purified acid from said complex phase.

3,367,739
PREPARATION OF ANHYDROUS SODIUM METASILICATE
Robert J. Shoaff, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 1, 1964, Ser. No. 400,945
6 Claims. (Cl. 23—110)

1. A method of preparing anhydrous sodium metasilicate from aqueous silica-value source containing mixtures which comprises:

(a) providing an aqueous mixture containing at least one silica value source and sodium hydroxide wherein the mixture contains from about 0.25 to about 20 percent by weight silica values and a corresponding predetermined quantity of sodium hydroxide such that the weight ratio of sodium hydroxide to silica values in said mixture, expresses as Na_2O/SiO_2, is within the range of from about 1 to about 10;

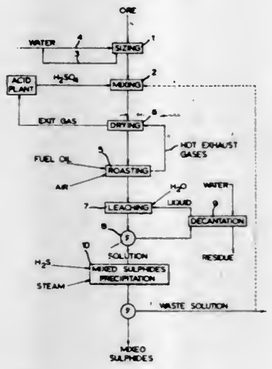
(b) mixing anhydrous ammonia with said aqueous mixture, said ammonia being present in an amount of from about 16 to about 22 percent by weight of the final ammoniated reaction mixture while maintaining the temperature of said reaction mixture under pressure and within the range of from about 140° to about 250° C. for a period of from about 10 minutes to about 8 hours thereby precipitating out anhydrous sodium metasilicate; and

(c) separating and recovering the anhydrous sodium metasilicate from the residual mixture.

3,367,740
PROMOTION AGENTS IN THE SULPHATION OF OXIDIZED NICKEL AND COBALT BEARING ORES

Nicolas Zubryckyj, Fort Saskatchewan, Alberta, David J. L. Evans, Edmonton, Alberta, and Vladimir Nicolaus Mackiw, Fort Saskatchewan, Alberta, Canada, assignors to Sherritt Gordon Mines Limited, Toronto, Ontario, Canada, a company

Filed May 6, 1963, Ser. No. 278,266
Claims priority, application Canada, Dec. 13, 1962, 864,450
7 Claims. (Cl. 23—117)



1. A process for the treatment of nickel and cobalt bearing ores of the limonitic laterite type which contain negligible magnesium and at least about 25% iron by weight which comprises the steps of:

(a) mixing the ore in particulate form with sulphuric acid provided in an amount at least sufficient to combine with the nickel, cobalt, manganese and magnesium contents of the ore as sulphates but no more than 40% in excess of such amount;

(b) providing in the acid-ore mixture as a nickel and cobalt sulphation promotion agent, an inorganic substance which will supply to said mixture during heating step (c) ions selected from the group consisting of magnesium ions, potassium ions, sodium ions and mixtures thereof in amount sufficient to promote the selective sulphation of nickel and cobalt;

(c) heating the acid-ore mixture at a temperature within the range of from about 500° C. to about 725° C.;

(d) continuing the heating step until the weight ratio of iron sulphate to nickel sulphate in the roasted ore is below about 5:1;

(e) leaching the roasted ore with an aqueous solution to extract and dissolve nickel and cobalt sulphates.

3,367,741
PROCESS FOR THE PREPARATION OF BAYERITE ALUMINA

Bruno Notari, San Donato Milanese, and Mario Tolomei, Pontassieve, Italy, assignors to SNAM S.p.A., a company of Italy

No Drawing. Filed May 27, 1964, Ser. No. 370,689
Claims priority, application Italy, May 31, 1963, 11,326/63, Patent 697,117
2 Claims. (Cl. 23—143)

A process is disclosed for the production of high purity bayerite to provide an alumina-containing catalyst. A dilute solution of an aluminum chlorohydroxide, maintained at a temperature between 0° C. and 70° C., is mixed with a diluted ammonia solution and vigorously agitated. The precipitate is collected on a filter and dispersed in an aqueous ammonia solution while stirring vigorously; and this step is repeated. The filtrate is then dried. The pH of the mixed solutions is kept, during the operation, with the range from 8 to 9.

3,367,742
CHEMICAL COMPOSITIONS AND PROCESSES

Ralph Marotta and Harry Teicher, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 317,116, Oct. 18, 1963. This application June 22, 1966, Ser. No. 559,379
4 Claims. (Cl. 23—182)

A process for comminuting an amorphous, hydrophilic silica aerogel by attrition with superheated steam at temperatures of 250° C.–750° C. and pressures of 1 to 200 p.s.i.g. The resulting particles have a size in the range of 0.1 to 5.5 microns, a loose bulk density of 0.8×10^{-3} to 18×10^{-3} gm./cm.^{3} and a total pore volume greater than 100 cm.^{3}/gm. They have utility as a flattening agent for coatings such as paints, varnish and resin formulations.

3,367,743
REFRACTORY PRODUCTS

Ben Matchen, Niagara Falls, Ontario, Canada, assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

No Drawing. Filed Mar. 20, 1961, Ser. No. 96,681
15 Claims. (Cl. 23—204)

1. A method for the production of zirconium refractory material selected from the group consisting of zirconium boride and zirconium carbide, said method comprising providing zirconium oxide in the form of bubbles, forming a mixture of the bubbles and a member selected from the group consisting of (1) elemental carbon, and (2) elemental carbon with a source of boron selected from the group consisting of boron carbide and boron oxide and mixtures thereof, heating said mixture at a temperature between about 2000° and 2300° C. for a time sufficient to convert the zirconium oxide to said zirconium refractory material, and recovering said zirconium refractory material still in the bubble form.

3,367,744
PRODUCTION OF OXYGEN DIFLUORIDE

Russell A. Brown, Mendham, N.J., and Joseph J. Ligi, Baton Rouge, La., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Aug. 17, 1965, Ser. No. 480,384
1 Claim. (Cl. 23—205)

This application is concerned with the preparation of oxygen difluoride by reaction of fluorine gas with an aqueous solution of a base at a temperature not greater than 70° F. and an aqueous liquid base to fluorine gas volume ratio in excess of 20 liters of aqueous base per liter of fluorine gas.

3,367,745
PREPARATION OF IODINE PENTAFLUORIDE

Hans G. Tepp, Morris Plains, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

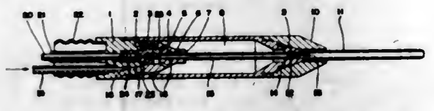
Continuation-in-part of application Ser. No. 380,797, July 7, 1964. This application Feb. 8, 1966, Ser. No. 525,968
9 Claims. (Cl. 23—205)

This application relates to a process for the manufacture of iodine pentafluoride from elemental iodine and fluorine by fluorinating iodine dissolved in an inert solvent medium, preferably iodine pentafluoride. In a first embodiment of the process the quantities of the reactants are controlled by the use of valves connected to photoelectric cells through which the reactants and product of the process are flowed. In a second embodiment of the process of this invention the need for close feed control of the iodine and fluorine reactants is rendered unnecessary by the use of two reaction zones and two holding zones interconnected for flow in such a manner as to insure the complete utilization of all iodine and fluorine introduced into the reaction zones.

3,367,746
SELF-CLEANING SYRINGE AND PUMP SUITABLE THEREFOR

Jonas Maurukas, 2300 West River Road N., Elyria, Ohio 44035

Continuation-in-part of application Ser. No. 394,955, Sept. 8, 1964. This application Oct. 11, 1965, Ser. No. 494,671
5 Claims. (Cl. 23—253)



1. A constant-volume self-cleaning syringe comprising:

(a) a sleeve 1 having an axial opening extending therethrough;

(b) a cylindrical shell 3 adapted to be sealably attached to said sleeve and having a reservoir therein of uniform diameter extending from the end attached to said sleeve through a substantial portion of the length of said shell, and terminating in an end wall;

(c) a plunger base 18 adapted to fit partially in said axial opening of said sleeve and also adapted to receive and retain the end of a cable rod 20;

(d) a plunger 7 adapted to fit within said reservoir and having an outer diameter corresponding to the inner diameter of said reservoir and adapted to move axially and linearly in said reservoir with such close contact between the exterior surface of said plunger and the wall surface of said reservoir as to provide a sealing and wiping contact between said surfaces; said plunger having a rear end facing toward said sleeve and a front end extending into said reservoir and said plunger having an axial opening extending therethrough, a port opening in the said rear end of said plunger extending to and communicating with said axial opening in said plunger at a point spaced from said rear end of said plunger, at least one aperture extending from said axial opening in said plunger to the front end of said plunger, said port opening, said axial opening and said aperture of said plunger being in flow communication with each other, said plunger also having a front opening located in the approximate region of said front end of said plunger spaced from said aperture and connecting with said axial opening of said plunger at a point closer to said front end and spaced from the point where said aperture connects with said axial opening, said axial opening of said plunger being adapted to receive said plunger base and adapted to permit only limited movement of said plunger base within said axial opening of said plunger, and said plunger also being adapted to receive a plunger arm in the axial opening thereof;

(e) a plunger arm 15 adapted to slidably fit the axial opening of said plunger and also to be attached to said plunger base, said plunger arm having a linear axial opening extending through a substantial portion of the length thereof and connecting with a more restricted opening at that end of said plunger arm opposite to the end affixed to said plunger base, said plunger arm also having a side opening extending through a side wall thereof adapted to be positioned in flow communication with said front opening of said plunger so as to provide flow communication between the interior of said plunger arm and the exterior of said plunger when said two openings are positioned opposite each other;

(f) a reagent tube 11 affixed to the end of said shell opposite from the end affixed to said sleeve and having an opening extending throughout the length of the tube, said reagent tube opening conforming in shape and size to the exterior of said plunger arm and adapted to receive said plunger with close wiping contact of the surface thereof when said plunger arm is moved into the interior of said reagent tube;

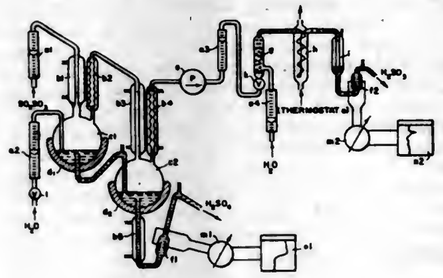
(g) said end wall of said reservoir conforming identically in shape and size with the exterior of said plunger, whereby when said plunger is moved to said end of said reservoir there is close intimate contact between the exterior surface of said plunger and said end wall; and

(h) a means for moving said cable rod, and with it the plunger, plunger base and plunger arm attached thereto, so that said plunger is moved from a position at one end of said reservoir to the opposite extreme position at the other end of said reservoir and also thereby moving said plunger arm into and out of the interior space of said reagent tube, whereby a self-cleaning action is effected on the interior of said reagent tube by the wiping action of the exterior surface of said plunger arm on the interior surface of said reagent tube and the simultaneous spraying of fluid on said interior surface effected by passage of said fluid through said restricted opening.

3,367,747
APPARATUS FOR CONTINUOUSLY MEASURING THE CONCENTRATION OF A GAS-MIXTURE COMPONENT

Joachim Sieth, Erlangen, and Hans-Gunter Heitmann, Buckenhof, near Erlangen, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

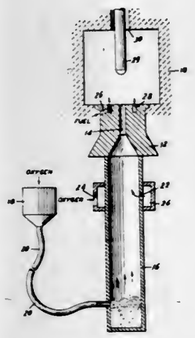
Filed Mar. 11, 1964, Ser. No. 351,123
10 Claims. (Cl. 23—254)



1. Apparatus for measuring in a flow of a gas mixture the concentration of a component gas substantially completely soluble in condensing steam, by contacting the flowing gas mixture with a current of condensing water vapor and measuring the quantity of component gas substantially completely dissolved in the condensate current, comprising a gas inlet for the gas mixture, a cooler, and a vessel with heating means, all connected in serial relation to form a continuous gas flow path, and a pump in said path for passing the gas mixture through said cooler

into said vessel; water supply means communicating with said vessel for passing a constant flow of water into said vessel heatable by said heating means to a temperature at which the water is evaporated, means connected with said vessel for condensing said evaporated water whereby said component of the gas mixture becomes substantially completely dissolved in the condensing water vapor, said vessel having a collecting space for the resulting solution; said gas flow path comprising a gas outlet duct means for passing the residual amount of the gas mixture out of said vessel; a drainage passage communicating with said collecting space for continuously removing a flow of said solution from said vessel; and means for measuring the concentration of the dissolved component in said passage.

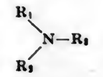
3,367,748
PROCESS FOR GROWING HIGH PERFECTION CRYSTALS
Ralph L. Hutcheson, Gary, Ind., assignor to Union Carbide Corporation, a corporation of New York
Filed Feb. 18, 1964, Ser. No. 345,758
5 Claims. (Cl. 23—301)



1. A process for growing a synthetic unicrystalline body which comprises passing powdered constituent material through an oxygen-hydrogen flame to fuse the same, directing the flame upwardly onto the surface of a seed crystal disposed above said flame for heating said surface and for depositing thereon fused constituent material, continuing the flame deposition of fused material as the crystal grows by crystallization of the molten material while maintaining the molten portion of the growing crystal in the form, when viewed in cross-section of a concave-convex quarter-moon shape with the solidus-liquidus interface forming the concave edge of the molten quarter-moon shaped portion by decreasing the oxygen flow to the oxygen-hydrogen flame when the molten portion becomes more spherical than a quarter-moon shape and increasing the oxygen flow to the flame when the molten portion of the growing crystal becomes flatter than a quarter-moon shape.

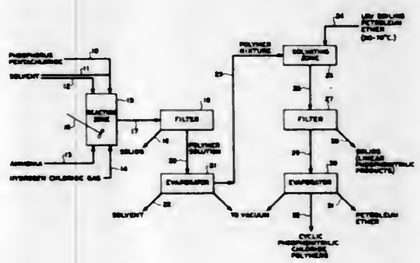
3,367,749
PURIFYING PHOSPHORIC ACID USING AN AMINE EXTRACTANT
Ernest L. Koerner, Bridgeton, and Elerington Saunders, St. Louis, Mo., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Feb. 20, 1963, Ser. No. 260,029
12 Claims. (Cl. 23—312)

1. The method of purifying phosphoric acid by removing phosphoric acid from cationic or metallic impurities, which comprises contacting said acid with a water-insoluble extractant phase comprised of a long chain hydrocarbyl amine dissolved in an organic diluent, said amine having the formula



wherein R_1 and R_2 are members selected from the class consisting of saturated and ethylenically unsaturated aliphatic hydrocarbyl groups containing from about 7 to about 15 carbon atoms and R_3 is a member selected from the class consisting of hydrogen and saturated and ethylenically unsaturated aliphatic hydrocarbyl groups containing from 1 to about 18 carbon atoms, said extractant phase being used in amounts sufficient to extract said phosphoric acid and to form a water-immiscible extractant phase, separating said extractant phase and said impurities and removing said phosphoric acid from said extractant phase by contacting with an aqueous solvent.

3,367,750
PHOSPHONITRILIC CHLORIDE PROCESS
Daniel J. Jaszka, Tonawanda, and Theodore H. Dexter, Lewiston, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
Filed Aug. 14, 1962, Ser. No. 216,788
11 Claims. (Cl. 23—357)



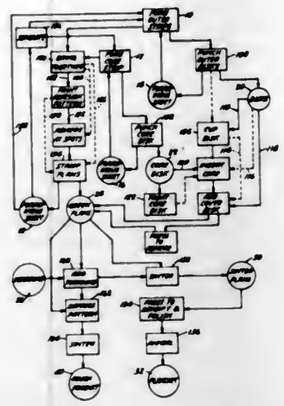
1. The method for producing phosphonitrilic chloride polymer which comprises reacting ammonia and hydrogen chloride in an inert solvent sufficiently to form a dispersion of ammonium chloride in said solvent, wherein the ammonium chloride particle size does not exceed 5 microns, introducing phosphorus pentachloride to said dispersion and reacting sufficiently to form a reaction product comprising phosphonitrilic chloride polymer, and recovering the polymer from the reaction product.

3,367,751
TIN PLATE AND CONTAINER FOR CARBONATED BEVERAGES
James W. Halley, Dune Acres, Ind., Leslie M. Bernick, Calumet City, Ill., and William H. McFarland, Hobart, Ind., assignors to Inland Steel Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Aug. 18, 1965, Ser. No. 480,752
8 Claims. (Cl. 29—183.5)

1. A corrosion resistant tin plate comprising a low carbon steel base containing from about 0.40 wt. percent to about 0.70 wt. percent manganese and from about .035 wt. percent to about .075 wt. percent sulfur.

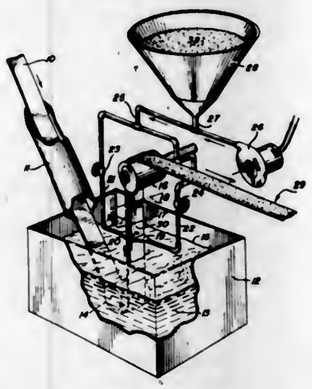
2. A tin plate as in claim 1, wherein said steel base has an inclusion count in excess of about 20 inclusions per square inch when examined at 250×.

3,367,752
FLANS AND PROCESS
James R. Johnson, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Continuation-in-part of application Ser. No. 331,649, Dec. 17, 1963. This application Oct. 7, 1965, Ser. No. 493,859
20 Claims. (Cl. 29—190)



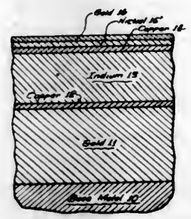
19. A laminated, leathery sheet adapted to be fired to a sinterwelded integral sheet article composed of layers of dissimilar metals, comprising an inner core lamina consisting essentially of powdered metal and organic binder therefor and an outer lamina consisting essentially of different complementary powdered metal and organic binder therefor adhered to said core lamina and forming a continuous coating over the entire surface thereof.

3,367,753
MINERAL-COATED, GALVANIZED STEEL ARTICLE
Edward T. Schwendemann, Highland, Ind., assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed June 22, 1965, Ser. No. 465,863
7 Claims. (Cl. 29—195)



1. A galvanized steel article capable of being coated with a stearate-base paint, said article comprising:
a steel base having a pair of opposed sides;
a metallic coating, consisting essentially of zinc, covering at least one of said sides;
and an adherent layer of finely divided, particulate mineral material wherein each particle is embedded and thermo-mechanically bonded on said metallic coating and completely covering said coating to provide a barrier against the formation of zinc-stearate compounds on the metallic coating.

3,367,754
ELECTRONIC TRANSMISSION MATERIAL AND METHOD OF FABRICATION
William P. Dugan, Monterey Park, Andrew E. Flanders and Robert F. Robins, Pomona, and Claude E. Feighner, Ontario, Calif., assignors to General Dynamics Corporation, Pomona, Calif., a corporation of Delaware
Continuation-in-part of application Ser. No. 421,239, Dec. 28, 1964. This application Feb. 3, 1965, Ser. No. 430,089
18 Claims. (Cl. 29—199)



Briefly, the disclosure is directed to a conductive material suitable for surface welding applications and an electroplating method for fabricating the material. The conductive material in the as-plated condition is of a laminar construction, e.g. a base metal with at least one layer of different metals applied thereon. The base metal may be nickel, copper, silver, chromium, nickel-iron alloy such as Kovar, or any other metal having atomic radii compatible with the surface welding technique. At least one layer of compatible metals including gold and indium is plated to the base metal. To provide proper adhesion of indium to gold as exemplified by the illustrated embodiments, an interposed flash of copper or other suitable metal, such as silver, may be provided. To provide an easy manner of identifying the plated side of the material when the gold and indium layers are plated to a base metal of essentially the same color as indium, a gold flash is plated to the indium. Again, to increase the adhesion between the gold flash and the indium layer, if desirable, a copper flash or other compatible metal flash is interposed therebetween. If desirable, a flash of nickel may be interposed between the copper and gold flashes to prevent oxidation problems of the copper flash and undesirable diffusing of the indium. Also, the flash of nickel may be utilized instead of the copper flash, or may be utilized to add nickel in applications requiring such an addition.

3,367,755
LAMINAR CONDUCTIVE MATERIAL HAVING COATS OF GOLD AND INDIUM
Parley R. Packer, Alta Loma, and Andrew E. Flanders, Pomona, Calif., assignors to General Dynamics Corporation, Pomona, Calif., a corporation of Delaware
Filed Feb. 26, 1965, Ser. No. 435,628
14 Claims. (Cl. 29—199)

Briefly, the disclosure is directed to a transmission or conductive material suitable for welding applications, particularly surface welding applications, and to an electroplating method for fabricating the material. The conductive material in the as-plated condition is of a laminar construction, e.g., a base metal with at least layers of indium and of gold applied thereon. The base metal may

be nickel, copper, silver, chromium, nickel-iron alloy such as Kovar, each having atomic radii compatible with welding techniques. If desired, though not needed, a thin layer or flash of copper or other suitable metal may be interposed between the layers of indium and gold to improve adhesion therebetween and to prevent the slight contamination of the gold plating solution caused by a



small amount of diffusion of the indium during the gold plating operation. However, the small amount of diffusion of the indium during gold plating is not sufficient to create any problems in the plating operation or produce any adverse effects on the gold layer. The layer of gold provides an easy manner of identifying the plated side of the material when the indium and gold layers are plated to a base metal having a different color than the gold.

3,367,756
GOLD TIN ALLOY CLAD PRODUCT
Jerry C. La Plante, Hempstead, N.Y., assignor to Alloys Unlimited Inc., Melville, N.Y.
Continuation-in-part of application Ser. No. 428,750, Jan. 28, 1965. This application Mar. 25, 1966, Ser. No. 537,466
1 Claim. (Cl. 29—199)

1. The product consisting of a metal substrate, a gold layer mechanically clad on said substrate, and a gold tin alloy mechanically clad on said gold layer and thus bonded to the metal substrate, said gold tin alloy consisting of 15% to 25% tin.

3,367,757
FIRE KINDLING DEVICE
Peter K. Church, P.O. Box 234, Colorado Springs, Colo. 80901
Filed Oct. 22, 1965, Ser. No. 501,869
6 Claims. (Cl. 44—38)

1. A fire kindling device comprising a sheet of corrugated cardboard impregnated with an inflammable substance folded in a direction along a corrugation to define at least two planar portions and provide at least one involution which extends normal to the corrugations and the fold therealong to position the corrugations in a horizontal plane when the kindling device is in use whereby the inflammable substance is substantially prevented from flowing out of the corrugations due to the action of gravity and in which the sheet is folded along its longitudinal axis bisecting said sheet to define two planar portions, draft means comprising spaced apertures positioned in said sheet along said fold to permit multiple burning edges throughout the length of the sheet.

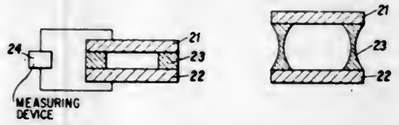
3,367,758
WAX BURNERS
Henry A. Ambrose, Penn Hills Township, Allegheny County, and Philip R. Templin, Oakmont, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Nov. 8, 1965, Ser. No. 506,648
15 Claims. (Cl. 44—40)

1. A burner comprising a combustible container containing wax and having an igniter material dispersed substantially uniformly within the wax and protruding above the surface of the wax at a plurality of points in sufficient quantity so that upon ignition thereof substantially the entire upper surface of said wax is raised to its kindling temperature.

3,367,759
ALKALI METAL DERIVATIVES OF ALKANOLS IN GASOLINE FUELS
Enver Mehmedbasich, El Cerrito, and Maurice R. Barusch, Richmond, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Sept. 30, 1965, Ser. No. 491,865
2 Claims. (Cl. 44—78)

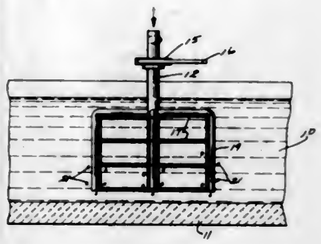
Alkali metal oxides of hydroxy ethers and hydrocarbon solutions thereof.

3,367,760
METHOD FOR MAKING ELECTRICAL HOUSINGS
Hans Bendig, Ulm (Danube), Horst Bucher, Neu-Ulm, and Rudolf Mettke, Ulm (Danube), Germany, assignors to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany
Filed June 14, 1965, Ser. No. 463,528
Claims priority, application Germany, June 13, 1964, T 26,369
2 Claims. (Cl. 65—54)



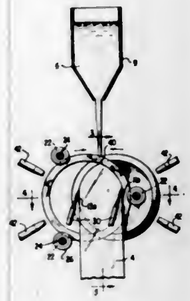
1. A method for fabricating a housing for microwave elements said housing having a low electrical capacitance, comprising, positioning an insulated ring between two metallic members, heating said ring until it adheres to the metallic members, and then stretching said resulting structure so that the wall thickness of said ring becomes thinner at its center portion than at its ends adhering to the metallic members.

3,367,761
APPARATUS FOR HOMOGENIZING MOLTEN GLASS
Wayne J. Zitkus, Toledo, Ohio, assignor to Owens-Illinois Inc., a corporation of Ohio
Filed Nov. 12, 1964, Ser. No. 410,593
4 Claims. (Cl. 65—178)



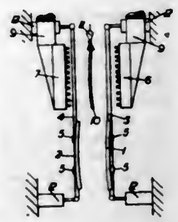
My invention is an apparatus wherein glass is urged downwardly by mechanical means in a generally circular path while streams of gas are directed downwardly beneath the mechanically agitated portion of the glass to create upwardly rising bubbles, the apparatus comprising a stirrer rotating on a vertical axis and composed of a vertical column with radial angular vanes together with gas conduits extending along some of the vanes and directed downwardly at the free end of each vane, there being an outlet aperture for gas at the lower end of each conduit.

3,367,762
APPARATUS FOR FORMING A FILM OF GLASS
Jo M. Teague, Jr., Toledo, Ohio, assignor to Owens-Illinois Inc., a corporation of Ohio
Filed Jan. 4, 1965, Ser. No. 423,248
3 Claims. (Cl. 65—184)



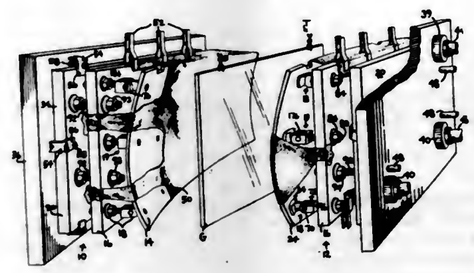
Apparatus for forming a ribbon of glass, comprising a pair of annular forming members mounted for counter rotation in closely spaced vertical planes about spaced parallel axes with arcuate segments of the members overlapping each other to define upper and lower circumferential areas of intersections. Molten glass fed between the upper area of intersection is stretched first generally laterally and then progressively generally longitudinally of the film, by segments of the forming members which move along arcuate paths away from each other after leaving the upper area of intersection. One of the forming members has a hollow portion and receives cut-off means for severing the formed film at a desired width.

3,367,763
APPARATUS FOR PRESS BENDING AND TOUGHENING A SHEET OF GLASS
Alan Pickavance, St. Helens, and Ronald Charles Freestone, Eccleston, St. Helens, England, assignors to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain
Filed July 7, 1964, Ser. No. 380,778
Claims priority, application Great Britain, July 8, 1963, 26,988/63
2 Claims. (Cl. 65—287)



Apparatus for bending and toughening a vertically-supported heated flat glass between a pair of quenching means, which comprises a pair of bending dies at least one of which comprises a thin metal sheet and both of which are arranged for movement with a minimum of inertia toward and away from each other and thereafter out of position between the quenching means.

3,367,764
GLASS SHEET PRESS SHAPING APPARATUS WITH MEANS TO ADJUST THE PRESSING SURFACE CURVATURE
Samuel L. Seymour, Oakmont, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 15, 1964, Ser. No. 418,430
7 Claims. (Cl. 65—291)



In complementary pressing molds for shaping glass sheets a mold comprising a relatively flexible metal plate having a shaping surface complementary to that of said other mold, a relatively rigid member and means connecting said plate in spaced relation to said rigid member including centrally disposed attachment members for fixing said relatively flexible plate in a position of alignment with said rigid member and connecting members individually adjustable between said plate and said rigid member for altering the shape of the relatively flexible metal plate relative to the relatively rigid member, said jointed connecting members being constructed and arranged with two degrees of freedom of movement to permit said relatively flexible plate to expand and contract thermally relative to said relatively rigid member.

3,367,765
METHOD OF CONTROLLING THE GROWTH OF NOXIOUS PLANTS
Charles D. Nelson and John I. Toohey, both % Queen's University, Kingston, Ontario, Canada
No Drawing. Filed July 8, 1964, Ser. No. 381,254
8 Claims. (Cl. 71—67)

A method of controlling the growth of algae and noxious weeds by applying 1-phenazine carboxylic acid and hydroxy-phenazine-carboxylic acid to a growth environment such as water or soil in the proportion of at least one-third of a pound per acre of the environment.

3,367,766
PREPARATION OF BRITTLE INORGANIC POLYCRYSTALLINE POWDERS BY SHOCK-WAVE TECHNIQUES
Jonathan Barrington, Hagerstown, Md., and Oswald R. Bergmann, Woodcrest, Cherry Hill Township, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 264,135, Mar. 11, 1963. This application June 16, 1965, Ser. No. 477,997
20 Claims. (Cl. 75—.5)

Brittle inorganic crystalline powders having a strained crystal lattice, an average particle size of less than about 500 microns and small crystallite size; and their preparation by subjecting a mass of brittle inorganic crystalline powder, wherein the average particle size is no greater than about 4500 microns, to an explosively-generated shock wave, and thereafter comminuting the resulting ag-

glomerate to break the weak mechanical bonds among its constituent particles. Because the powder products have



the above combination of properties, they exhibit a high degree of activity in the sintering process.

3,367,767
METHOD OF MAKING NICKEL POWDER
DeWitt Henry West, Port Eynon, and David Myers Llewelyn, Clydach, Swansea, Wales, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 16, 1965, Ser. No. 480,106
Claims priority, application Great Britain, Aug. 19, 1964, 33,907/64
5 Claims. (Cl. 75—.5)

Carbonyl nickel powder with low carbon contents is produced by decomposing nickel carbonyl mixed with ammonia and in the substantial absence of water vapor in a decomposer having inner surfaces of nitrided steel.

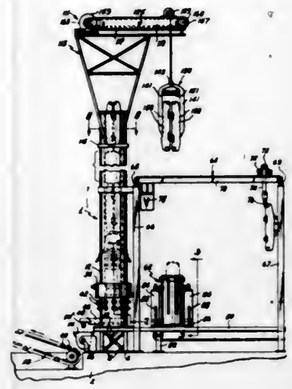
3,367,768
NICKEL POWDER
De Witt Henry West, Port Eynon, Swansea, and David Myers Llewelyn, Sarnhelen, Cwmdwr, Ciydach, Wales, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 16, 1965, Ser. No. 481,157
Claims priority, application Great Britain, Aug. 19, 1964, 33,907/64
16 Claims. (Cl. 75—.5)



Nickel carbonyl is decomposed in the hot free space of a decomposer and small amounts of ammonia and oxygen are mixed with the nickel carbonyl to produce substantially spherical carbonyl nickel powder.

3,367,769
METHOD AND APPARATUS FOR CONTINUOUSLY MELTING SCRAP VEHICLES
Clarence C. Schott, 1209 Havenwood Road, Baltimore, Md. 21218
Filed July 22, 1965, Ser. No. 473,969
25 Claims. (Cl. 75—43)

Scrap vehicles are partially compressed in a squeezing apparatus and then lifted by a hoist and deposited on end, one on another, in the top opening of a furnace stack. An annular, water cooled ledge, located between the bottom of the stack and the top of the combustion chamber, has an opening smaller than the stack for engaging the lowermost scrap vehicle and supporting the entire column of vehicles in the stack. Progressive melting of the lowermost scrap vehicle results in the descent of the others in the column, the molten metal being collected in the hearth.



The molten metal is withdrawn from the hearth into a trough, the slag separated from the molten metal and the molten metal deposited in a series of molds carried by the endless conveyor of a continuous pigging machine.

3,367,770
FERROUS ALLOYS AND ABRASION RESISTANT ARTICLES THEREOF
Stewart G. Fletcher and Walter T. Haswell, Jr., Latrobe, Pa., assignors to Latrobe Steel Company, a corporation of Pennsylvania
No Drawing. Filed Feb. 1, 1965, Ser. No. 429,631
4 Claims. (Cl. 75—126)

1. An abrasion resistant readily workable and castable alloy of high impact properties consisting essentially of carbon about 1% to 4.25%, silicon about 1.5% maximum, manganese about 1.5% maximum, chromium about 3.5% to 9.5%, molybdenum less than about 2%, tungsten less than about 3%, cobalt less than about 5%, nickel less than about 3%, vanadium less than about 5%, sulfur up to about 0.25%, titanium about 0.5% to 5% and the balance iron with usual impurities in ordinary amounts, said titanium being combined with carbon in excess of that necessary to provide a desired hardening ability in a weight ratio of 4:1 and the vanadium with excess carbon in a weight ratio of 4.2 (V–1):1.

3,367,771
PROCESS FOR PREPARATION OF MAGNESIUM FERROSILICON ALLOYS
John C. Robertson, Midland, Mich., and William R. Von Tress, Lake Jackson, and James H. Enos, Angleton, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 23, 1965, Ser. No. 434,606
3 Claims. (Cl. 75—129)

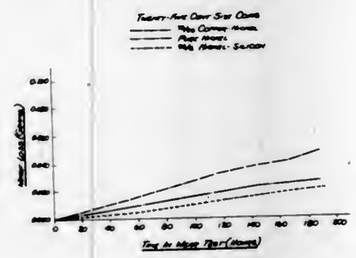
A process for preparing magnesium ferrosilicon alloys wherein a ferrosilicon and a magnesium silicide are provided, the amount of the magnesium silicide being such to give about the equivalent amount of magnesium desired in the final magnesium ferrosilicon product. The two reactants are heated together at a temperature of from about 1,100 to about 1,450° C. and maintained in the molten state for about 30 seconds to about 25 minutes following which the resultant molten magnesium

ferrosilicon product ordinarily is cast into a mold of a predetermined form and solidified.

3,367,772
METHOD FOR TREATING FERROUS METALS
Wallace T. McMichael, Lake Jackson, Tex., and John C. Robertson, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 23, 1965, Ser. No. 434,634
6 Claims. (Cl. 75—130)

A treating agent and process for treating molten ferrous based materials, particularly cast iron, comprising from about 5 to about 45 percent aluminum carbide and from about 95 to about 55 percent magnesium oxide, or alternately this quantity of aluminum carbide with from about 85 to 20 percent magnesium oxide and from about 80 to about 10 percent of calcium oxide, calcium carbide and mixtures thereof. This invention provides for retention of a desirably high magnesium concentration in the melt and simultaneously, with cast iron, gives substantially complete nodularization of graphite present in the melt.

3,367,773
NICKEL-SILICON ALLOY PRODUCT
Pierre P. Turillon, Ramsey, N.J., Robert R. Crawford, Suffern, N.Y., and Dale T. Peters, Ringwood, N.J., assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 3, 1965, Ser. No. 452,624
4 Claims. (Cl. 75—170)



Directed to a new coinage material having a particularly advantageous combination of properties for coinage purposes, such properties include a low Curie temperature, good workability, both hot and cold, good embossability, high resistance to corrosion, tarnishing and wear, controlled resistivity and density, and a bright silvery color; the material being made of a nickel-silicon alloy containing about 5% silicon.

3,367,774
METHOD OF PRODUCING A COMPOSITE FRICTION MEMBER
Lester F. Dasse, St. Joseph, Mich., assignor, by mesne assignments, to Lambert Brake Corporation, St. Joseph, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 449,782, Apr. 21, 1965. This application Nov. 10, 1966, Ser. No. 593,557
5 Claims. (Cl. 75—208)

The present invention relates to a novel method of producing friction discs and friction mechanisms such as brakes and clutches. The method contemplates the provision of a disc body formed from a metal such as beryllium and the attachment of lining material to the body.

3,367,775
POWDER METALLURGY
Lloyd R. Allen, Belmont, Mass., assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed Oct. 22, 1965, Ser. No. 500,618
4 Claims. (Cl. 75—213)

1. An improved powder metallurgy process for producing triaxially ductile bodies of beryllium metal characterized by fine grain size and comprising the steps of:
(a) providing beryllium powder in the form of high purity, reactive, submicron size particles in uncompacted form,
(b) cold pressing the powder to self-supporting green pellets with a density in the range of 5–50% theoretical density using a soft die wall made of inert material, with the wall being free of directly applied pressure from the pressing means, the pressing being conducted in a non-contaminating environment,
(c) crumbling and repressing the pellets in a press with a hard ram and hard die to produce a final pellet of at least 50% or greater theoretical density, the pressing being conducted in a non-contaminating environment, to produce a beryllium structural product characterized by finer grain size than prior art production methods.

3,367,776
HEAT SENSITIVE DIAZOTYPE MATERIALS
Edward C. Bialczak, Mount Prospect, and William S. Murphy, Niles, Ill., assignors to Addressograph-Multigraph Corporation, Charles Bruning Division, Mount Prospect, Ill., a corporation of Delaware
No Drawing. Filed Apr. 17, 1964, Ser. No. 360,733
8 Claims. (Cl. 96—49)

Thermally responsive diazotype photocopying sheet materials wherein the diazotype coating composition contains a light sensitive diazonium salt, an alkaline donor component, an azo coupling component, an acid component and 0.5% to 5% of a stabilizing agent which prevents or inhibits precoupling prior to exposure to light and assists in the formation of dense colored azo dye images which are waterfast, the stabilizing agent being an aminoalkylamide of 2-hydroxy-3-naphthoic acid.

3,367,777
PREVENTION OF SILVER OCCLUSION IN COLOR PHOTOGRAPHY
Alex P. Altavilla, Johnson City, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 14, 1964, Ser. No. 337,535
5 Claims. (Cl. 96—56)

Prevention of silver occlusion in light-sensitive photographic silver halide layers containing color formers by incorporating therein a copolymer of which the monomer components consist essentially of N-vinyl-2-oxazolidinone or its 5-methyl or 5-ethyl substitution products, and a vinyl ester of a C_2–C_4 saturated carboxylic acid; and emulsions containing such copolymers.

3,367,778
SILVER SALT DIRECT POSITIVE EMULSION
Robert W. Berriman, Harrow, England, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Apr. 15, 1965, Ser. No. 448,467
10 Claims. (Cl. 96—64)

1. A light-sensitive photographic direct positive emulsion containing grains comprising a central core of a water-insoluble silver salt containing centers which promote the deposition of photolytic silver and an outer shell covering said core comprising a fogged water-insoluble silver salt that develops to silver without exposure.

10. A light-sensitive photographic direct positive gelatino emulsion containing silver chloride grains comprising a central core of silver chloride containing centers which promote the deposition of photolytic silver, said centers being obtained by treatment of said core with an iridium salt, and an outer shell covering said core comprising fogged silver chloride that develops to silver without exposure.

3,367,779
DIRECT POSITIVE SILVER HALIDE PHOTOGRAPHIC MATERIALS
Yoshiyuki Nakazawa and Kintaro Nasu, Minamiashigaramachi, and Fumihiko Nishio, Odawara-shi, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa-ken, Japan, a corporation of Japan
No Drawing. Filed Jan. 21, 1965, Ser. No. 427,103
8 Claims. (Cl. 96—101)

A direct positive photographic element comprising a fogged silver halide emulsion layer and an adjacent gelatin layer, at least one of said layers containing as a desensitizer 3-nitrophenyl thiazoline-2-thiones.

3,367,780
DIRECT-PRINT PHOTOGRAPHIC SILVER HALIDE EMULSIONS
Delbert D. Fix and Jean E. Jones, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 303,137, Aug. 19, 1963. This application July 2, 1964, Ser. No. 380,023
21 Claims. (Cl. 96—102)

Light-developable, direct-print silver halide emulsion containing halogen acceptors, sensitizing dyes and anti-unsensitizing compounds which enhance the sensitizing effect of the sensitizing dyes in the presence of the halogen acceptors.

3,367,781
CULINARY MIXES CONTAINING ALKALI METAL ALKYL SULFATES
Robert R. Cooke, Evendale, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Sept. 29, 1964, Ser. No. 400,249
21 Claims. (Cl. 99—94)

Crusts of white cakes prepared from dry white cake mixes containing shortening emulsifiers are strengthened by using an alkali metal C_8–C_{18} alkyl sulfate in the mix.

3,367,782
STABILIZATION OF SALAD OILS
Edwin S. Lutton, Cincinnati, and Nathaniel B. Tucker, Glendale, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed July 31, 1964, Ser. No. 386,771
7 Claims. (Cl. 99—118)

Salad oil containing, as an inhibitor of stearin deposition, 0.001–1% of 3,3,5,5-tetrakis-(hydroxy-methyl)-4-hydroxy-tetrahydropyran, esterified with C_{14}–C_{22} fatty acids, C_{28}–C_{44} dimerized fatty acids, C_{14}–C_{22} hydroxy fatty acids with 1–8 hydroxyl groups, and mixtures of such acids. The molar ratio of straight chain saturated fatty acids to other fatty acids is at least 0.25:1.

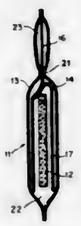
3,367,783
PROCESS OF PREPARING A FRUIT GEL
Fred W. Billerbeck, Fremont, Mich., assignor to Gerber Products Company, Fremont, Mich.
Filed Mar. 23, 1966, Ser. No. 536,871
10 Claims. (Cl. 99—131)

An acidic fruit gel prepared by mixing a combined gelling agent of locust bean gum and calcium carrageenan with an acidic aqueous formulation while retaining temperature at up to about 100° F., introducing the mixture into individual containers, sealing said containers, retorting said containers for a time sufficient to raise temperature of said mixture to 185–195° F., and thereafter quickly cooling.

3,367,784
GEL COMPOSITION AND PROCESS
Reuben Homer Waitman, Pearl River, and Joseph W. Hoos, White Plains, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 4, 1964, Ser. No. 416,136
9 Claims. (Cl. 99—132)

1. A shelf-storable, storage-stable aqueous gel composition comprising a gel prepared from an amidized pectin having a methoxyl content of from about 2.5 to about 6.5%, and a calcium containing compound, the amount of said calcium containing compound being from about 10% to about 50%, based on the weight of said pectin, and acid to bring the pH of said composition to 3.50 to 4.50, said gel having a gel strength within the range of 20–50 grams and a gel viscosity within the range of 130–400 Brookfield units.

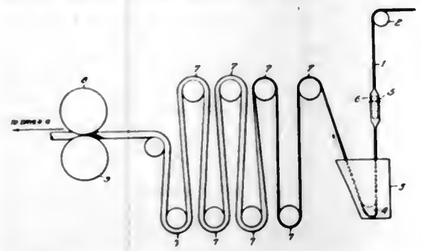
3,367,785
PACKAGE AND METHOD FOR HYDRATING A HYDRATABLE PRODUCT
Thomas P. Finucane, Hartsdale, Milton Kaplow, Elmsford, and Joseph M. Rispoli, Brooklyn, N.Y., assignors to General Food Corporation, White Plains, N.Y., a corporation of Delaware
Filed Sept. 30, 1964, Ser. No. 400,505
6 Claims. (Cl. 99—171)



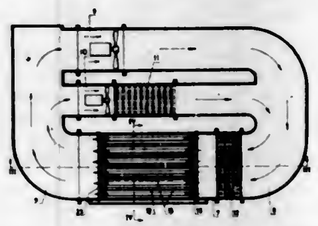
A package comprising an envelope of air- and water-impervious sheet material and sealed around its outer edges is provided with an intermediate seal dividing the package into a lower, product-containing compartment and an upper, water-receiving compartment. A continuous wicking means extends from the upper compartment through said intermediate seal and envelops a hydratable product in said lower compartment. The intermediate seal is of such firmness as to prevent free flow of water therethrough but to permit passage of water past said seal through the capillaries of said wicking means so that when said upper compartment is opened and water is introduced therein, the water will progress through said wicking means to effect a slow rehydration of a hydratable product contained in said lower compartment.

3,367,786
CASING FOR DRY SAUSAGES
Henry J. Rose, Danville, Ill., assignor to Tee-Pak, Inc., Chicago, Ill., a corporation of Illinois
Filed Sept. 16, 1964, Ser. No. 396,948
7 Claims. (Cl. 99—176)

A casing for processing dry sausages is prepared by providing a synthetic casing with a coating on its inner surface of 0.1–5.0% soluble protein, having a molecular weight above about 10,000, such as gelatin, and containing sufficient piperazine in the range from about 0.005–5.0% by weight of the casing to substantially insolubilize the protein coating after drying. The casing with the insolubilized gelatin coating on the inside will adhere to a dry sausage emulsion during processing and will shrink with the sausage and adhere to it.

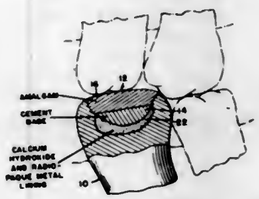


3,367,787
EVAPORATION CONCENTRATION OF LIQUIDS
Henricus Alexis Cornelis Thijssen, 32 Hertog Janstraat, and Ernst Jan Cornelis Paardekooper, 15 Haydnstraat, Bois-le-Duc, Netherlands
Filed Jan. 20, 1964, Ser. No. 338,776
Claims priority, application Netherlands, Jan. 25, 1963, 288,186
11 Claims. (Cl. 99—199)



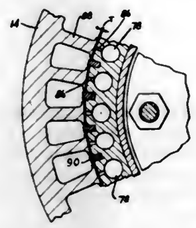
Evaporation concentration of liquids through a semi-permeable membrane formed in situ by evaporation of the process liquid to be concentrated, or another liquid, with consequent deposition in membrane form of an organic hydrophilic material present in that liquid.

3,367,788
SUBSTANTIALLY RADIOPAQUE TOOTH LINING COMPOSITION
Harry B. Sheldon and Everett N. Cobb, Washington, D.C., assignors to Georgetown University, Washington, D.C.
Continuation-in-part of application Ser. No. 95,900, Mar. 15, 1961. This application Sept. 23, 1963, Ser. No. 315,104
4 Claims. (Cl. 106—35)



1. A dental preparation for cavity lining and pulp capping consisting essentially of 40 to 50% of calcium hydroxide, 10 to 25% silver metal particles, methyl cellulose in quantity of 2 to 5%, said percents being by weight, and the balance to 100% being water, said water forming a thick paste of the solid components in which the silver particles remain stably suspended.

3,367,789
METHOD FOR MOUNTING AND MASKING A WORKPIECE
Gordon V. Mommsen, Minneapolis, Minn., assignor to Possis Machine Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 21, 1964, Ser. No. 405,336
4 Claims. (Cl. 117—18)



1. A method of avoiding coating selected portions of for instance stator and rotor members, wherein pole elements are each adapted to receive a field winding thereon, comprising:

(a) loosely mounting the member upon a spindle, with the pole faces of the member being closely spaced from the spindle;

(b) the step of loosely mounting said member including simultaneously aligning the member with respect to the spindle and substantially blocking off each space between the peripheral edges of adjacent pole faces by inserting appropriate spline means between each pair of poles;

(c) for each pole face, separately directing a current of air to emanate from within the spindle member at an area adjacent the corresponding closely spaced pole face, whereby to maintain a flowing blanket of masking-air between each pole face and its adjacent spindle wall area and between the peripheral edges of each pole face and the adjacent spline wall; and

(d) thereby to inhibit, on passage of coating matter in the free space between adjacent pole elements, deposition of such matter on the air-masked stator areas.

3,367,790
METHOD OF MAKING COLOR-KINESCOPES OF THE LINE-SCREEN SENSING VARIETY
Theodore A. Saulnier, Lancaster, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Continuation-in-part of application Ser. No. 99,520, Mar. 30, 1961. This application Dec. 1, 1964, Ser. No. 414,962
9 Claims. (Cl. 117—33.5)

1. A method of providing the target surface of a phosphor screen with a partially-transparent specular metal layer, said method comprising

(1) coating said target surface with a volatizable material which is solid at room temperature and which, if baked for about 30 minutes at about 425° C., is completely volatilized,

(2) vapor depositing onto said coating a metal layer of a desired thickness which normally renders said metal layer substantially opaque to visible light,

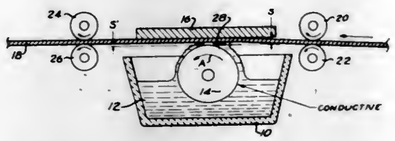
(3) producing a multiplicity of openings through said metal layer, said openings rendering said metal layer at least 10% transparent to visible light, and

(4) volatilizing said volatilizable material.

3,367,791
LIQUID DEVELOPMENT OF ELECTROSTATIC IMAGES

Juergen G. A. Lein, Cleveland, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware

Filed July 11, 1966, Ser. No. 564,110
4 Claims. (Cl. 117—37)



1. A method of developing electrostatic latent images on sheet surfaces which comprises:

mounting a cylinder with a conductive surface at a level to dip into a bath of developer liquid containing particles electrically attractable to areas on the surface of the sheet;

mounting a guide member above said cylinder in fixed relation thereto with its closest point of approach to the cylinder surface at a location defining therewith an effective field control spacing;

passing a sheet, whose surface has been electrostatically imaged, between the guide member and the upper part of the cylinder with the imaged surface towards the cylinder; and

rotating the cylinder in a direction and at a speed sufficient to raise liquid developer from the bath into the gap between the cylinder and the guide member and to generate hydrodynamic forces holding the sheet firmly upwardly against the guide member as it passes between the cylinder and the guide member.

3,367,792
ELECTROLESS PLATING ON NON-CONDUCTING SURFACES

Charles A. Levine, Concord, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 16, 1963, Ser. No. 309,283
18 Claims. (Cl. 117—47)

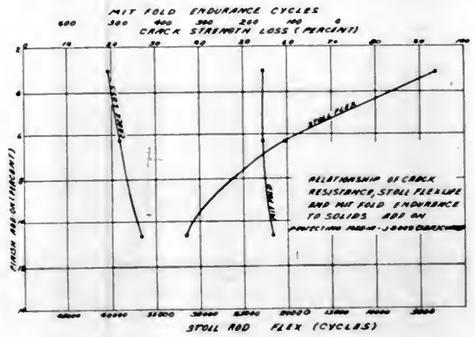
1. A process of plating a non-conducting surface with a first metal comprising the steps of positioning in close proximity to and spaced from said non-conducting surface, a second metal which is above the said first metal in the electromotive force series, immersing the composite article thus formed in a plating solution bath of said first metal, and allowing said solution to flow in contact with and between said second metal and said non-conducting surface.

3,367,793
COATED GLASS TEXTILE AND PROCESS OF MAKING SAME

Everett C. Atwell, Greensboro, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware

Filed Jan. 15, 1964, Ser. No. 337,786
15 Claims. (Cl. 117—76)

There is provided a glass textile product and a process for the production thereof. The glass fabric has an aminofunctional primer as a first coating thereon, a fiber protective medium coating and a tie coat composition whereby high bond strength between the glass textile and a rubber composition are obtained with increased resistance to cracking by flexure. The preferred composi-



tions are: primer-amino-silanes, protective medium-styrene butadiene latex, tie coat-phenolic-formaldehyde/rubber latex.

3,367,794
ALUMINUM DEPOSITION PROCESS

Jimmy D. Burnett, Lacey Springs, Ala., assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Jan. 2, 1964, Ser. No. 335,439
2 Claims. (Cl. 117—107.2)

1. The method of coating a substrate with aluminum by decomposing powdered aluminum hydride to produce aluminum vapors, said method comprising the steps of: heating a mixture of powdered aluminum hydride and at least one amine to the decomposition point of said hydride, said amine being selected from the group consisting of secondary amines of the formula

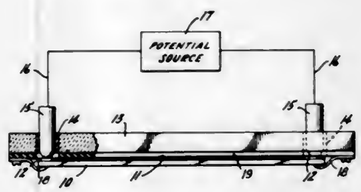


wherein R and R' are each lower alkyls of up to 6 carbon atoms, and depositing said aluminum vapors on the substrate to be coated.

3,367,795
METHOD FOR MAKING A MICROELECTRONIC CIRCUIT

Guy Robert Stutzman, R.R. 2, Greenwood, Ind. 46142

Filed July 9, 1965, Ser. No. 470,940
1 Claim. (Cl. 117—212)

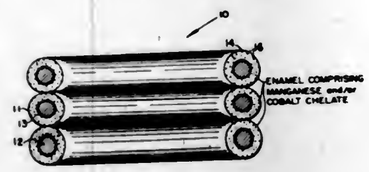


A method of making a microelectronic circuit comprising depositing a grid of resistive material to one side of a substrate and then applying a voltage to said grid of resistive material while a thin film circuitry pattern is being deposited on the other side of said substrate.

3,367,796
PYROLIZABLE ENAMEL COATED WIRE COMPRISING MANGANESE AND COBALT CHELATES

Harry L. Saums, North Muskegon, and Wesley W. Pendleton, Muskegon, Mich., assignors to Anaconda Wire and Cable Company

Original application Mar. 8, 1962, Ser. No. 178,349. Divided and this application July 13, 1966, Ser. No. 618,547
6 Claims. (Cl. 117—215)



1. An electrical system comprising a conductor, fusible glass insulation surrounding said conductor, an organic binder supporting said insulation said binder being pyrolized prior to the fusion of said insulation, and a minor amount of metal chelate selected from the class consisting of cobalt and manganese chelates compounded in said binder.

3,367,797
HEAT SENSITIVE COPY-SHEET

David P. Sorensen, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Nov. 21, 1961, Ser. No. 154,074
9 Claims. (Cl. 117—36.8)

1. A heat-sensitive copy-sheet product including a visibly heat-sensitive layer containing, in intimate uniform juxtaposition, reactants comprising N-nitrosodiphenylamine and a solid non-tertiary aromatic amine, and as a further reactant, an aromatic hydroxy azo coupler component.

3,367,798
METAL CLEANING COMPOSITIONS, BATHS AND METHOD

Clarence Bremer, Rutherford, and Samuel S. Frey, Elizabeth, N.J., assignors to Oakite Products, Inc., New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 672,862, July 19, 1957. This application Jan. 19, 1965, Ser. No. 426,673
13 Claims. (Cl. 134—1)

1. A composition useful in cleaning of soil from deformations in rigid articles, which composition is (A) water-soluble, (B) alkaline, and (C) comprises as its essential ingredients for said cleaning utility:

(i) at least one lower alkanolamine member of the class consisting of monoethanolamine, N-aminoethyl monoethanolamine, and N-methyl diethanolamine;

(ii) a soap made from reacting the recovered mixed fatty acids from tall oil and at least one of said alkanolamines, with said mixed acids used in such ratio to the alkanolamine-reactant to leave an excess of the latter to be the said specific alkanolamine ingredient (i) and to the extent of less than a mole thereof per mole of said soap ingredient and (ii) such that an aqueous solution having a pH from about 9 to about 11 results when said alkanolamine- and soap-containing composition is dissolved in water in an amount from about 2 to about 4 ounces by weight per gallon of said aqueous solution; and

(iii) a water-soluble metasilicate in such concentration that from about 0.7 to about 1.3 ounces of it is contained per gallon of a dilute aqueous bath prepared by dissolving in water from about 2 to about 4 ounces by weight of the overall composition per gallon of said bath solution; and said resulting dilute aqueous bath enabling completely removing generally within a few minutes incrustations of buffing compounds from recesses as well as grooves on rigid articles, upon subjecting them immersed in said dilute aqueous bath to the influence of waves of ultrasonic frequency of from about fifteen to about forty kilocycles per second.

6. The method of removing dirt and soil incrustations, including even those of buffing compounds, from recesses as well as grooves on rigid articles, which method comprises submerging such articles in an aqueous alkaline cleaning bath solution containing dissolved therein, as its essential agents for the aforesaid incrustation removal activity, per gallon of its water from about two to about four ounces by weight of an alkaline water-soluble composition as claimed in claim 1; and subjecting such so submerged articles to the influence of waves of ultrasonic frequency, of the order from about fifteen to about forty kilocycles per second, transmitted to the articles through said aqueous alkaline cleaning bath, and for a time sufficient completely to clean the incrustations from said articles and less than that required with a corresponding cleaning bath without the metasilicate and operated under otherwise like conditions.

3,367,799
PROCESS FOR CLEANING ALUMINUM

Frederick J. Beyerle, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Oct. 8, 1963, Ser. No. 314,816
4 Claims. (Cl. 134—3)

A method for treating aluminum and aluminum alloys using a deoxidizer composition which is an aqueous solution of sulfuric acid, hydrofluoric acid, and an alkali metal dichromate. The aluminum or aluminum alloy thus treated is in condition for resistance welding.

3,367,800
HIGH ENERGY-DENSITY HEAT-ACTIVATED VOLTAIC CELLS AT INTERMEDIATE TEMPERATURES

Richard E. Panzer, Riverside, Calif., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Sept. 28, 1964, Ser. No. 399,942
7 Claims. (Cl. 136—83)

A high energy-density heat-activated voltaic cell system using new combinations of electrode materials and molten salt electrolytes to obtain high outputs at relatively low temperatures, operating at a temperature range of 150° C. to 300° C. with the optimum temperature being around 200° C.

3,367,801
FUEL CELL INCLUDING ELECTRODE OF SILVER, NICKEL, AND ZINC

Kurt W. Kreiselmaier, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Jan. 10, 1964, Ser. No. 336,934
4 Claims. (Cl. 136—86)

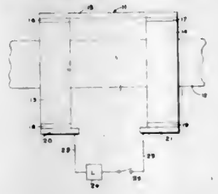
1. In combination with a fuel cell, a porous electrode consisting essentially of a commingled multiplicity of particles of silver, of nickel, and of zinc, sintered together in interconnecting structure comprising alloys of the metals of said particles, said silver particles being present in an amount from about 20 percent by weight to about 90 percent by weight, said nickel particles being present in amount from about 5 percent by weight to about 60 percent by weight, and said zinc particles being present

in amount from about 5 percent by weight to about 15 percent by weight, said percentages by weight being based on the total weight of silver, nickel, and zinc particles.

3,367,802
VANADIUM BRONZE FUEL CELL ELECTRODE
David R. Rhodes, Novato, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Dec. 29, 1965, Ser. No. 517,451
3 Claims. (Cl. 136—120)

A fuel cell electrode comprising in combination as an electrocatalyst (a) vanadium bronze having a minor proportion of molybdenum trioxide and (b) platinum.

3,367,803
THERMOELECTRIC DEVICE COMPRISING $100SnO_2 \cdot xSb_2O_3$
Luther D. Loch, Youngstown, N.Y., assignor to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware
Filed July 9, 1963, Ser. No. 293,717
5 Claims. (Cl. 136—238)

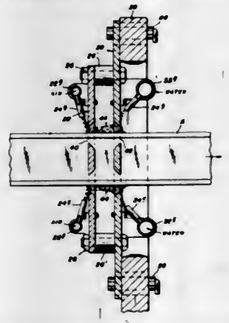


1. A thermoelectric device useful at temperatures above about 1000° K. comprising a p-type thermoelectric element and an n-type thermoelectric element, said elements being electrically joined to form a hot junction, said n-type thermoelectric element comprising a self-supporting sintered n-type semiconductor body having a composition corresponding to the molal formula

$$100SnO_2 \cdot xSb_2O_3 \cdot yMO$$

wherein M represents at least one metal selected from the group consisting of zinc and cadmium, x has a value in the range of from 0.05 to 0.5, and y has a value in the range of from 0 to 5, said element having an index of efficiency (M) at 1000° K. of at least 0.025.

3,367,804
METHOD AND APPARATUS FOR QUENCHING
Alfred Teplitz, Pittsburgh, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed May 7, 1965, Ser. No. 453,925
8 Claims. (Cl. 148—143)



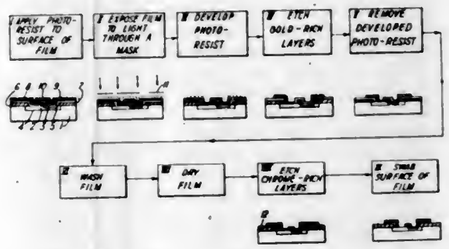
A method and apparatus for quenching metal which is adaptable for use in a continuous process. The apparatus comprises two plate members spaced from each other having an aligned passageway therewithin for the passage of work through the plates. The plates are disposed substantially perpendicular to the line of travel of the work and gas is propelled against the surface of the first plate member surrounding the passageway, and liquid coolant is propelled against the surface of the second plate member surrounding the passageway. As a result, a substantially planar mass of gas and a substantially planar mass of liquid coolant are provided across the passageways of the first and second plate members.

3,367,805
THICKENED INORGANIC NITRATE AQUEOUS SLURRY CONTAINING FINELY DIVIDED ALUMINUM HAVING A LYOPHOBIC SURFACE OF HIGH SURFACE AREA
Robert B. Clay, Bountiful, and Lex L. Udy and Donald T. Bailey, Salt Lake City, Utah, assignors to Intermountain Research and Engineering Company, a corporation of Utah
No Drawing. Continuation-in-part of application Ser. No. 301,630, Aug. 12, 1963. This application June 2, 1965, Ser. No. 460,857
17 Claims. (Cl. 149—6)

1. A slurry type blasting composition which comprises, in combination, a major proportion of an inorganic nitrate selected from the group which consists of sodium nitrate, ammonium nitrate, and mixtures thereof, a suitable proportion of water and a thickener therefor to form a plastic gel or slurry including a sensitizing quantity not exceeding 5% by weight, based on the total composition of finely divided aluminum having a surface area of at least 0.5 square meter per gram and a lyophobic surface capable of forming void reaction sites, and a fuel other than said finely divided aluminum in sufficient proportions to bring oxygen balance within limits of ±10%.

6. Composition according to claim 1 wherein the aluminum comprises at least 0.05% by weight of stearic acid coated paint grade aluminum.

3,367,806
METHOD OF ETCHING A GRADED METALLIC FILM
Roger Cullis, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 24, 1964, Ser. No. 413,463
Claims priority, application Great Britain, Jan. 7, 1964, 705/64
5 Claims. (Cl. 156—17)



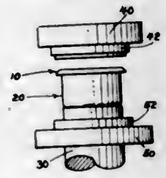
1. Method of selectively etching a metallic film deposited on a substrate, which metallic film comprises graded layers of chromium, being adhesive to the substrate, and a soft solderable metal, the layers being graded in content so that the relative proportion of chromium with respect to the soft solderable metal decreases through the layers with increase in distance from the substrate,

comprising the steps of etching away the layers rich in said soft solderable metal in a selected area or areas removing oxides of chromium formed during the etching away of said soft, solderable metal and etching away the chromium-rich layers beneath said first etched layers using a dilute solution of hydrochloric acid in acetic acid.

3,367,807
METHOD OF ATTACHING COVER PANEL TO A FOOD CONTAINER
Peter Biandford Feldman, Stoke Poges, England, assignor to Monsanto Chemicals Limited, London, England, a British company
No Drawing. Filed Apr. 20, 1964, Ser. No. 361,262
Claims priority, application Great Britain, May 13, 1963, 18,765/63
4 Claims. (Cl. 156—69)

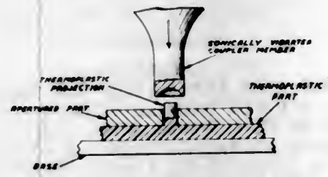
A method of attaching a biaxially-oriented thermoplastic cover to a bonded cellulosic fiber food container by fusing the cover directly to the cellulosic bonding agent of the container.

3,367,808
METHOD AND APPARATUS FOR UNITING ARTICLES
Bryant Edwards, Clarendon Hills, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Sept. 28, 1964, Ser. No. 399,637
5 Claims. (Cl. 156—69)



Method and apparatus for uniting articles of complementary configuration including the combined techniques of mechanical curling and molecularly bonding portions of the complementary configured articles to each other.

3,367,809
SONICS
Robert S. Soloff, Stamford, Conn., assignor, by mesne assignments, to Branson Instruments, Incorporated, a corporation of Delaware
Filed May 8, 1964, Ser. No. 366,177
9 Claims. (Cl. 156—73)



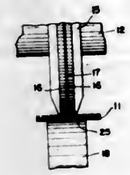
1. A method of securing a thermoplastic part having a projection upstanding from a base surface thereof to another part having a portion of a thickness less than the height of said projection comprising, in combination, the steps of:

(A) placing said part portion on said base surface adjacent said projection;

(B) placing a coupler member in contact with the tip of said projection; and,

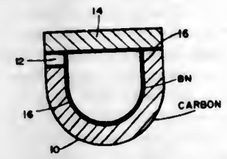
(C) ultrasonically vibrating said coupler member to beat it downwardly against said tip, whereby ultrasonic energy is coupled into said projection to heat it and render it flowable and its tip is peened over by the beating of the coupler member to clamp said part portion between said tip and said base surface.

3,367,810
METHOD AND APPARATUS FOR PREVENTING RAVELING OF FABRIC RIBBONS ALONG THEIR CUT SIDE EDGES
Morris W. Wasserstein, Brooklyn, N.Y., assignor to Wasserstein Bros., Inc., New York, N.Y., a corporation of New York
Filed Mar. 13, 1964, Ser. No. 351,775
12 Claims. (Cl. 156—88)



Producing ribbons from a relatively wide sheet of a fabric, which is susceptible of raveling when cut, by feeding the fabric sheet to a plurality of spaced cutting locations, feeding an adhesive tape to each of the cutting locations and into contact with the underside of the fabric sheet, cutting the laminar structures constituted by the fabric sheet and the underlying tapes, and simultaneously subjecting the same to sufficient pressure to compact the severed marginal regions of each ribbon and to cause such marginal regions to become adhered to the underlying severed portions of corresponding tapes.

3,367,811
PROCESS OF JOINING BODIES WITH BORON NITRIDE
Charles A. Baer, Princeton, N.J., and Philip J. Clough, Reading, and Robert W. Steeves, Nahant, Mass., assignors, by mesne assignments, to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
Original application Nov. 8, 1962, Ser. No. 236,365, now Patent No. 3,245,674, dated Apr. 12, 1965. Divided and this application Aug. 10, 1964, Ser. No. 392,994
2 Claims. (Cl. 156—89)



The high temperature reaction product of boron nitride and aluminum is used to secure together pieces of carbon or refractory oxides to form a joint which is resistant to high temperature molten aluminum.

3,367,812
PROCESS OF PRODUCING CARBONIZED ARTICLES
Willie H. Watts, Lewiston, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Filed Nov. 14, 1962, Ser. No. 237,645
6 Claims. (Cl. 156—155)

1. A process for manufacturing a formed carbonaceous article which comprises disposing parallel oriented carbonaceous fibers of cellulosic origin having a volatile con-

tent of between 45 and 70 percent by weight in a preselected pattern and subsequently subjecting said article



after said fibers have been treated with a carbonizable binder to a carbonizing operation to thereby form a rigid article.

3,367,813

PROCESS FOR SPLICING ENDS OF YARNS

Winfried T. Holfeld, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 2, 1965, Ser. No. 429,905
8 Claims. (Cl. 156—158)

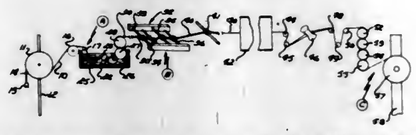
An improvement in a process for splicing ends of yarns by arranging them in overlapping relation and applying an aqueous latex dispersion thereto is provided. The improvement comprises applying a finely divided electronically charged solid material to the latex dispersion to rapidly provide a strong non-tacky bond by absorbing moisture and hastening coagulation of the latex.

3,367,814

GLASS BANDING STRAP MAKING

Sol S. Weiner, Evanston, Burton A. Gale, Skokie, and George P. McNally, Lake Forest, Ill., assignors to CPS Industries, Inc., a corporation of Delaware

Filed July 17, 1963, Ser. No. 295,787
1 Claim. (Cl. 156—166)



1. A method of manufacturing a glass filament strapping band comprising the steps of:
   (a) providing a plurality of strands of glass filaments in substantially parallel relationship to form a roving;
   (b) coating said glass filamentous roving with a composition of a vinyl resin material;
   (c) progressively narrowing said coated roving and then subjecting said coated roving in a fusion area having a temperature range from about 250 degrees Fahrenheit to about 450 degrees Fahrenheit; and
   (d) progressively tensioning said roving by means of a roller device and subsequently sizing said coated roving by means of a radius roller to provide a substantially predetermined uniform width strapping band.

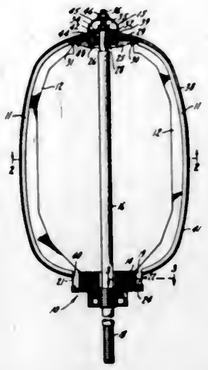
3,367,815

METHOD AND APPARATUS FOR FORMING FILAMENT WOUND VESSELS

Christian Ragettli, Zurich, Switzerland, and Jan Leeuwerik, Amstelveen, Netherlands, assignors to Metal Containers Limited, London, England, a company under the laws of the United Kingdom

Filed Dec. 14, 1964, Ser. No. 418,235
11 Claims. (Cl. 156—175)

A method for forming a filament wound vessel comprising forming a first wound shell of resin impregnated filaments about a collapsible mandrel having a detachable fitting with a relatively large polar opening, curing the first shell to bond the fitting to the shell, removing the mandrel through the opening, mounting the fitting and shell on a shaft with a second fitting disposed in the opening, forming a second wound shell of resin impregnated filaments amout the first shell while using the latter as a mandrel with the winding overlying the second fitting and bridging the annular open space and curing the vessel.

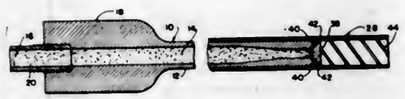


3,367,816

METHOD OF HELICALLY WINDING COIL FORMS WHILE EXTRUDING MATERIAL ONTO THE INNER WALL

Samuel M. Mills, University Park, and Karel Husar, College Park, Md., assignors to Stone Straw Corporation, a corporation of New Jersey

Filed Dec. 27, 1963, Ser. No. 333,826
10 Claims. (Cl. 156—190)



10. A method of making a coil form comprising helically winding a plurality of flexible insulating strips in superimposed relationship on a hollow mandrel, adhesively bonding convolutions of said strips together to produce a self-supporting tube, advancing said tube along said mandrel, and extruding a resilient adhesive plastic composition under pressure through said mandrel in the form of a helical bead adhering to the inner wall of said tube as said tube advances with respect to said mandrel.

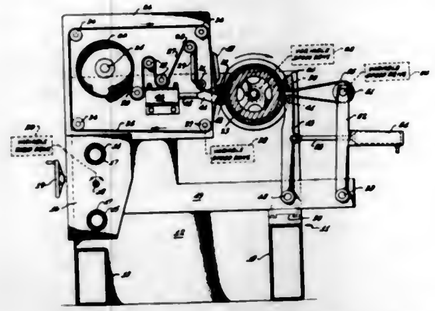
3,367,817

METHOD AND APPARATUS FOR FORMING A ROCKET NOZZLE STRUCTURE

Raymond M. Bluck, Winona, Minn., assignor, by mesne assignments, to Kaiser Aerospace & Electronics Corporation, Oakland, Calif., a corporation of Nevada

Filed Oct. 14, 1963, Ser. No. 315,852
8 Claims. (Cl. 156—195)

1. The method of constructing a fiber matrix rocket nozzle structure which comprises: helically winding a continuous tape having unbroken longitudinal edges and of a fiber matrix material impregnated with an uncured matrix binder upon and along a rotating form in overlapped layers; continuously heating said form; applying a continuous band to the outer layer of tape being continuously wound upon and along the form; continuously heating said band; and uniformly tensioning said band to apply pressure to the tape layers between the band and the form to effect continuous, progressive, cross-layer



curing of the matrix binder as the winding progresses along the form so as to produce a substantially monolithic rocket nozzle structure.

3,367,818

STRENGTHENING EDGES OF FOAM SANDWICH STRUCTURE

Walter D. Voelker, Abington Township, Pa., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 240,393, Nov. 27, 1962. This application Aug. 1, 1966, Ser. No. 569,165
7 Claims. (Cl. 156—216)

1. In a method for the continuous production of a sandwich structure comprising upper and lower facing sheets and a core of rigid polyurethane foam, the improvement which comprises: (1) placing sheet material in contact with the two surfaces defining the opposing longitudinal side-edges of the foam core as the sandwich structure is advanced subsequent to the time when the foam core becomes rigid; (2) compressing said longitudinal edge surfaces having said sheet material in contact therewith; (3) applying heat to said sheet material and compressed underlying foam sufficient to soften the underlying foam and form a dense protective skin therefrom; and (4) cooling said densified skin and sheet material to recover a sandwich structure having said sheet material bonded to said densified skin.

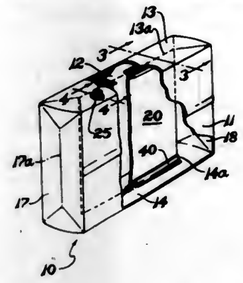
3,367,819

METHOD OF MAKING INFLATABLE DUNNAGE BAG

William E. Schlag, Kent, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Original application Dec. 22, 1961, Ser. No. 161,450. Divided and this application Oct. 21, 1963, Ser. No. 322,268
3 Claims. (Cl. 156—227)

1. A method of making a dunnage bag comprising:
   (a) providing a fabric sheet of air impervious material;
   (b) folding said sheet along pre-arranged reference lines to form two opposed parallel main panels and two opposed marginal panels, the latter marginal panels being centrally creased so that the marginal panels are folded inwardly between the two main panels;
   (c) fastening a flexible member to each marginal panel at the crease therein so that the flexible member extends from one marginal panel to the other between said main panels and is adapted to restraint folding of the marginal panels appreciably beyond the periphery of said main panels;
   (d) joining together the opposing ends of said fabric sheet to form an open ended tube consisting of said main panels and said creased marginal panels;
   (e) folding opposing portions of each margin region of said open-ended tube inwardly toward each other to form two additional opposed marginal panels each



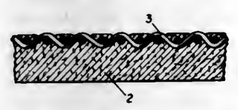
with a central crease so that the latter marginal panels fold inwardly between said main panels and cooperate with said other panels to define an air tight enclosure of generally rectangular shape when inflated; and
   (f) installing an inflating valve in one of said marginal panels.

3,367,820

REINFORCED MOLDABLE WOOD FIBER MAT AND METHOD OF MAKING THE SAME

Philip E. Caron and Gilbert D. Allen, Longview, Wash., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington

Filed Feb. 1, 1963, Ser. No. 255,442
6 Claims. (Cl. 156—242)



1. A method of producing reinforced moldable wood fiber mat formed of a resin binder system and a wood fiber, comprising: steaming the fiber mat for a period of 5 to 60 seconds to activate the binder system and plasticize the wood fiber, laying a reinforcing fabric on the steamed fiber mat, and embedding said fabric into said mat by pressing the fabric into the panel at a temperature of 150 to 375° F. and at a pressure of 200 to 1000 p.s.i. for a period of 15 to 180 seconds to consolidate and cure said resin in said mat and to interlock said fabric thereto.

3,367,821

METHOD OF APPLYING A FIBER REINFORCED RESIN LAYER TO EACH SIDE OF A TEMPORARILY ASSEMBLED PAIR OF PANELS

Robert L. Keyt, Bristol, Va., and Charles L. Meteer, Bristol, Tenn., assignors to Universal Moulded Fiber Glass Corporation, Bristol, Va., a corporation of Delaware

Filed Oct. 19, 1964, Ser. No. 404,669
5 Claims. (Cl. 156—250)



Pairs of individual panels are temporarily assembled in face to face relation and advanced toward a station

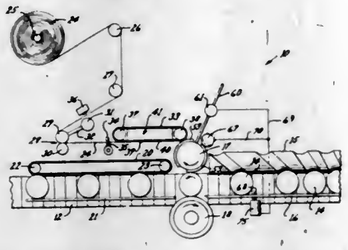
where strips of fibrous reinforcement, impregnated with a heat hardenable resin, are applied to opposite outside surfaces of the panels. Heat and pressure are applied to cure the resin and bond the reinforcements to the panels. Cutting of the structure and separating the overlying panels into individual panels is carried out thereafter.

3,367,822

METHOD AND APPARATUS FOR LABELING CONTAINERS

William B. Hoffler, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed July 1, 1964, Ser. No. 379,696
32 Claims. (Cl. 156—264)



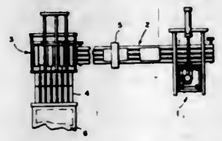
Container label material is fed in strip form from a roll to a cutting station. Individual labels are cut and transferred by a continuous vacuum belt from the cutting station to a rotatable vacuum drum disposed adjacent a labeling station of a conveyor line along which cylindrical containers to be labeled are moved in an upright position. The rotating vacuum drum carries the label past an adhesive applying roller and thence into engagement with the side of a container at the labeling station. The container is rotated relative to the rotating drum and in the opposite direction to wrap the label about the container wall. The inlet end of the conveyor line is provided with a helical screw type spacer which assures proper registry of a container with the vacuum drum at the labeling station. A container sensor disposed in the path of containers advancing toward the labeling station operates to control components of the apparatus such that a label is not carried by the drum to the labeling station unless a container is present at the labeling station.

3,367,823

AUTOMATIC PLYWOOD LAYUP APPARATUS AND METHOD

Victor H. Clausen, Bellevue, and Arnold Zweig, Olympia, Wash., assignors to Simpson Timber Company, Seattle, Wash., a corporation of Washington

Filed Aug. 5, 1963, Ser. No. 300,033
13 Claims. (Cl. 156—281)



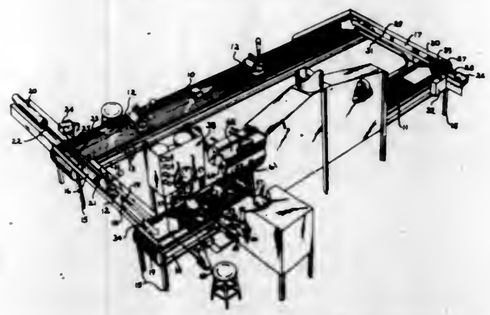
9. A method for continuous lay-up of plywood panels of a given number of plies comprising; conveying individual veneer sheets in a prearranged sequence in spaced relation to a stacking station, coating the upper face only of said veneer sheets with adhesive while they are moving to the stacking station, dropping said coated veneer sheets one at a time in a stack at the stacking station, and dropping an uncoated veneer sheet onto said stack each time said given number, less one, of coated veneer sheets are piled at the top of the stack to thereby form a stack of said plywood panels ready for pressing.

3,367,824

APPARATUS FOR JOINING GLASS PARTS

James D. Mallory, Maumee, and L. D. Ryan, Kansas, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio

Original application Dec. 3, 1962, Ser. No. 241,629, now Patent No. 3,262,828, dated July 26, 1966. Divided and this application Nov. 22, 1965, Ser. No. 509,051
8 Claims. (Cl. 156—363)



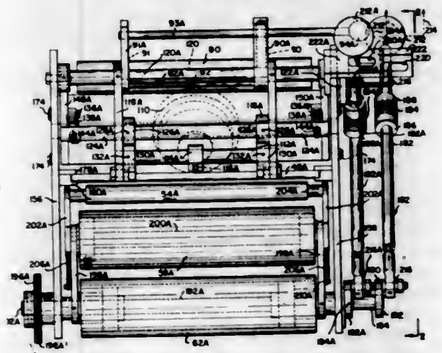
1. Apparatus for applying glass handles to glass articles comprising, a first horizontal endless conveyor, means for continuously driving said first conveyor in one direction, a plurality of article and handle supporting jigs adapted to rest on said conveyor and be moved thereby, an epoxy resin drop former positioned adjacent the receiving end of and overlying said conveyor, a first switch mounted adjacent said conveyor and having its actuating arm extending in the path of travel of a jig after the drop of epoxy resin has been applied to the article, and means responsive to the actuation of said first switch for moving the glass handle into contact with the epoxy drop on the side of the article.

3,367,825

APPARATUS FOR ADHESIVELY SPLICING CONSECUTIVE STRIPS TO EACH OTHER

Daniel S. Cvacho and Harry W. Lee, Jr., Chesterfield County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Apr. 8, 1964, Ser. No. 358,298
8 Claims. (Cl. 156—505)



This application discloses a method and apparatus for adhesively splicing consecutive strips or webs of material to each other. Such strips or webs may be used for any desired purpose, such as formation of tubes and the like. Consecutive strips of material may be spliced together with essentially no pause in the forward feeding movement of the strip material. A leading portion of a fresh, unexhausted strip is adhered to a trailing portion of a substantially exhausted strip and the unused trailing portion of the exhausted strip is cut behind the adhered portions of the strip. A unitary splicing mechanism is provided in which the splicing action and the cutting action are performed almost instantaneously with only an almost imperceptible pause in the forward movement of the strip construction which is compensated without pause in the feeding action at the place of use.

3,367,826

BORON CARBIDE ARTICLE AND METHOD OF MAKING

Richard L. Heestand and Carl F. Leitten, Jr., Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed May 1, 1964, Ser. No. 364,342
4 Claims. (Cl. 161—182)



Stoichiometric boron carbide deposits are prepared by reacting a gaseous mixture of hydrocarbon, hydrogen, and a boron halide at a temperature of 1300° C. Included is a boron carbide article comprising alternating stratified layers of hard, dense, stoichiometric boron carbide and a machinable low boron content boron carbide.

3,367,827

ADHESIVE BONDING OF α-OLEFIN HYDROCARBON COPOLYMERS BY INTERMEDIATE COATING OF COPOLYMERS OF HALOGENATED UNSATURATED HYDROCARBONS AND ETHYLENE

George Arthur Gallagher, Media, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 286,482, June 10, 1963. This application Apr. 13, 1966, Ser. No. 542,235
8 Claims. (Cl. 161—227)

3. A process for adhering a substrate selected from the group consisting of polyamide, polyethylene terephthalate and cellulosic fibrous materials, to a sulfur-curable elastomeric chain-saturated α-olefin hydrocarbon copolymer selected from the group consisting of copolymer of (a) ethylene/propylene/1,4-hexadiene, (b) ethylene/propylene/dicyclopentadiene, (c) ethylene/propylene/5-methylene-2-norbornene, and (d) ethylene/1,4-hexadiene, which process comprises (I) coating said substrate with a heat-hardening phenol-aldehyde type resin; (II) drying the coating material applied in step (I); (III) coating the resulting coated substrate with a sulfur-curable copolymer selected from the group consisting of copolymers of ethylene/5,6-dibromo-1-hexene/1,4-hexadiene, and brominated ethylene/1,4-hexadiene copolymers, said selected copolymer having an inherent viscosity of at least about 0.3 and a bromine content of at least about 10 weight percent; (IV) drying the coating applied in step (III); and (V) curing said α-olefin hydrocarbon copolymer while pressing the latter in contact with said coated substrate, thereby firmly adhering the latter to the α-olefin copolymer.

8. The product produced by the process of claim 3.

3,367,828

HOT, WET PRESSING TECHNIQUE OF FORMING FIBERBOARD

David C. Carter, Martinsville, and David E. Noyes, Somerville, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 860,197, Dec. 17, 1959. This application Aug. 26, 1964, Ser. No. 393,811
4 Claims. (Cl. 162—225)

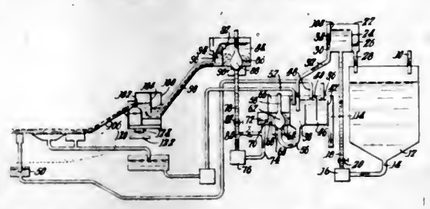
1. A method of manufacturing cellulosic semi-hardboard having a density of about 25–50 lbs. per cu. ft., and a thickness of about ¼ inch to about ⅝ inch, comprising the steps of forming a water-laid mat of cellulosic fibers containing added binder, compressing said mat in a press at an initial pressure in the range of approximately 150–1400 p.s.i. for a relatively short period of time but until a substantial amount of water has been expressed from the mat, reducing the pressure to the approximate range of 5–80 p.s.i., releasing the pressure on the compressed wet mat when the solids content thereof is approximately 60–80%, removing the mat from the press, and drying and baking the compressed mat to remove excess water.

3,367,829

PAPER STOCK FLOW CONTROL APPARATUS

William N. Bennett, Fitchburg, Mass., assignor to Fitchburg Paper Company, Fitchburg, Mass., a corporation of Delaware

Filed Mar. 2, 1964, Ser. No. 348,500
9 Claims. (Cl. 162—336)



1. Stock flow control apparatus for a paper making machine: comprising

(a) a stock chest;

(b) a stuff box interconnected to said stock chest to receive paper stock therefrom;

(c) a mixing box disposed to receive paper stock from said stuff box;

(d) stock control means coacting with said stuff box to regulate the flow of stock issuing therefrom according to the consistency thereof;

(e) means coacting with said mixing box to provide fresh water and white water to said mixing box;

(f) an explosion chamber interconnected to said mixing box to receive paper stock therefrom;

(g) a muffler box coacting with said explosion chamber to receive the stock therefrom;

(h) a flow control box coacting with said muffler box to receive the paper stock therefrom;

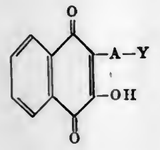
(i) said flow control box including a dam and a pond;

(j) tilting means coacting with said flow control box to tilt same in a predetermined manner to vary the relationship of the pond and dam and thus the amount of stock flowing over the dam; and

(k) means coacting with said flow control box to conduct the fluid stock therefrom.

3,367,830
CONTROLLING COCCIDIOSIS IN POULTRY WITH 1,4-NAPHTHOQUINONES
Lewis H. Sarett, Princeton, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed June 23, 1965, Ser. No. 466,464
2 Claims. (Cl. 167—53.1)

1. The method of controlling coccidiosis in poultry that comprises orally administering to poultry an anticoccidially effective amount of a 1,4-naphthoquinone of the formula



where A represents a divalent saturated or unsaturated polymethylene having from 1–5 carbon atoms, and Y is cycloalkyl of 5 or 6 carbon atoms, phenyl or para-substituted phenyl wherein said para substituent is phenoxy, phenylthio or cyclohexyl.

3,367,831
METHOD FOR TREATING ANIMALS INFESTED WITH PESTS OF THE PHYLUM ARTHROPODA
Sidney J. M. Walker, 64 St. Clair Ave. W., Apt. 606, Toronto, Ontario, Canada
No Drawing. Filed Mar. 25, 1965, Ser. No. 442,797
2 Claims. (Cl. 167—53.2)

A method of treating domestic animals subject to infestation with pests of the phylum Arthropoda which involves drenching the animals with a preparation which is not toxic to the animals but which, on contact, has a lethal effect on said pests, the preparation used being an aqueous solution of sodium hexadecyl sulfate and sodium bicarbonate.

3,367,832
TREATING PAIN WITH 2,2-DIPHENYL-4-(2-PIPERIDYL)-1,3-DIOXOLANE
Walter M. Anglin, Richland Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Apr. 1, 1964, Ser. No. 356,646
2 Claims. (Cl. 167—65)

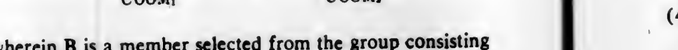
1. A method for relieving pain which comprises: administering orally to a subject experiencing pain an analgesic amount of a compound selected from the group consisting of 2,2-diphenyl-4-(2 - piperidyl)-1,3-dioxolane and physiologically acceptable acid addition salts thereof.

3,367,833
ANTIBIOTIC ERIZOMYCIN AND PROCESS FOR MAKING SAME
Ross R. Herr and Fritz Reusser, Portage, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 582,960, Sept. 29, 1966. This application Feb. 14, 1967, Ser. No. 638,162
10 Claims. (Cl. 167—65)

Antibiotic erizomycin producible by culturing *Streptomyces griseus* var. *erizensis* in a nutrient medium. Erizomycin can be used to inhibit the growth of various microorganisms, for example, *E. coli, K. pneumoniae, P. vulgaris, S. aureus,* and *S. faecalis.*

3,367,834
METHOD AND COMPOSITIONS FOR ENHANCING THE UTILIZATION OF IRON BY MAMMALS
Martin Dexter, 416 Cedar Drive, Briarcliff Manor, N.Y. 10510; Joseph V. Princiotto, 431 N. Monroe St., Arlington, Va. 22201; and Martin Rubin, 3218 Pauline Drive, Chevy Chase, Md. 20015
No Drawing. Continuation-in-part of application Ser. No. 185,836, Apr. 9, 1962. This application May 4, 1965, Ser. No. 453,192
4 Claims. (Cl. 167—68)

1. A method of supplying physiologically useful iron to a lactating mammal which comprises administering to said mammal iron chelate from a compound of the formula:



wherein B is a member selected from the group consisting of monocyclic and bicyclic aromatic radicals having the OH group ortho to the methylene group attached to N and containing at least one substituent selected from the group consisting of H, lower alkyl and halogen, and each of M_1 and M_2 is a member selected from the group consisting of H, alkali metal and ammonium.

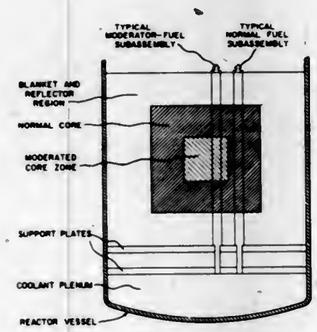
3,367,835
PROCESS FOR THE PREPARATION OF CHYMOTRYPSIN B
Yvonne Thuillier, Paris, France, assignor to Laboratoires Albert Rolland, Paris, France, a French society
Filed Oct. 12, 1964, Ser. No. 403,409
Claims priority, application Great Britain, Oct. 11, 1963, 40,297/63
4 Claims. (Cl. 167—75)

1. A process for obtaining chymotrypsin B from an acidic extract of pancreatic material which comprises the steps:
(1) addition of ammonium sulfate to said pancreatic extract to a concentration of about 15–25% weight-volume to precipitate inert material;
(2) addition of ammonium sulfate after removal of inert material to a concentration of about 35–45% weight-volume to precipitate chymotrypsinogen B;
(3) demineralization and further purification of chymotrypsinogen B by:
(a) dissolving chymotrypsinogen B in water;
(b) chromatographing aqueous solution at a pH of about 3.8;
(c) eluting of inert material from chromatography column with a buffer of about pH 3.8; and
(d) eluting chymotrypsinogen B with a buffer of about pH 4.6;
(4) reprecipitation of chymotrypsinogen B from eluate by addition of ammonium sulfate;
(5) activation of chymotrypsinogen B to chymotrypsin B by treatment with trypain at a pH of about 7.8;
(6) demineralization and purification following the steps in step (3); and
(7) isolation of chymotrypsin B by centrifugation and lyophilization, all of said steps being conducted at a temperature of about 0° C.

3,367,836
PROCESS FOR THE EXTRACTION OF ELASTASE
Yvonne Thuillier, Paris, France, assignor to Laboratoires Albert Rolland, Paris, France, a French society
Filed Oct. 12, 1964, Ser. No. 403,410
Claims priority, application Great Britain, Oct. 10, 1963, 40,047/63
3 Claims. (Cl. 167—75)

1. A process of preparing from delipidated pancreatic powder an enzymatic composition having elastolytic activity with reference to elastin, said enzymatic composition having an isoelectric point of 9.5±0.3, low solubility in water below pH 4.5, an ultra-violet absorption spectrum showing peaks at 2,200 and 2,800 A., and upon electrophoresis showing two constituents, one having a slower mobility than the α globulins of blood serum and being able to digest elastin, and the second having the mobility of the β_1, β_2 globulins of blood serum, comprising the steps:
(1) extraction of said powder with *M*/100 sodium acetate buffer at a pH between about 4.8 and 5;
(2) precipitation of active material by addition to extract of ammonium sulfate in a concentration of between about 48 to 55%;
(3) demineralization of said precipitate of active material by dialysis;
(4) fractional precipitation with ethanol or methanol comprising the steps of:
(a) a first precipitation in about 50% ethanol or methanol to remove inactive material, and
(b) a second precipitation in about 80% ethanol or methanol of active material;
(5) solution of active material in an *M*/100 sodium acetate buffer at a pH between about 4.7 and 5; and
(6) lyophilization, said steps being carried out at a temperature less than about 5° C.

3,367,837
MINIMIZING THE POSITIVE SODIUM VOID COEFFICIENT IN LIQUID METAL-COOLED FAST REACTOR SYSTEMS
John B. Nims, Royal Oak, and Earl M. Page, Madison Heights, Mich., assignors to Atomic Power Development Associates, Inc., Detroit, Mich., a corporation of New York
Filed Oct. 24, 1965, Ser. No. 504,432
5 Claims. (Cl. 176—18)

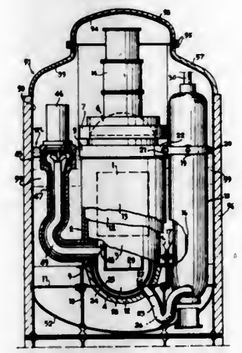


1. A large liquid-metal cooled fast breeding reactor having a core comprising a transverse and longitudinally defined middle region and an outer region, said outer region having a plurality of fissile fuel elements, the total of the fissile fuel elements being sufficient for sustaining a fast nuclear chain reaction, and said middle region having a substantial proportion of spaced moderator elements for shifting the flux spectrum in said core towards the low energy range, said outer region containing substantially no moderator, whereby the void coefficient for said middle region has only slightly positive or negative values.

3,367,838
FISSIOCHEMICAL PROCESS FOR CARBON-NITROGEN BONDING
Roger I. Miller, Danville, Calif., assignor, by mesne assignments, to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio
No Drawing. Filed Sept. 29, 1964, Ser. No. 400,196
3 Claims. (Cl. 176—39)

1. A process of substituting nitrogen for hydrogen in organic compounds comprising the steps of intimately mixing a fluid organic reactant of benzene with a fluid nitrogenous reactant of ammonia, passing the mixture through a reaction zone, producing a nuclear fission in said zone with a release of fission fragments to traverse the mixture for establishing localized high temperatures in the mixture along fission fragment paths therein, cooling the reaction zone to maintain a steady low temperature therein, removing reaction products including aniline from the mixture outside the reaction zone, and recirculating the unreacted reactants through the reaction zone.

3,367,839
CLOSED CYCLE NUCLEAR REACTOR
Leopoldo Chinaglia, Turin, Italy, assignor to Fiat Società per Azioni, Turin, Italy
Filed July 12, 1965, Ser. No. 471,230
Claims priority, application Italy, July 17, 1964, 16,334/64
4 Claims. (Cl. 176—65)



1. A closed cycle compact pressurized water nuclear reactor comprising; a core, a cylindrical vertically positioned body surrounding the core, caps closing the upper and lower end of the cylindrical body and defining with the latter a pressure resistant reactor vessel, a number of tubular bodies, each body enclosing a heat exchanger, the tubular bodies positioned around and close to the exterior sides of the cylindrical body of the reactor vessel and extending parallel thereto, pipes extending from the reactor vessel to each of the heat exchangers for circulating a coolant medium between the reactor vessel and each of the heat exchangers, the pipes extending from apertures in the lower portion of the reactor vessel to apertures in the tubular bodies enclosing the heat exchangers, a plant container surrounding both the reactor vessel and the heat exchangers, pumps connected for circulating the coolant medium between the reactor vessels and heat exchangers, means for pivotally connecting an upper portion of each tubular body enclosing a heat exchanger to the cylindrical body enclosing the core, and means for rigidly connecting each of the tubular bodies to the cylindrical body near their lower end portions, the means for rigidly connecting the bodies being positioned in proximity to the portions of the bodies in which the apertures are formed for connecting the coolant medium circulating pipes.

3,367,840
NUCLEAR REACTOR FUEL BUNDLE
John MacPhee, Rowayton, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey
Continuation of application Ser. No. 311,573, Sept. 25, 1963. This application June 3, 1966, Ser. No. 555,936
2 Claims. (Cl. 176—78)



The invention is concerned primarily with a fuel element system having a plurality of metallic clad elongated fuel pins, the pins being maintained in spaced relationship by spacing means which are fixed thereto and intermittently spaced along the length of the pins. Accordingly, when the fuel pins are interposed, the spacing means engage like spacing means on adjacent pins thereby lending support to the plurality of fuel pins. The pins are further provided with a metallic housing and an eccentric fitting in order to permit interchangeable mounting of an array of fuel pins in a grid plate. The eccentric fitting provides control rod channels between the fuel pins.

3,367,841
DEVICE AND PROCESS FOR THE STUDY OF THE ENZYMATIC CHARACTERISTICS OF LIVING CELLS
Jean Buissiere, Villeurbanne, and Pierre Lacroix, Lyon, France, assignors to Promoveo, Collonges-au-Mont-d'Or, France, a French limited-liability company
Filed Jan. 22, 1964, Ser. No. 339,492
Claims priority, application France, Feb. 6, 1963, 923,887; Oct. 7, 1963, 44,069
17 Claims. (Cl. 195—103.5)

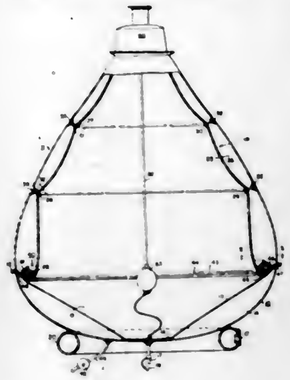


1. A device for the study of the enzymatic composition of living cells by the detection of a metabolite produced by the action of said cells on a chemical substrate, comprising an absorbent support formed of first and second substantially sheet-form members of absorbent material in fixed relation and arranged to permit liquid interchange by absorption between said members, only one of said members containing said substrate the substrate being impregnated therein and in the dry state, and a transparent air- and water-tight layer affixed in place and covering at least the major part of one surface of one of said members, one of said members having an exposed area for receiving a suspension of said cells.

3,367,842
TEST COMPOSITION AND DEVICE FOR THE DETECTION OF GALACTOSE IN FLUIDS
Chauncey Orvis Rupe and Allen Chuol Hue, Elkhart, Ind., assignors to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana
No Drawing. Filed Feb. 17, 1965, Ser. No. 433,516
12 Claims. (Cl. 195—103.5)

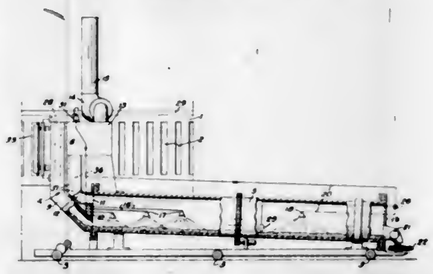
Test means having increased sensitivity for detecting galactose in fluids comprising, in combination, galactose oxidase, a material having peroxidative activity, a chromogenic indicator and as the sensitizing means, a slightly water soluble metal compound such as zinc oxide or cadmium oxide.

3,367,843
INFLATABLE PEAR SHAPED SOLAR STILL
Peter Clive, River Edge, and Charles N. Gattuso, North Arlington, N.J., assignors to Aquador Plastics, Inc., Brooklyn, N.Y., a corporation of New York
Filed Sept. 21, 1964, Ser. No. 397,742
28 Claims. (Cl. 202—176)



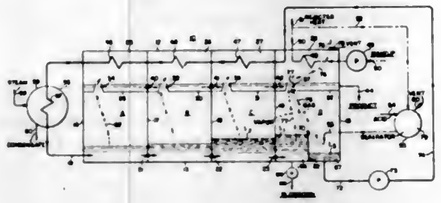
A solar still having a flexible light transmitting outer sheet material and a heat absorbing evaporator member within the outer sheet material upon which sea water is evaporated and collected on the outer sheet material, an excess sea water compartment for collecting any sea water draining from the evaporator member, means to collect the distilled water from the inner surface of the outer bag, a means for directing any excess sea water from the evaporator member into the excess sea water compartment which may be a separator ring of larger diameter than the maximum diameter of the evaporator member and the solar still may have a stabilizer ring, a sea water reservoir adjacent the top of the bag and a pendulum and filament extending through a feed hole in the sea water reservoir to prevent clogging of the feed hole.

3,367,844
APPARATUS FOR QUENCHING COKE FROM HORIZONTAL COKE OVENS
Walter Cremer, Essen, Germany, assignor, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed Sept. 5, 1963, Ser. No. 306,734
7 Claims. (Cl. 202—227)



Apparatus for quenching coke comprises an inclined rotatable vessel that is movable along a coke battery and is communicable with a coking chamber about to be pushed. Quenching water is sprayed onto the hot coke in the vessel and the generated steam, containing dust particles, passes through a dust separator to remove the dust particles. The quenched coke discharges onto a moving belt conveyor.

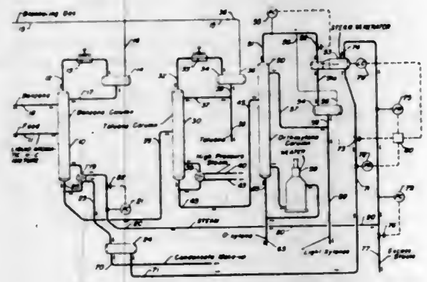
3,367,845
FLASH EVAPORATION APPARATUS AND METHOD
Roland L. Colt, Swarthmore, and Ernest F. Stalcup, Lansdowne, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 16, 1965, Ser. No. 448,791
7 Claims. (Cl. 203—7)



This invention provides an arrangement in which the last and lowest pressure flash chamber of a plural-stage evaporator is provided with a wier dividing the lower portion of the chamber into two liquid collecting sections. One of the sections is in direct communication with the orifice from the preceding chamber and is provided with a blow-down connection, while the other section is disposed below the make-up water inlet and is provided with a recirculation connection.

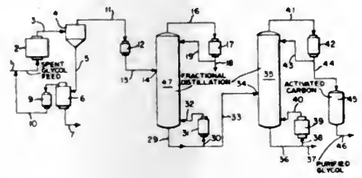
This arrangement permits deaeration of the make-up water in the last chamber, thereby eliminating a separate deaeration vessel, while preventing mixing of the make-up water with that portion of the enriched brine that is blow-down.

3,367,846
UTILIZATION OF RECOVERED STEAM HEAT FOR HEATING THE DISTILLATION ZONE
Kenneth D. Uitti, Bensenville, and Toshio Okuma, Des Plaines, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Aug. 26, 1965, Ser. No. 482,685
5 Claims. (Cl. 203—25)



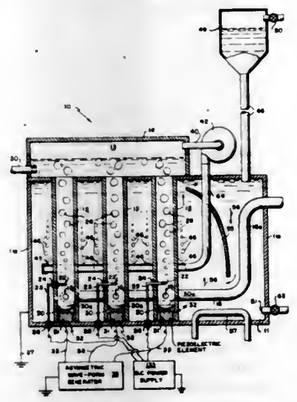
Multicolumn fractionation of a C_6+ aromatics mixture for the recovery of benzene, toluene and ortho-xylene, wherein benzene is taken overhead in a first column, toluene is taken overhead in a second column, and the toluene column bottoms is separated in a third (ortho-xylene) column to produce an ortho-xylene bottom fraction and a mixed light xylene overhead fraction. The ortho-xylene column overhead vapors are condensed in a steam generator and a portion of the resulting steam is used to reboil the benzene column.

3,367,847
PURIFICATION OF ETHYLENE GLYCOL CONTAINING SALTS OF TEREPHTHALIC ACID BY PLURAL DISTILLATION
John E. Pierson, Charleston, W. Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 1, 1966, Ser. No. 530,763
8 Claims. (Cl. 203—41)



Ethylene glycol recovered from a process for making polyethylene terephthalate from ethylene glycol and terephthalic acid or its derivatives can be purified to such a degree that it can be used interchangeably with virgin ethylene glycol in polyester manufacture by first removing the solids, principally sodium salts of terephthalic acid, from the spent glycol, then subjecting the solids-free glycol to fractional distillation to remove high- and low-boiling impurities and finally treating the distilled glycol with activated carbon to remove trace amounts of impurities which adversely affect the ultra-violet light transmission of the glycol.

3,367,848
DISTILLATIVE HYDROELECTROLYSIS WITH ALTERNATIVELY APPLIED PRESSURE
Westley F. Curtis and Harvey A. David, Bethesda, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Dec. 30, 1965, Ser. No. 517,861
14 Claims. (Cl. 203—49)

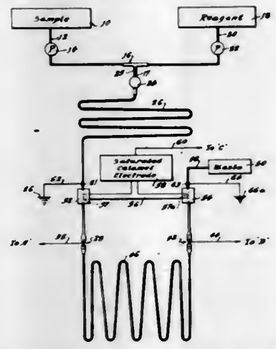


An apparatus for evaporating and condensing a liquid, especially water. The apparatus forms vapor bubbles by electrolysing the liquid. The vapor bubbles are subjected to asymmetric wave-form pressure variations, by an electro-acoustic transducer, to produce additional vaporization of the liquid. The vapor is then condensed to a rectified liquid.

3,367,849
AMPEROMETRIC DETERMINATION OF GLUCOSE

Walter J. Blaedel, Madison, Wis., and Carter L. Olson, Columbus, Ohio, assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Mar. 20, 1964, Ser. No. 353,646
7 Claims. (Cl. 204—1)

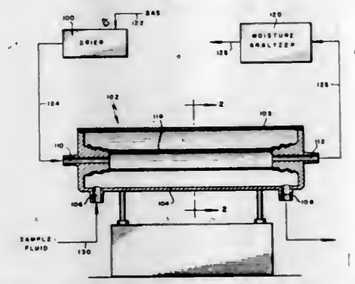


Apparatus and method are set forth for the rapid and accurate determination of glucose content in a flowing fluid. A buffer solution containing ferrocyanide and an enzyme which catalyzes the oxidation of glucose to produce hydrogen peroxide is added to the fluid. Hydrogen peroxide reacts with ferrocyanide to form electro-reducible ferricyanide at a rate proportional to the amount of glucose present. A pair of tubular platinum electrodes are spaced to detect the increase in concentration of ferricyanide. Readout equipment converts electrode signals directly into glucose concentration.

3,367,850
METHOD AND APPARATUS FOR DETERMINING MOISTURE CONTENT OF HYDROCARBON FLUIDS

Lee M. Johnson, Austin, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

Filed Dec. 7, 1964, Ser. No. 416,236
10 Claims. (Cl. 204—1)



9. A method of determining the moisture content of a hydrocarbon stream which comprises:

passing a sample hydrocarbon stream at a predetermined volume flow rate in contact with a first surface of a semipermeable membrane permeable to moisture,

passing a dry gas stream at a predetermined volume flow rate in contact with the opposite surface of said semipermeable membrane in isolation from said sample stream,

whereby all moisture in said sample hydrocarbon stream is dialyzed through said semipermeable membrane from said hydrocarbon stream into said gas stream, and passing the gas stream containing moisture to a moisture analyzer to determine the moisture content of the gas stream and thereby the moisture content of the sample stream.

3,367,851
NON-WOVEN CONDUCTIVE PAPER MAT

Manuel Flireis, Minneapolis, and Victor R. Franer, St. Paul, Minn., assignors to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Apr. 9, 1964, Ser. No. 358,586
9 Claims. (Cl. 204—2)

A substantially infusible porous, non-woven, electrically conducting web having 1% to 35% by weight of essentially uniformly distributed, electrically conductive carbonaceous fibers, said carbonaceous fibers having a carbon content of at least 80% by weight, an average fiber length from about 1/16 to about 7/16 inch and an average denier of from 0.25 to 5, and at least 50% of insulative, infusible fibers, said electrically conducting web having a specific resistivity from about 0.036 to about 60 ohm-cm.

3,367,852
SELECTED AREA HARDCOATING OF ALUMINUM

James F. McGlvern, Jr., Avon, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

No Drawing. Filed Oct. 29, 1964, Ser. No. 407,568
7 Claims. (Cl. 204—15)

In a manufacturing operation wherein a thick, abrasion-resistant coating of aluminum oxide is to be provided on selected areas of an aluminum article in a hardcoating process, the article is first anodized in a chromic acid bath to a self-sustaining voltage. The thin anodized coating thus provided is then stripped away to expose the basis metal in those selected areas where the thin coating is desired, and the article is subsequently hardcoated, the thin anodized coating acting as a maskant in the hardcoating operation.

3,367,853
ACID-GOLD ELECTROPLATING BATH

Karl Schumpelt, Union, N.J., assignor to Sel-Rex Corporation, Nutley, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 424,496, Dec. 31, 1964. This application Aug. 26, 1965, Ser. No. 482,903
7 Claims. (Cl. 204—46)

1. An aqueous electrolyte for electrodepositing smooth, hard, 24-karat gold containing about 1–30 g./l. of gold added as a soluble alkali metal gold cyanide, about 10–150 g./l. of a stable, organic acid selected from the class having a pK value effectively buffering at a pH of 3 to 6.5, partially neutralized with an alkaline material to yield a salt of said acid selected from the class consisting of sodium, potassium, lithium and ammonium salts and combinations thereof and to provide a pH of 3 to 6.5, and 1 to 100 g./l. of an alum.

3,367,854
NICKEL PLATING

Frank Passal, Detroit, Mich., assignor to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware

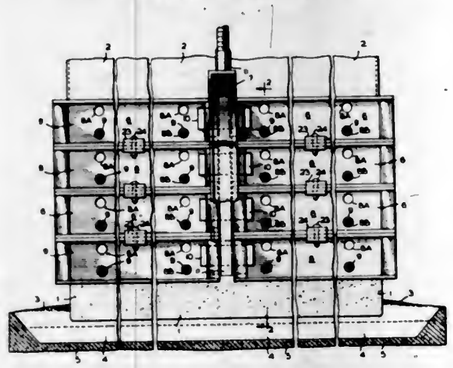
No Drawing. Filed Dec. 21, 1964, Ser. No. 420,172
14 Claims. (Cl. 204—49)

In accordance with certain of its aspects, the novel process of this invention for electroplating a semi-bright sulfur-free, nickel plate onto a basis metal may comprise passing curernt from an anode to a basis metal cathode through an aqueous acidic nickel plating solution containing at least one nickel compound providing nickel ions for electroplating of nickel, and including as a semi-bright additive, a compound containing an oxyomegasulfohydrocarbon-di-yl coumarin anion wherein the hydrocarbon-di-yl moiety contains at least two carbon atoms and the oxyomegasulfohydrocarbon-di-yl group is substituted on the carbocyclic nucleus of the coumarin group.

3,367,855
INVERTIBLE ANODE SIDE CHANNEL

Francis H. Fischer and Karl F. Bartels, Portland, and Delray E. Fischer, Corpus Christi, Tex., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Nov. 2, 1964, Ser. No. 408,265
4 Claims. (Cl. 204—67)



4. A method of producing metallic aluminum by operating an electrolytic cell having an electrolytic bath, a self-baking, consumable, carbonaceous anode partly immersed in said bath, a plurality of horizontal anode side channels disposed one above the other on opposite faces of said anode with their web portions abutting said faces, upper and lower groups of spaced holes in each said web portion adjacent the upper and lower flanges respectively of each said channel, and electrically conductive anode pins connected to an external source of electric current and extending through holes in said lower group and into said anode; said method comprising: lowering said anode toward said bath as said anode is consumed, repeatedly removing from a said face the lowermost of said channels when said lowermost channel is a predetermined distance from said bath, and thereafter re-installing at least some of the removed said channels in an inverted position as the uppermost of said channels on one said face, thereby maintaining said pins relatively close to said bath to minimize the voltage drop in said anode between said pins and said bath while maximizing the distance between said bath and the closest said channels.

3,367,856
REARRANGEMENT OF ARYLSILANES

Lee E. Nelson and Donald R. Weyenberg, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Feb. 7, 1963, Ser. No. 256,811
22 Claims. (Cl. 204—158)

21. A method for causing a silane of the general formula

$$R'_{\;\;|}$$
$$R_nSiH_{4-(n+m)}$$

wherein R is an aryl group, R' is an alkyl group, n is an alkyl group, n is an integer from 1 to 3 inclusive, m is an integer from 0 to 2 inclusive and $n+m$ is equal to no more than 3, to undergo rearrangement, said method comprising subjecting said silane at a temperature of not more than 200° C. to the action of an electromagnetic radiation free radical generator.

3,367,857
SIDE-CHAIN CHLORINATION OF RING-SUBSTITUTED ACETOPHENONES

Jürgen F. Falbe, Bonn, and Hans-Jürgen Schulze-Steinen, Hangelar, Germany, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 506,580, Nov. 5, 1965. This application Oct. 24, 1966, Ser. No. 588,726
Claims priority, application Germany, Feb. 17, 1965, S 95,514; Oct. 27, 1965, S 100,236
10 Claims. (Cl. 204—158)

1. The process for the production of 2,2-dichlorinated ring-substituted acetophenone by contacting with chlorine, at a temperature between 10° and 100° C. and in the presence of hydrochloric acid, ring-substituted acetophenone, in which the acetophenone is ring-substituted with halo groups selected from the class consisting of chloro, bromo and fluoro, in a solvent consisting essentially of a mixture of 1 to 4 carbon atom lower alkanoic acids and formic acid said mixture containing at least 50% by weight formic acid and for a period of time sufficient to give essentially complete conversion of the ring-substituted acetophenone to the 2,2-dichlorinated ring-substituted acetophenone.

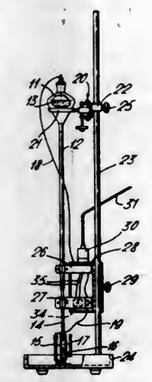
6. The process according to claim 1 wherein the ring-substituted acetophenone is 2',4'-dichloroacetophenone and the 2,2-dichlorinated product is 2,2,2',4'-tetrachloroacetophenone.

7. The process according to claim 6 carried out under irradiation with a light source radiating principally in the range of 400 to 500 mμ.

3,367,858
DROPPING MERCURY ELECTRODE WITH DISCHARGE CONTROL MEANS

Mutsuo Kurosaki, Kyoto, Japan, assignor to Yanagimoto Seisakusho Co., Ltd., Kyoto, Japan

Filed Jan. 11, 1965, Ser. No. 424,793
6 Claims. (Cl. 204—195)

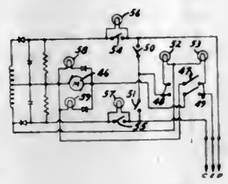


1. A dropping mercury electrode assembly comprising a capillary tube from which mercury droplets are discharged, means for supporting the capillary tube, and an electrostrictive element attached to said means for controlling the discharge of the mercury droplets, said electrostrictive element being operated by impulse voltage at definite time intervals.

3,367,859
CONTROL DEVICE FOR ELECTRO-PLATING BATH

Alfred J. Luden, Minneapolis, Minn., assignor to Bureau of Engraving, Inc., Minneapolis, Minn., a corporation of Minnesota

Filed Dec. 26, 1963, Ser. No. 333,561
2 Claims. (Cl. 204—228)



A control device for an electroplating bath wherein an AC component of the voltage across the bath is amplified and, through the use of a rectifier, utilized to produce a double ended signal to be applied to each input of a push-pull amplifier. The AC component of a voltage proportional to the current through the bath is applied to an amplifier and, through the use of a rectifier, a single ended signal is produced which is applied to one input of the push-pull amplifier and the signals are adjusted to provide a balanced condition for a desired current density in the bath. The two outputs of the push-pull amplifier are applied to a polarized relay having a first, a second, and a neutral state. When the outputs of the push-pull amplifier are balanced, the polarized relay is in the neutral state and there is no reaction in the following circuitry. When the push-pull amplifier outputs are unbalanced, the polarized relay moves either to the first or the second state and consequently closes contacts which activate a motor which in turn adjusts the voltage across the bath to change the current density and return it to the desired current density.

3,367,860
HIGH DENSITY JET FUEL AND PROCESS FOR MAKING SAME

Robert L. Barnes, 4822 Sanbert St., Placentia, Calif. 92670, and Robert L. Dinsmore, 5328 Coralite St., Long Beach, Calif. 90808

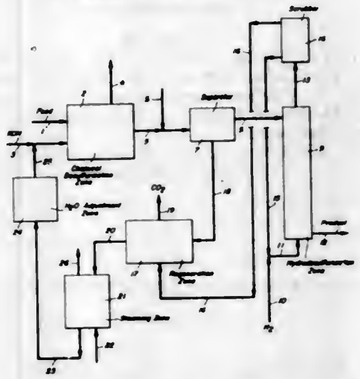
No Drawing. Continuation-in-part of application Ser. No. 324,881, Nov. 19, 1963. This application Oct. 13, 1966, Ser. No. 588,237
2 Claims. (Cl. 208—15)

A high density supersonic jet fuel having a freeze point of less than −65° F. and a heat of combustion of at least 127,500 B.t.u./gal. and 18,600 B.t.u./lb. and process for making such fuel. The fuel is produced by blending 2 parts of a stove oil cut from a naphthenic petroleum stock having less than 20 percent paraffins and from 55 and 65 percent naphthenes and the remainder aromatics with 1 part of a stove oil cut from an intermediate petroleum stock having about 30 percent paraffins, 45 to 55 percent naphthenes and the remainder aromatics. The blend contains about 15 to 35 percent paraffinic hydrocarbons, about 15 to 20 percent aromatics and the balance naphthenes. The blend is hydrogenated to from 80–95 percent completion, in the presence of a hydrogenation, hydrodenitrogenation and hydrodesulfurization catalyst such as a Group VIII-Group VI–B metal combination under the conditions set forth. The blend is then distilled to separate a 370 to 520° F. heart-cut therefrom. This heart-cut is then hydrogenated to about 98 percent completion in the presence of a Group VIII catalyst. The resultant fuel has a ratio of mononaphthenes to polynaphthenes of greater than 1:1.

3,367,861
COMBINATION CAUSTIC AND HYDRO-REFINING PROCESS

Clyde L. Aldridge and Glen P. Hamner, Baton Rouge, and Ralph Burgess Mason, Denham Springs, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Sept. 3, 1965, Ser. No. 484,906
3 Claims. (Cl. 208—211)

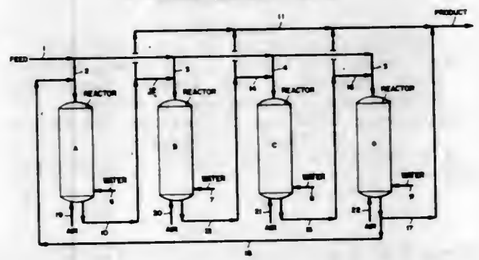


1. In a two-stage process for desulfurizing whole atmospheric residuum having an initial boiling point of about 450° F. and containing sulfur, nitrogen and metallic contaminants comprising contacting said residuum in a first stage with molten potassium hydroxide treating agent containing 5 to 30 wt. percent water based on the total reagent at a temperature in the range of 400–800° F. and then hydrotreating the partially desulfurized residuum in the presence of a cobalt molybdate catalyst at a temperature ranging from 550 to 900° F., a pressure ranging from 300 to 3000 p.s.i.g., a hydrogen charge rate of 500 to 6000 s.c.f./bbl. of residuum and a space velocity of 0.2 to 2.0 volumes of residuum per hour per volume of catalyst, the improvement comprising regenerating spent treating agent from the first step containing K_2CO_3 and K_2S by contacting the spent treating agent with H_2S recovered from the hydrotreating step, contacting the partially regenerated treating agent containing KSH with steam at a temperature ranging from 400 to 1000° F. to convert the KSH to KOH and recycling the regenerated KOH to the first stage.

3,367,862
PROCESS FOR DESULFURIZATION BY HYDROLYSIS WITH METALS ON CHARCOAL BASE CATALYSTS

Ralph Burgess Mason, Denham Springs, and Glen Porter Hamner and Clark Edward Adams, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Oct. 18, 1965, Ser. No. 497,411
8 Claims. (Cl. 208—243)



Process for desulfurizing heavy residual fractions by contacting with water in the presence of a catalyst com-

prising a metal, metal oxide, or metal sulfide distended on a char base.

3,367,863
FIRE EXTINGUISHING AGENT

William J. Cooper, Butler, and David M. Kyllonen, Pittsburgh, Pa., assignors to Callery Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 29, 1965, Ser. No. 505,756
7 Claims. (Cl. 252—2)

A fire-extinguishing agent is made by heating an aqueous mixture of aluminum acid phosphate and a boron oxide source material, such as boron oxide, boric acid, an alkali and alkaline earth metal borates.

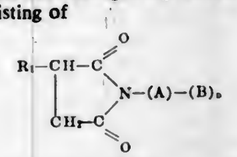
3,367,864
ADDITIVES FOR LUBRICATING COMPOSITIONS

John Scotchford Elliott, Eric Descamp Edwards, and Gerald John Joseph Jayne, London, England, assignors to Castrol Limited, London, England, a British company

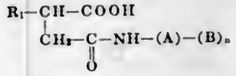
No Drawing. Filed Jan. 7, 1966, Ser. No. 519,008
Claims priority, application Great Britain, Jan. 8, 1965, 1,000/65
13 Claims. (Cl. 252—32.7)

1. A novel oil-soluble compound, particularly suitable as an additive for lubricating compositions, selected from the group consisting of

(a)

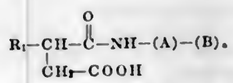


(b)



and

(c)



wherein;

R_1 is selected from the group consisting of alkyl and alkenyl radicals containing at least 12 carbon atoms;

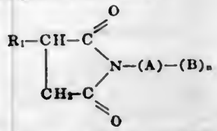
A is an amino hydrocarbon or amino hydroxy hydrocarbon radical containing from 1 to 6 amino groups;

n of $—(B)_n$ is an integer of from 1 to 6;

B is a radical having the formula: $—(CRR)_m—SO_3H$ where m is 3 or 4, said radical being attached through the carbon atom to a nitrogen atom of A, and wherein R is selected from the group consisting of a hydrogen atom and a hydrocarbon group having not more than 10 carbon atoms, provided, however, that any two substituents R on adjoining carbon atoms may together form a cyclic system;

and the internal salts of the foregoing compounds.

2. A compound as claimed in claim 1 wherein the compound has the general formula



9. A lubricating composition consisting essentially of a compound as claimed in claim 2 in solution in a lubricating oil in an amount of from 0.5% to 5.0% by weight on the weight of the oil.

10. A lubricating composition as claimed in claim 9, wherein there is also dissolved in the oil from 0.2 to 2.0% by weight of the zinc salt of a dialkyl dithiophosphoric acid derived from a C_4–C_{10} alcohol or a mixture of such alcohols.

3,367,865
OIL-SOLUBLE METAL SULFONATES AND LUBRICANTS CONTAINING THEM

David A. Gudelis, Sarnia, Ontario, Canada, assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 111,387, May 19, 1961. This application Nov. 25, 1966, Ser. No. 596,819
7 Claims. (Cl. 252—33)

1. An improved process for preparing an oil-soluble alkaline earth metal hydrocarbon sulfonate which comprises the steps of dimerizing a monoolefin fraction in the C_8 to C_{15} range by contacting said fraction with an activated silica-alumina catalyst having a silica-to-alumina weight ratio of from 1:1 to 15:1, said contacting being conducted at a temperature in the range of 200 to 500° F. at a pressure of 200 to 2000 p.s.i.g. and a feed rate of 0.05 to 0.80 g.p.h./lb. of catalyst, fractionating the dimer product to obtain a high boiling fraction boiling above 500° F., alkylating benzene with said high boiling dimer fraction in the presence of a Friedel-Crafts catalyst, thereafter segregating from the resulting alkyl benzene a heavy alkylate fraction having an initial boiling point of at least 640° F., subjecting said heavy alkylate fraction to sulfonation and converting the sulfonated product to an alkaline earth metal salt.

6. A lubricating oil composition comprising a major proportion of a mineral lubricating oil and from 0.1 to 10 wt. percent of alkaline earth metal sulfonate prepared by the process defined by claim 1.

3,367,866
METAL WORKING LUBRICANT

George R. Cook, Arlington Heights, Allan A. Manteuffel, Crystal Lake, and Joseph B. Stucker, Des Plaines, Ill., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Nov. 26, 1965, Ser. No. 510,093
11 Claims. (Cl. 252—33.3)

The invention relates to a metal working lubricant composition comprising (1) a lubricating oil base consisting of an aromatic extract obtained by solvent extraction of a mineral oil, (2) about 10 to 35% by weight of chlorinated paraffin and (3) an amount of an alkanol amine sufficient to neutralize the hydrolyzable chlorine of the chlorinated paraffin.

3,367,867
LOW-FOAMING OVERBASED PHENATES

Andrew D. Abbott, Greenbrae, and Nylen L. Allphin, Jr., Pinole, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Jan. 4, 1966, Ser. No. 518,551
9 Claims. (Cl. 252—33.4)

Sulfurized alkylphenol compositions providing low-foaming and low viscosity overbased phenates wherein the alkyl groups are a mixture of straight and branched chain alkyl.

3,367,868
RUST INHIBITED POLY(HEXAFLUOROPROPYLENE OXIDE) OIL COMPOSITIONS

John Tevlin Skehan, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 1, 1966, Ser. No. 539,314
9 Claims. (Cl. 252—34.7)

1. A poly(hexafluoropropylene oxide) oil composition which comprises, as the base, a major amount of poly-(hexafluoropropylene oxide) oil of the formula

$$R_fO\text{-}[CF(CF_3)CF_2O\text{-}]_nCF_2CF_3$$

or

$$R_fO\text{-}[CF(CF_3)CF_2O\text{-}]_pCF(CF_3)CF(CF_3)\text{-}[OCF_2CF(CF_3)\text{-}]_rOR_f$$

where n, p and r are integers indicating the degree of polymerization and R_f is a perfluoroalkyl group having 1 to 6 carbon atoms, said oil having an average molecular weight of at least 3,000 and a pour point not in excess of 50° F. and, as rust inhibitor, an effective amount of perfluoroalkylether compound selected from the group consisting of acids and corresponding ammonium salts of the formula

$$R_f O[CF(CF_3)CF_2O]_m CF(CF_3)COOB$$

in which m is 7 to 10, B is H or NH_4 and R_f is as previously stated.

3,367,869

ALKALINE LUBRICATING OIL

Howard Bernard Silver, Esher, Surrey, and Alan Charles Dennison, Twickenham, England, assignors to The British Petroleum Company Limited, London, England, a corporation of Great Britain

No Drawing. Filed June 2, 1966, Ser. No. 554,700
Claims priority, application Great Britain, June 18, 1965, 25,847/65
7 Claims. (Cl. 252—35)

1. An alkaline lubricating oil composition capable of being water-washed without serious loss of alkalinity comprising a major amount of a lubricating base oil and from 0.01 to 20% by weight of the composition of a compound having the empirical formula $(RCOO)_6Zn_4O$, where R is selected from the group consisting of alkyl, cycloalkyl, aryl, aralkyl and alkaryl groups having up to 24 carbon atoms, the compound having a tetrahedral structure with the four zinc atoms at the corners, the oxygen atom in the center and the six carboxylate groups arranged along the sides.

6. A method of preparing a compound suitable for use as a lubricating oil additive and having the empirical formula $(RCOO)_6Zn_4O$, wherein R is selected from the group consisting of alkyl, cycloalkyl, aryl, aralkyl and alkaryl groups having up to 24 carbon atoms which comprises reacting one molar proportion of zinc oxide with one and a half molar proportions of an acid of the formula RCOOH, refluxing the reactants with an azeotroping agent, and removing all of the water formed during the reaction.

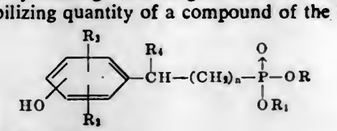
3,367,870

METHOD OF STABILIZATION WITH CARBON-BONDED PHOSPHORUS DERIVATIVES AND COMPOSITIONS STABILIZED THEREBY

John D. Spivack, Spring Valley, N.Y., assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Application Apr. 5, 1965, Ser. No. 445,765, which is a continuation-in-part of application Ser. No. 308,345, Sept. 12, 1963. Divided and this application Mar. 4, 1966, Ser. No. 531,785
17 Claims. (Cl. 252—49.8)

1. A stabilized composition comprising organic material normally tending to undergo oxidative deterioration and a stabilizing quantity of a compound of the formula:



wherein n is 0 or 1, and

(a) when n is 1,
each of R and R_1 is alkyl having from 12 to 24 carbon atoms and
each of R_2 and R_3 is alkyl having from 1 to 6 carbon atoms, and
R_4 is hydrogen; and

(b) when n is 0,
R_2, OH and R_3 are fixed, respectively, in the 3, 4 and 5 positions of the benzene ring portion of the benzylphosphonate;
each of R and R_1 is alkyl of 14 to 30 carbon atoms,
R_2 is alkyl of from 1 to 6 carbon atoms,
R_3 is tertiary-butyl, and
R_4 is a member selected from the group consisting of hydrogen and methyl.

5. A stabilized composition according to claim 1 wherein said organic material normally subject to oxidative deterioration is selected from polyolefins, polyvinyl chloride, polystyrene, aliphatic ester lubricating oils, animal oils, vegetable oils, hydrocarbons, diene rubber or natural rubber.

3,367,871

MOLDED PRECISION-DIMENSIONED HIGH TEMPERATURE INSULATION MATERIAL

Arthur P. Mueller and Beverly Asher, Cincinnati, Ohio, assignors to The Philip Carey Manufacturing Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 435,030, Feb. 24, 1965. This application July 25, 1966, Ser. No. 567,362
15 Claims. (Cl. 252—62)

A molded precision-dimensioned insulation material capable of continuous service at temperatures up to 2000° F. The material is composed of a major proportion of pre-calcined diatomite powder and a minor proportion of finely divided expanded perlite with a small amount of reinforcing asbestos fiber and with a primary binder of montmorillonitic clay and a low- and stable-viscosity modified starch as a secondary binder. A process for preparing a water dispersed binder solution for spray application to a dry mixture of thermal insulation materials. A water dispersion of montmorillonitic clay with small amounts of a dispersing agent and a magnesium sulfate is prepared separately. A water dispersion of the modified starch is prepared separately. The clay dispersion is added to the starch dispersion and mixed. A small amount of sodium methyl siliconate is added and mixed into the combined dispersion. A water dispersion of potassium pyroantimoniate is separately prepared and added to the mixed starch-clay dispersion just prior to application by spraying.

3,367,872

ELECTROVISCOUS FLUID COMPOSITION

Thomas W. Martinek, Danville, and Donald L. Klass, Barrington, Ill., and Hillis O. Folkins, Claremont, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Continuation-in-part of application Ser. No. 248,249, Dec. 31, 1962. This application Feb. 15, 1967, Ser. No. 616,155
20 Claims. (Cl. 252—74)

An electroviscous fluid comprising a non-polar oleaginous vehicle, such as a mineral oil, and a particulate solid from the group consisting of alumina, silica-alumina and mixtures thereof. The fluid may also contain other ingredients such as a surface active agent, an amine, a fatty acid and water.

3,367,873

TRANSMITTING POWER WITH SILPHENYLENE-SILOXANE FLUIDS

Robert L. Merker, Pittsburgh, Pa., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Original application Feb. 27, 1963, Ser. No. 261,514, now Patent No. 3,332,973, dated July 25, 1967. Divided and this application June 13, 1967, Ser. No. 645,592
9 Claims. (Cl. 252—78)

The process of transmitting power from one place to another is improved by the use of new silphenylene-siloxane fluids that not only have thermal stability at high

temperatures but also exhibit a relatively small change in viscosity with changing temperature.

3,367,874

PROCESS AND COMPOSITION FOR ACID DISSOLUTION OF METALS

Joseph M. Haviland and David J. Masters, Grand Rapids, Mich., assignors to Haviland Products Co., Grand Rapids, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of application Ser. No. 450,211, Apr. 22, 1965. This application Sept. 23, 1966, Ser. No. 581,437
5 Claims. (Cl. 252—79.2)

1. A metal dissolving nitric acid bath for dissolving metals selected from the group consisting of nickel, copper, zinc, cobalt, and iron, consisting essentially of at least about 0.05 gram per liter and up to saturation of an additive consisting essentially of: a mixture of substances capable of providing urea in the bath and capable of forming sulfamate ions in the bath, said substance capable of providing sulfamate ions in the bath being selected from the group consisting of sulfamic acid, amine disulfonic acid, amine trisulfonic acid, and salts thereof, and said substance capable of providing urea in the bath being selected from the group consisting of: urea; urea nitrate; urea phosphate; urea sulfate; urea hydro-chloride, guanylurea sulfate; and urea sulfamate.

3,367,875

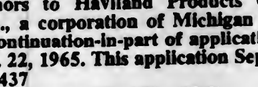
COMPOSITION FOR ETCHING COPPER AND COPPER-CONTAINING ALLOYS

Abraham Isidor Sherer, Clifton, and Robert Milton McClanahan, Allendale, N.J., assignors to Philip A. Hunt Chemical Corporation, Palisades Park, N.J., a corporation of Delaware

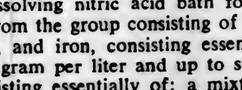
No Drawing. Filed Aug. 19, 1964, Ser. No. 390,747
7 Claims. (Cl. 252—79.4)

1. An etching bath for etching a surface of objects of copper and copper-containing alloys having uncoated areas and resist coated areas, said etching bath comprising a two-phase dispersion of a ferric chloride aqueous solution, and an additive composition of a mixture of a petroleum fraction and a system of additional components, the ferric chloride aqueous solution constituting from 97.5 to 93 parts by volume of the bath and having a specific gravity of from 25° to 48° Baumé, the additive composition constituting from 2.5 to 7 parts by volume of the bath, the petroleum fraction having a boiling point of from about 90° to 390° C., the petroleum fraction constituting from 80 to 95% by weight of the additive composition and the additional components constituting from 20 to 5% by weight of the additive composition, said additional components being selected from the group consisting of

(a) 15 to 50 parts by weight of an ester of orthophosphoric acid and a compound selected from the group consisting of ethoxylated aliphatic alcohols and ethoxylated phenols having the formula



for the mono-phosphate ester, and the formula



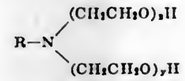
for the di-phosphate ester, where R is a member selected from the group consisting of alkyl phenol residues and aliphatic alcohol residues in which the non-aromatic portions have from 8 to 24 carbon atoms, M is a member selected from the group consisting of H, Na, K and NH_3, and n is an integer from 1 to 20,

(b) 5 to 25 parts by weight of an alkyl quaternary fatty amine having the formula

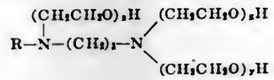


where R_1 is a member selected from the group consisting of long chain fatty acid residues and hydrogenated derivatives thereof having from 8 to 18 carbon atoms in the carbon chain, R_2 is a member selected from the group consisting of CH_3, furfuryl and long chain fatty acid residues and hydrogenated derivatives thereof having from 8 to 18 carbon atoms in the carbon chain, and R_3 is a member selected from the group consisting of CH_3 and long chain fatty acid residues and hydrogenated derivates thereof having from 8 to 18 carbon atoms in the carbon chain.

(c) 5 to 15 parts by weight of a polyethoxylated amine selected from the group consisting of mono-amines having the formula



and diamines having the formula

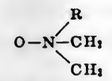


where $x+y$ for the mono-amine is an integer ranging from 2 to 50, $x+y+z$ for the diamine is an integer ranging from 3 to 80 and R is a long chain fatty acid residue having from 8 to 18 carbon atoms in the carbon chain,

(d) 3 to 15 parts by weight of an amine selected from the group consisting of fatty amines having the formula



where R_1 is a member selected from the group consisting of butyric acid and unbranched fatty acid residues and hydrogenated derivatives thereof having from 8 to 18 carbon atoms in the carbon chain and R_2 is a member selected from the group consisting of H, CH_3 and unbranched fatty acid residues and hydrogenated derivatives thereof having from 8 to 18 carbon atoms in the carbon chain, and fatty amine oxides having the formula



where R is an unbranched fatty acid residue containing from 8 to 18 carbon atoms in the carbon chain,

(e) 1 to 35 parts by weight of an alkyl sulfate ester having the formula RSO_4M where R is a member of the group consisting of alkyl and branched fatty acid residues containing from 8 to 18 carbon atoms in the carbon chain and M is a member of the group consisting of Na and triethanolamine, and

(f) 5 to 50 parts by weight of a glycol ether selected from the group consisting of alkyl ethers of ethylene glycol, diethylene glycol and triethylene glycol where the alkyl fraction has from 1 to 6 carbon atoms, and 1-butoxyethoxy-2-propanol.

3,367,876
PROCESS FOR PRODUCING CLEANING TABLETS

Russell R. Keast, Yardley, Pa., Allan R. Wirth, Hudson, N.Y., and John S. Thompson, Princeton Junction, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 385,043, July 24, 1964. This application Dec. 11, 1964, Ser. No. 417,761

9 Claims. (Cl. 252—99)

Process for producing strong, fast-dissolving cleansing tablets containing about 35 to 65% by weight of sodium tripolyphosphate wherein the dissolving rate of the tablets are increased by utilizing sodium tripolyphosphate which is all in the Form II crystalline configuration and has a bulk density of from about 0.7 to 1.0 g./cc. The tablets also may include bleaching agents such as sodium dichloroisocyanurate or potassium dichloroisocyanurate.

3,367,877
DETERGENT-HYDRIODIC ACID COMPOSITIONS

Abraham Cantor, Elkins Park, Pa., and William Schmidt, Jamaica, N.Y., assignors to West Laboratories, Inc., Long Island City, N.Y., a corporation of New York

No Drawing. Filed Feb. 3, 1965, Ser. No. 430,203

4 Claims. (Cl. 252—106)

Compositions consisting of hydriodic acid containing about 0.5 to 2.0 parts of water per part by weight of HI. and a nonionic detergent, in which the weight percentages of detergent and HI vary from a low acid composition having about 1% HI and 97.8% detergent to a compatible high acid composition having not more than 40% HI and not less than 10% detergent, said detergent being selected from the group consisting of nonionic surface active agents and mixtures of nonionic surface active agents which have the capacity to dissolve and complex with elemental iodine. These compositions exhibit markedly reduced corrosiveness facilitating safer storage, shipping and handling of HI. They provide useful concentrates from which to prepare germicidal detergent-iodine compositions by simple room temperature addition of elemental iodine.

3,367,878
ALKALINE WATER-BASED CLEANER

Abraham Mankowich, Bel Air, Md.. assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Sept. 10, 1964, Ser. No. 395,625

5 Claims. (Cl. 252—110)

1. A cleaning composition consisting of the following ingredients:

	Grams
(a) sodium metasilicate pentahydrate	2.24– 2.76
(b) trisodium phosphate dodecahydrate	2.18– 2.68
(c) primary sodium phosphate monohydrate	.78–96
(d) sodium sulphate	up to .71
(e) tetrasodium salt of ethylenediaminetetraacetic acid	up to .71
(f) sodium oleate, 100% active	.38– .47
(g) nonylphenoxypolyethyleneoxy ethanol having 30 moles of ethylene oxide per mole of nonyl phenol	.34– .42
(h) water to make 100 ml.	
(i) hexylene glycol (per 100 ml.) --ml--	3.75–10.0

2. A cleaning composition consisting of the following ingredients:

	Grams
(a) sodium metasilicate pentahydrate	2.59
(b) trisodium phosphate dodecahydrate	2.51
(c) primary sodium phosphate monohydrate	0.90
(d) sodium sulphate	0.67
(e) sodium oleate	0.44
(f) nonylphenoxypolyethyleneoxy ethanol having 30 moles of ethylene oxide per mole of nonyl phenol	0.39
(g) water to make 100 ml.	
(h) hexylene glycol (per 100 ml.) ------ml--	3.75

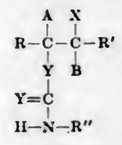
3,367,879
SOAP COMPOSITION CONTAINING VICINAL SULFO-CARBAMATE TYPE COMPOUND AS LIME SOAP DISPERSANT

George L. Broussalian, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Jan. 21, 1963, Ser. No. 252,598. Divided and this application May 10, 1965, Ser. No. 454,684

5 Claims. (Cl. 252—117)

1. A detergent composition consisting essentially of a water soluble detergent soap and from about 1% to about 75%, based on the weight of said soap, of a vicinal sulfo-carbamate type compound having the formula



wherein R and R′ are selected from the group consisting of hydrogen and alkyl, olefinic radicals, and halogen-substituted alkyl radicals, containing not more than about 22 carbon atoms, and R and R′ having a combined total of from 8 to 30 carbon atoms; R″ is selected from the group consisting of hydrogen, phenyl, alkyl, and halogen substituted alkyl radicals containing up to about 10 carbon atoms; A and B are selected from the group consisting of hydrogen, halogens, lower alkyl radicals and halogen-substituted lower alkyl radicals; Y is a chalkogen having an atomic weight below about 33; and X is selected from the group consisting of alkali metal sulfate, alkali metal sulfonate, alkaline earth metal sulfate, alkaline earth metal sulfonate, ammonium sulfate, ammonium sulfonate, sulfonic acid and sulfuric acid radicals.

3,367,880
RAPIDLY DISINTEGRATING DETERGENT TABLETS AND METHOD OF PRODUCING SAME

Russell R. Keast, Yardley, Pa., and Allan R. Wirth, Hopewell, and John S. Thompson, Princeton Junction, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 8, 1964, Ser. No. 381,216

5 Claims. (Cl. 252—138)

Process for producing strong but fast dissolving detergent tablets containing about 35 to 65% by weight of sodium tripolyphosphate, 3 to about 15% by weight of sodium silicate and 5 to about 15% by weight of a water soluble, non-soap organic synthetic detergent, wherein "compacted" sodium tripolyphosphate having a density of from about 1.0 to about 1.25 g./cc. and having a hydration time of less than about 3 minutes is utilized as the sodium tripolyphosphate in said tablets.

3,367,881
EXTRACTION METHOD FOR PREPARING UO_2 MICROSPHERES

Leon E. Morse, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed June 1, 1967, Ser. No. 643,329

6 Claims. (Cl. 252—301.1)

A method of making a uranous sol from an aqueous uranous nitrate solution by extracting a portion of the nitrate from the aqueous solution with an organic solution of an amine, permitting the aqueous phase containing a portion of nitrate to adjust to the lowered nitrate conditions, and then extracting additional nitrate from the resulting solution.

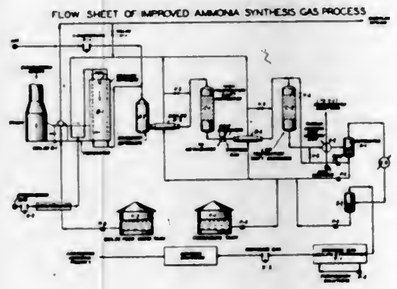
3,367,882
AMMONIA SYNTHESIS GAS PROCESS

Walton H. Marshall, Jr., Laurel Grove, Downings, Va. 22452

Filed Feb. 8, 1962, Ser. No. 171,990

The portion of the term of the patent subsequent to Mar. 11, 1980, has been disclaimed

3 Claims. (Cl. 252—376)



1. In the process of producing ammonia synthesis gas from hydrocarbons by the steps of primary catalytic reforming the hydrocarbons with steam, secondary catalytic reforming with air the product of primary reforming, the pressure during said step of secondary catalytic reforming being at least 290 p.s.i.a., shift conversion of the product of secondary reforming, cooling the product of shift conversion to condense the steam therein and separate the condensate from the synthesis gas, a method for disposing of contaminants resulting from such process and contained in said condensate which comprises vaporizing substantially all of the contaminant-containing condensate and admitting the resulting contaminant-containing steam to the zone of primary reforming thereby to decompose the contaminants therein.

3,367,883
PROCESSES AND PRODUCTS FOR CONDITIONING CAKING SALTS

Norman Earl Stahlheber, Columbia, Ill., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Oct. 17, 1961, Ser. No. 147,127, now Patent No. 3,273,960, dated Sept. 20, 1966. Divided and this application Oct. 21, 1965, Ser. No. 500,164

5 Claims. (Cl. 252—385)

1. A process for manufacturing an alkaline earth metal phosphate composition useful as an anticaking agent, which process comprises reacting together, at a temperature between about 2° C. and 50° C. and in a liquid aqueous medium until a pH between about 5 and about 9 in said aqueous medium is obtained; said pH being measured at the 1 weight percent level of the aqueous reaction medium in distilled water, an inorganic alkaline earth metal base having a higher water solubility than its corresponding alkaline earth metal orthophosphate and polyphosphate salts and a superphosphoric acid containing both orthophosphoric acid and polyphosphoric acids having more than one phosphorus atom in their molecules and containing from at least about 71 weight percent to about 85 weight percent of P_2O_5, said polyphosphoric acids being at least about 10 weight percent of the combined weight of said orthophosphoric acid and said polyphosphoric acids in said aqueous medium, and recovering said alkaline earth metal phosphate composition; said alkaline earth metal phosphate composition containing at least about 10 weight percent of alkaline earth metal polyphosphate salts at least 65 weight percent of which are in the amorphous state.

3,367,884
PRODUCTION AND USE OF HYDROCARBON CONVERSION CATALYSTS COMPRISING ACID TREATED CRYSTALLINE ALUMINOSILICATES

Luther J. Reid, Jr., Audubon, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Dec. 30, 1965, Ser. No. 517,837

14 Claims. (Cl. 252—455)

1. A method for preparing a hydrocarbon conversion catalyst which comprises treating an ion exchanged, activated crystalline aluminosilicate catalyst containing cations selected from the group consisting of rare earth metal cations, hydrogen and mixtures thereof introduced by ion exchange, and residual metal cations selected from the group consisting of alkali metals, alkaline earth metals and mixtures thereof, and having an ordered structure that exhibits an activity higher than desirable for an intended conversion, with a leaching acid solution having a concentration of from about 0.01 N to about 1 N to remove alumina from the ordered internal structure of the ion-exchanged, activated aluminosilicate without destroying its crystalline structure, and thereafter recovering a crystalline aluminosilicate conversion catalyst having a modified ordered internal structure that exhibits improved selectivity and lower activity suitable for the intended conversion.

3,367,885
HYDROCARBON CONVERSION CATALYSTS

Jule A. Rabo, Armonk, and Paul E. Pickert, North Tonawanda, N.Y., and James E. Boyle, Palos Verdes Peninsula, Calif., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 172,070, Feb. 7, 1962. This application Feb. 21, 1966, Ser. No. 528,816

15 Claims. (Cl. 252—455)

A hydrocarbon conversion catalyst having improved isomerization activity and selectivity is prepared by: (*a*) providing a large pored high silica molecular sieve composition, (*b*) exchanging >40% of its cations with nonmetallic easily decomposable cations, (*c*) introducing a catalytically active metal, (*d*) heating the resulting composition to decationize the molecular sieve, (*e*) cooling, partially rehydrating and equilibrating the decat. MS to contain 3–10 wt. percent H_2O, and (*f*) slowly reheating to 300°–700° C. The invention also relates to a process

for isomerizing paraffin hydrocarbons by contacting with the above described catalyst under isomerizing conditions.

3,367,886

SYNTHETIC ZEOLITE CONTACT MASSES AND METHOD FOR MAKING THE SAME

Walter L. Haden, Jr., Metuchen, and Frank J. Dzierzanowski, Somerset, N.J., assignors, by mesne assignments, to Engelhard Minerals & Chemicals Corporation, Menlo Park, Edison, N.J., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 343,952, Feb. 11, 1964. This application Feb. 16, 1966, Ser. No. 527,744

18 Claims. (Cl. 252—455)

Zeolitic molecular sieve-kaolin clay composites are provided by a process whereby the bonding steps and crystallization steps are integrated as a result of crystallizing the zeolitic molecular sieve from sources of alkali metal oxide, aluminum oxide, and silicon dioxide and water in the presence of raw (hydrated) crystalline kaolin clay while said sources and said raw kaolin clay are intimately mixed together and in the form of particles of the size and shape desired in the active contact masses. In carrying out the process, the formed particles are subjected to hydrothermal treatment without dehydration, whereby the zeolite is crystallized in situ in the presence of the raw clay which, for the most part, does not enter into the reaction. The reacted particles, which possess considerable mechanical strength, comprise a self-bonded mixture of kaolin clay crystals and synthetic zeolitic crystals. The particles are activated by thermal treatment which dehydrates both the zeolite and the clay crystals. Before the activation step, the particles may be ion-exchanged with cations that will impart specific desired properties to the particles.

In a preferred form of the invention, a high silica-to-alumina ratio form of type Y zeolite is crystallized in situ in the presence of the kaolin clay and the particulate reaction mixture includes sodium hydroxide solution and three different forms of kaolin clay. Two of these clay materials are dehydrated calcined noncrystalline products, one (metakaolin) having been obtained by a relatively mild calcination treatment and the other having been obtained by a more severe treatment. The third clay is the raw crystalline kaolin clay.

3,367,887

SOLID CATALYSTS

Walter L. Haden, Jr., Metuchen, and Frank J. Dzierzanowski, Somerset, N.J. assignors, by mesne assignments, to Engelhard Minerals & Chemicals Corporation, Menlo Park, Edison, N.J., a corporation of Delaware

Continuation-in-part of applications Ser. No. 343,952, Feb. 11, 1964, and Ser. No. 389,188, Aug. 12, 1964. This application Feb. 25, 1966, Ser. No. 530,064

10 Claims. (Cl. 252—455)

Solid zeolitic molecular sieve catalysts are obtained by ion-exchanging and heat-treating a base material which is a composite of a high silica-to-alumina form of hydrated sodium zeolite Y and raw kaolin clay. The base material contains 4 percent to 10 percent Na_2O (on a volatile-free weight basis) and the balance substantially Al_2O_3 and SiO_2 in a silica-to-alumina weight ratio within the range of 1.1–1.3 to 1. The catalysts obtained by ion-exchanging the base material have Na_2O contents less than about 2.5 percent and the same silica-to-alumina ratio as the base material from which they were obtained.

3,367,888

TREATMENT OF COMBUSTIBLE WASTE PRODUCTS AND CATALYST THEREFOR

James Hoekstra, Evergreen Park, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Aug. 19, 1963, Ser. No. 303,133

8 Claims. (Cl. 252—466)

1. A method of catalyst preparation which comprises commingling a refractory inorganic oxide carrier with a Group VIII metal component in an amount of from about 0.01 to about 2.0 Troy ounces of said component per cubic foot of carrier and with from about 0.1% to about 1.5% by weight of a sulfur-containing carboxylic acid selected from the group consisting of thiomalic, thioglycolic and mercaptopropionic acid and effecting the deposition of said metal component on the outer surface of the carrier without any substantial penetration thereof, and subsequently reducing the composite in an atmosphere of hydrogen at a temperature within the range of from about 200° F. to about 1000° F.

3,367,889

PROCESS FOR THE PREPARATION OF MACRORETICULAR-STRUCTURED COPOLYMERS

James A. Oline, Wyncote, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Oct. 28, 1963, Ser. No. 319,578

4 Claims. (Cl. 260—2.1)

1. A process for the preparation of substantially solid, water-insoluble, cross-linked copolymers that are useful for conversion to ion exchange resins, which comprises polymerizing in bulk, with oxygen substantially excluded, a homogeneous mixture consisting of (1) a monovinyl aromatic hydrocarbon or mixtures thereof, (2) a polyvinyl aromatic hydrocarbon, said mono- and polyvinyl aromatic hydrocarbons being extended with (3) 5 to 70% water, the percentage being based on the weight of the total homogeneous mixture, (4) a polymerization initiator from the class consisting of peroxide and azo catalysts, water-soluble free radical initiators, and catalysts which activate ultraviolet light as a polymerization agent, and (5) a surfactant selected from the group consisting of (a) nonionic surfactants, (b) anionic surfactants, and (c) mixtures of a nonionic surfactant and an anionic surfactant, the nonionic surfactants being selected from the group consisting of octyl and nonyl-phenoxy (polyethoxyethanols) in which the ethoxy groups range from 0 to 69, and the anionic surfactants are selected from the group consisting of sodium lauryl sulfate and dodecylbenzene sodium sulfonate, the various reactants being mixed and agitated together until a substantially uniform, cream-like paste is produced.

3,367,890

PROCESS FOR FORMING FOAMED POLYESTERS WHILE SUBMERGED IN WATER

Robert J. McManimie, Glendale, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 10, 1964, Ser. No. 381,912

10 Claims. (Cl. 260—2.5)

Process for forming a foamed polyester under water comprising conducting while submerged in water a reaction of

(a) an olefinically unsaturated polycarboxylic acid anhydride,
(b) a polyol, and
(c) an ethylenically unsaturated monomer,

in the presence of an expanding agent and in the presence of a free radical catalyst obtained by the decomposition of a peroxygen compound, wherein the exotherm of the reaction is employed in conjunction with said expanding agent.

3,367,891

PERMEABLE FOAMED STYRENE POLYMER

Alvin R. Ingram, Murrysville, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

Filed Dec. 15, 1965, Ser. No. 514,024

10 Claims. (Cl. 260—2.5)

An alpha cellulose filler is added to an expandable styrene polymer. After expansion of the styrene polymer, the alpha cellulose is removed from the foam structure. This can be accomplished by extracting the alpha cellulose with a solvent which is not a solvent for the styrene polymer. The removal of the alpha cellulose renders the foam structure permeable by the formation of tiny openings between adjacent cells corresponding to the location of the alpha cellulose in the cell walls.

3,367,892

POLYMERIC SOIL-STABILIZING COMPOSITIONS AND METHOD OF USING THE SAME

Joseph S. Jorczak, Washington Crossing, and Harold L. Elkin, Levittown, Pa., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 288,888, June 19, 1963. This application Sept. 28, 1966, Ser. No. 582,504

5 Claims. (Cl. 260—2.5)

A method and composition for application to soil or sand whereby said soil or sand is stabilized to permit supporting heavy loads thereon such as is created by military vehicles and the like. Included in the inventive concept is a resinous polyurethane composition which has added thereto a curing agent for subsequent hardening in the subsurface interstices of the soil or sand, a foaming agent and a foaming depressant or delay solvent which strengthens by immobilizing the soil or sand particles thereof giving them cohesion. By this means the load bearing qualities are much improved and savings in materials applied are achieved.

3,367,893

PROCESS FOR THE PREPARATION OF ACTIVATED POLYAMIDE MODIFIED POLYMERS

Lothar Halbartschlager, Vienna, Austria, assignor to Reichhold Chemicals Inc., Detroit, Mich.

No Drawing. Filed June 7, 1962, Ser. No. 200,630

6 Claims. (Cl. 260—8)

1. A process for the preparation of a modified polymer comprising (A) a polymer of at least two monomers (1) one comprising at least one member selected from a group consisting of acrylic and methacrylic acids and (2) the other consisting of at least one vinyl derivative selected from a group consisting of butadiene, styrene, vinyl acetate and vinyl propionate, which method comprises reacting and cross linking said polymer with a polyamide containing at least partially chain-like structural elements, said modified polymer being suitable for the manufacture of products having the properties of elasticity, cold breaking resistance, heat resistance and ketone and ester stability, the polymer being first partially saponified and then cross-linked with a natural polyamide which has been subjected to activating treatment, the polyamide being activated by treatment with a nitrogen-containing base.

3,367,894

LOW TEMPERATURE BAKING RESIN

Carl E. Bruggeman, Thornton, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed June 14, 1962, Ser. No. 202,373

2 Claims. (Cl. 260—22)

1. A resin composition consisting of the polycondensation reaction product of trimellitic anhydride, adipic acid, an alkylene glycol having about 5 carbon atoms, and oiticica oil, in a respective mole ratio of about 3:1:7:2/3, said resin being characterized by a baking temperature of approximately 250° F. at a time of approximately 30 minutes.

3,367,895

VINYL-POLYESTER-OXAZOLINE RESIN REACTION PRODUCT

Edgar L. Clark, Oak Park, Ill., assignor to Commercial Solvents Corporation, a corporation of Maryland

No Drawing. Continuation of application Ser. No. 292,084, July 1, 1963. This application Feb. 28, 1967, Ser. No. 620,209

6 Claims. (Cl. 260—22)

1. The vinyl-polyester-oxazoline resin reaction product of (*a*) about 1 to 5 moles of maleic anhydride per mole of (*b*) the vinyl-polyester-oxazoline reaction product of about 1.5 to 3.5 moles of formaldehyde per mole of the polyester-oxazoline reaction product of tris (hydroxymethyl) aminomethane and an aliphatic dibasic acid of about 10 to about 36 carbon atoms having a saturated carbon atom in the alpha position to the carboxyl groups in a molar ratio of about 3 moles of tris (hydroxymethyl) aminomethane and about 2 moles of acid said reaction of maleic anhydride and vinyl-polyester-oxazoline reaction product being conducted at a temperature of about 250° F. to about 350° F.

3,367,896

SCUFF RESISTANT INKS COMPRISING DRYING OIL AND ETHYLENE-VINYL ACETATE COPOLYMER

Robert Rosenbaum, Morris Plains, and Joseph I. Wrozina, Tenafly, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 29, 1964, Ser. No. 400,235

5 Claims. (Cl. 260—23)

Ethylene/vinyl acetate copolymer dispersion in drying oil and process for incorporating said dispersion into drying oil ink vehicles by heat blending without roller milling, to provide inks of enhanced scuff resistance.

3,367,897

COMPOSITION CONTAINING MICROCRYSTALLINE WAX, OXIDIZED POLYETHYLENE AND PINENE RESIN AND CELLULOSIC SHEETS COATED AND LAMINATED THEREWITH

Hallard C. Moyer, Homewood, Ill., and Robert P. Zmitrovis, Freehold, N.J., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 16, 1963, Ser. No. 295,505

11 Claims. (Cl. 260—28.5)

1. A wax composition suitable as a bonding material consisting essentially of a major amount of microcrystalline petroleum wax, about 0.1 to 20 weight percent of a wax-compatible pinene resin having a Ring and Ball softening point of about 210 to 260° F. and about 0.1 to 10 weight percent of a wax-compatible, carboxyl group-substituted, oxidized polyethylene resin containing at least one carboxylic group for each 15 average molecules and having a molecular weight of about 750 to 25,000, with the proviso that the petroleum wax component of said composition has a needle penetration of about 15–30 at 77° F.

3,367,898

PROCESS FOR THE PROTECTION OF ARTICLES AND COMPOSITIONS THEREFOR

Eugene L. Cadmus, Glen Ridge, N.J., assignor to Wood Ridge Chemical Corporation, Wood-Ridge, N.J., a corporation of Nevada

No Drawing. Filed Mar. 1, 1965, Ser. No. 436,322

10 Claims. (Cl. 260—29.6)

1. A process for the protection of articles from fungus attack and mildew which comprises applying to the article

to be protected a fungicidal composition comprising a fungicidally active copolymer of

(1) a monomer selected from the group consisting of phenyl mercuric acrylate and phenyl mercuric methacrylate, and

(2) a second monomer selected from the group consisting of vinyl acetate, methyl acrylate, ethyl acrylate, methyl methacrylate, and ethyl methacrylate.

3,367,899

POLYURETHANES PREPARED FROM PREPOLYMERS AND CYANURIC ACID HYDRAZIDES

Wilhelm Thoma, Cologne-Flittard, and Heinrich Rinke and Harald Oertel, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed July 18, 1963, Ser. No. 296,093
Claims priority, application Germany, July 27, 1962, F 37,434
7 Claims. (Cl. 260—30.2)

Polyurethane polymers are prepared by reacting in an inert solvent (1) an NCO terminated prepolymer prepared by reacting (*a*) an excess of an organic diisocyanate with (*b*) an organic compound containing active hydrogen atoms that are reactive with NCO groups to form polyurethanes, with (2) cyanuric acid dihydrazides present in an amount of from about 100 to about 110 mol percent based on the NCO groups present in the prepolymer.

3,367,900

PROCESS FOR METHYLISOCYANATE POLYMER

William P. Ter Horst, Rehoboth, Del., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Nov. 5, 1964, Ser. No. 409,268
8 Claims. (Cl. 260—31.8)

Methylisocyanate is polymerized in the presence of a tetramethyldiamino-loweralkane catalyst. The polymerized product produced by this process is useful for preparing materials such as films and fibers.

3,367,901

COATING COMPOSITION

John C. Mutchler, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 9, 1964, Ser. No. 373,819
16 Claims. (Cl. 260—33.6)

New compositions capable of forming taste-free topcoats on polymer base coats which comprise an organic solvent with a boiling range of up to about 220° C. having dissolved therein (A) a copolymer consisting essentially of 60% to 90% by weight of 1,3-butadiene units of which at least about 60% by weight are linked by 1,2 addition and about 10% to about 40% by weight of units of alpha-methylstyrene or styrene, the intrinsic viscosity of the copolymer being from 0.05 to 1.0 and (B) a drying agent consisting essentially of a cerium dryer and a manganese dryer in amounts sufficient to provide 50 to 3000 parts of cerium and 50 to 3000 parts manganese per million parts of (A) copolymer.

3,367,902

1,1-DICHLORO-2-VINYL CYCLOPROPANE POLYMER AND A PROCESS FOR POLYMERIZING SAME

Arthur D. Ketley, 5508 Roosevelt St., Bethesda, Md. 20014

No Drawing. Filed Nov. 12, 1965, Ser. No. 507,572
10 Claims. (Cl. 260—33.6)

The present invention relates to the formation of a polymer of 1,1-dichloro-2-vinyl cyclopropane by contacting 1,1-dichloro-2-vinyl cyclopropane with a catalytic amount of a catalyst comprised of the reaction product of titanium trichloride and trialkyl aluminum at a temperature in the range of about 0 to 100° C.

3,367,903

MAGNESIUM OXIDE OR MIXTURE OF MAGNESIUM OXIDE AND ZINC OXIDE CONTAINING PEROXIDE CURED ETHYLENE - PROPYLENE COPOLYMER AND METHOD FOR PREPARING SAME

William H. Dels, Belmont, Calif., and Thomas G. Gaspar, New Brunswick, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 14, 1964, Ser. No. 396,353
8 Claims. (Cl. 260—41)

Peroxide cured ethylene-propylene copolymer elastomeric compositions which contain magnesium oxide or a mixture of zinc and magnesium oxide and which show improved retention of physical properties after aging.

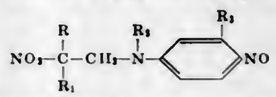
3,367,904

HEATING RUBBERS WITH NITROSOANILINONITROALKANES

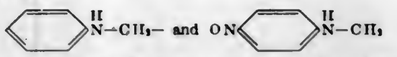
Darrell D. Mullins, Nitro, and Lloyd A. Walker, St. Albans, W. Va., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Original application Jan. 9, 1961, Ser. No. 81,243, now Patent No. 3,151,161, dated Sept. 29, 1964. Divided and this application Oct. 1, 1963, Ser. No. 323,535
8 Claims. (Cl. 260—41.5)

1. A process which comprises heating and masticating at 300–370° F. a rubber selected from the group consisting of natural rubber, synthetic rubbery homopolymers of aliphatic conjugated diolefin hydrocarbons, synthetic rubbery copolymers containing at least 50% of an aliphatic conjugated diolefin hydrocarbon copolymerized with correspondingly not more than 50% of a copolymerizable monoethylenically unsaturated compound, butyl rubber which is a copolymer of at least 85% isobutylene and a small amount, not more than 15%, of diolefin, and mixtures of such rubbers, with a relatively large amount of rubber reinforcing pigment selected from the group consisting of carbon black and reinforcing silica and 0.1–5.0% of the rubber of a compound having the formula



where R_3 is selected from the group consisting of hydrogen, lower alkyl,



R_1 is selected from the group consisting of hydrogen and lower alkyl and taken together with the carbon to which they are attached, R and R_1 represent lower cycloalkyl, R_2 is selected from the group consisting of hydrogen, lower alkyl and nitroso and R_3 is selected from the group consisting of hydrogen, chlorine, alkyl and alkoxy, incorporating vulcanizing ingredients and vulcanizing the composition.

3,367,905

STABILIZER FOR BICYCLOHEPTENE-CARBOXYLIC POLYMERS

Walter M. Zimberg, Tonawanda, and Russel A. Bowman, Clarence, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Sept. 29, 1964, Ser. No. 400,219
6 Claims. (Cl. 260—45.7)

Alkaline earth metal oxides and alkaline earth metal hydroxides are incorporated into polymers which contain

bicycloheptene carboxylic compounds as an integral part of their structure. Such polymers include unsaturated polyester resins of a polyhydric alcohol and a polycarboxylic compound such as a Diels-Alder reaction product of hexachlorocyclopentadiene and an alpha, beta-unsaturated polycarboxylic compound, and polyurethanes, resulting from the reaction of a polyester with an isocyanate or isocyanate prepolymer. The additive compounds reduce the tendency for corrosive attack on metal molds by such polymers.

3,367,906

STABILIZED HALOGEN-CONTAINING OLEFIN POLYMER COMPOSITIONS AND STABILIZER THEREFOR

Richard B. Lund, Whippany, Arleen C. Pierce, Parsippany, and Edith Turi, Livingston, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Original application Mar. 24, 1964, Ser. No. 354,448. Divided and this application Apr. 6, 1967, Ser. No. 646,781
4 Claims. (Cl. 260—45.7)

The present invention relates to the thermal stabilization of chlorinated ethylene polymer by the addition of α,α' - diphenoxy-2,3,5,6-tetrachloro-p-xylene or an alkyl derivative thereof.

3,367,907

STABILIZED POLYMERIC COMPOSITIONS

Ralph H. Hansen, Short Hills, N.J., assignor to Bell Telephone Laboratories Incorporated, New York, N.Y., a corporation of New York

No Drawing. Continuation of application Ser. No. 336,389, Jan. 8, 1964. This application Feb. 15, 1967, Ser. No. 616,417
1 Claim. (Cl. 260—45.8)

The subject matter of this application deals with stabilizers for polymers such as polypropylene to retard or inhibit oxidation promoted by the presence of copper. The stabilizing compounds include azimidobenzene, phenotriazine, and azimidobenzene compounds having substituents on the benzene ring. A principal field of use for polymers containing these inhibitors is for electrical insulation of copper conductors.

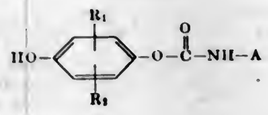
3,367,908

POLYOLEFINS STABILIZED WITH ALKYL-4-HYDROXYPHENYL CARBAMATES

Janet Brooks Peterson, Yonkers, and Martin Dexter, Briarcliff Manor, N.Y., assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Original application Sept. 17, 1962, Ser. No. 224,604, now Patent No. 3,303,211, dated Feb. 7, 1967. Divided and this application Oct. 31, 1966, Ser. No. 590,540
12 Claims. (Cl. 260—45.85)

1. A composition of matter stabilized against deterioration which comprises polyolefin normally subject to deterioration and a stabilizing amount of a stabilizer compound of the formula:

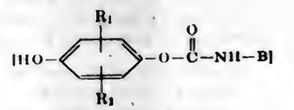


wherein

R_1 is an alkyl group having 3 to 8 carbon atoms,

R_2 is a member selected from the group consisting of hydrogen and an alkyl group having 1 to 8 carbon atoms,

A is a member selected from the group consisting of alkyl having 1 to 24 carbon atoms, lower alkylphenyl, and the radical of the formula:

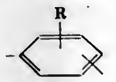


wherein

R_1 and R_2 are the same as above, and

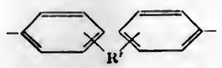
B is a member selected from the group consisting of

(a)



and

(b)



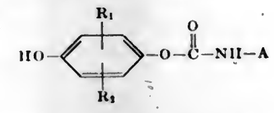
wherein

R is a member selected from the group consisting of lower alkyl and hydrogen, and

R' is lower alkylene.

9. A composition of matter which comprises a polyolefin normally subject to deterioration and a stabilizer system consisting essentially of

(a) a stabilizer of the formula:

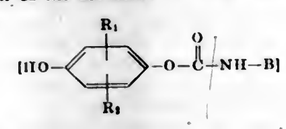


wherein

R_1 is an alkyl group having 3 to 8 carbon atoms,

R_2 is a member selected from the group consisting of hydrogen and an alkyl group having 1 to 8 carbon atoms,

A is a member selected from the group consisting of alkyl having 1 to 24 carbon atoms, lower alkylphenyl, and the radical of the formula:

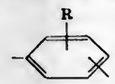


wherein

R_1 and R_2 are the same as above, and

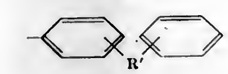
B is a member selected from the group consisting of

(a)



and

(b)

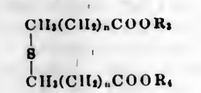


wherein

R is a member selected from the group consisting of lower alkyl and hydrogen, and

R' is lower alkylene,

(b) a stabilizer of the formula:



wherein

n is a member selected from the group consisting of 1 and 2, and

R_3 and R_4 are each independently an alkyl group having 8 to 24 carbon atoms.

3,367,909
POLY-ALPHA-OLEFIN HEAT SEAL COMPOSITION

Russell G. Hay, Gibsonia, Stanley M. Hazen, Cheswick, and Charles M. Selwitz, Pitcairn, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Oct. 24, 1963, Ser. No. 318,525
2 Claims. (Cl. 260—45.95)

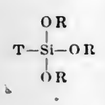
1. A heat seal adhesive composition consisting of a solid linear alpha-olefin polymer having a number average molecular weight of at least 35,000, substantially each alternate carbon atom in the linear polymer chain having dependent therefrom an alkyl radical being between 12 and 18, and between 0.01 and 10 weight percent of 2,2-bis(p-hydroxyphenyl) propane.

3,367,910
MODIFIED ORGANOPOLYSILOXANES AND METHOD OF PREPARATION

Charles W. Newing, Jr., Sylvania, Ohio, assignor to Owens-Illinois Inc., a corporation of Ohio

No Drawing. Filed Dec. 15, 1964, Ser. No. 418,531
16 Claims. (Cl. 260—46.5)

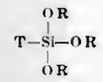
1. A luminescent composition comprising (a) an organopolysiloxane which is the siloxane condensation product of hydrolysis of trialkoxysilane consisting essentially of such silane material represented by the general formula



wherein each T independently represents a member of the group consisting of alkyl, alkenyl and aryl radicals having less than 7 carbon atoms, and R represents an alkyl radical having from 1 to 4 carbon atoms, inclusive, said organopolysiloxane having incorporated therein (b) a chelate of a rare-earth metal of the lanthanide series, or of yttrium, in an amount which is effective in imparting luminescence to the said composition under excitation and which is at least 1 part of the said chelate, calculated as the metal component thereof, per million parts of the said organopolysiloxane, said metal chelate being held in a matrix of the said organopolysiloxane when the latter has cured to solid state.

14. The method of producing a solid, luminescent, organopolysiloxane composition which comprises:

(A) forming a liquid siloxane partial condensation product by heating, at a temperature of from about 50° C. to and including the reflux temperature of the reaction mass that is formed, a mixture of water and trialkoxysilane consisting essentially of such silane material represented by the general formula



wherein each T independently represents a member of the group consisting of alkyl, alkenyl and aryl radicals having less than 7 carbon atoms, and R represents an alkyl radical having from 1 to 4 carbon atoms, inclusive,

the amount of water in the said mixture corresponding to from 1.5 to 10 moles for each mole of total hydrolyzable silane, and

the said heating being continued for at least one hour and up to about 10 hours while retaining a minimum of at least about 1.5 moles of hydroxy-containing by-products in the reaction mass per mole of silicon-containing starting material, said minimum of about 1.5 moles being calculated on the basis that complete hydrolysis of all the hydroxyhydrocarbyl silicon linkages in the reaction mass has been effected;

(B) adding a metal chelate dissolved in a volatile organic solvent to and mixing it with the liquid siloxane partial condensation product prepared as described in step A, either before, during or after heating said liquid condensation product to precure it,

said metal chelate being a chelate of a rare-earth metal of the lanthanide series, or of yttrium, and

being added to the liquid siloxane condensation product in an amount which is effective in imparting, under excitation, luminescence to the ultimate organopolysiloxane composition, and which is at least 1 part of the said chelate, calculated as the metal component thereof, per million parts of organopolysiloxane in the ultimate organopolysiloxane composition; and

(C) curing the metal chelate-modified, liquid siloxane partial condensation product at a temperature of at least 20° C. for a period of time sufficient to form a hard, solid organopolysiloxane composition which luminesces under excitation.

3,367,911
HARDENED EPOXIDE POLYMERS

Gerhard Daum, Cologne-Raderberg, Paul Janssen, Cologne, and Hermann Richtzenhain, Cologne-Sulz, Germany, assignors, by mesne assignments, to Scholven-Chemie Aktiengesellschaft, Gelsenkirchen-Buer, Germany, a corporation of Germany

No Drawing. Filed May 6, 1966, Ser. No. 548,050
Claims priority, application Germany, May 14, 1965, D 47,261
6 Claims. (Cl. 260—47)

1. In a hardened epoxy resin composition, wherein said resin contains a major proportion of at least one compound containing at least two oxirane linkages therein, with an amine hardening agent; the improvement which comprises providing as at least the major constituent of said hardening agent 3,5,5-trimethyl-3-aminomethyl cyclohexylamine.

3,367,912
CURING PROCESS FOR EPOXY RESINS

Harold Charles Stalter, Edwardsburg, Mich., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed May 17, 1966, Ser. No. 550,607
3 Claims. (Cl. 260—47)

1. A process for curing epoxy resins which comprises adding to an epoxy resin having a plurality of 1,2-epoxide groups 4-N,N-dimethylamino-2-butyn-1-ol as a curing catalyst and maintaining the resulting mixture under desired curing conditions until a desired state of cure is obtained.

3,367,913
THERMOSETTING EPOXY RESIN COMPOSITION CONTAINING A ZINC CHELATE

Benjamin J. Intorre, Dumont, and Alfred S. Kidwell, Mountain Lakes, N.J., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio

No Drawing. Filed Sept. 9, 1966, Ser. No. 578,120
6 Claims. (Cl. 260—47)

1. A thermosetting composition comprising an epoxy resin having a plurality of 1,2-epoxide groups and a zinc chelate formed by the reaction of o-amino phenol and a zinc salt.

3,367,914
POLY(AMINOMETHYL)DIPHENYL ETHER-ALDEHYDE THERMOSET RESIN AND PROCESS OF MAKING SAME

Norman T. Herbert, Bay City, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 29, 1964, Ser. No. 379,026
6 Claims. (Cl. 260—52)

Thermosetting resinous materials having melting points in the range from 150° to 350° C. are made by heating at a temperature of —10° to 100° C. for 5–30 minutes, an aldehyde such as formaldehyde, acetaldehyde, etc., with a mixture of poly(aminomethyl) diphenyl ethers having an average of from about 1.5 to 4.0 aminomethyl groups. After the resins are cured under pressure at or above the melting point, they form adherent tough films on metal substrates and thus are useful as wire coatings for electrical magnet wire for high temperature service i.e. 180° C. or higher.

3,367,915
HOMOPOLYMER OF 2-METH-ACRYLOXYTROPONE

Lorraine Guy Donaruma, Potsdam, N.Y., assignor to Research Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 2, 1965, Ser. No. 476,713
1 Claim. (Cl. 260—63)

A homopolymer having anti-bacterial activity is obtained by the free radical polymerization of 2-methacryloxy tropone.

3,367,916
COPOLYMERS OF TRIOXANE

Wolfgang von der Emden, Ernst-Ulrich Köcher, and Kuno Wagner, Leverkusen, and Karl-Heinz Heller, Krefeld, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Sept. 15, 1964, Ser. No. 396,759
Claims priority, application Germany, Oct. 26, 1963, F 41,115
4 Claims. (Cl. 260—67)

1. A copolymer of trioxane having incorporated therein, in polymerized form, 99.5–90% by weight of trioxane and 0.5–10% by weight of 1,3,6,9-tetraoxacyclo-undecane.

3,367,917
MELAMINE - FORMALDEHYDE - BENZOGUANAMINE RESIN AND PROCESS FOR PREPARING THE SAME

Nicholas August Granito, Wallingford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed June 8, 1964, Ser. No. 373,568
4 Claims. (Cl. 260—67.6)

A process for the manufacture of a molding composition comprising (1) impregnating a fibrous filler with a resinous syrup of a thermosetting condensate of melamine, benzoguanamine and formaldehyde wherein the mol ratio of melamine to benzoguanamine is between about 1:0.55 and 1:0.825, respectively, and the mol ratio of the melamine and benzoguanamine to formaldehyde is between about 1:2.75 and 1:2.85, respectively, (2) drying the impregnated material to a volatile content of less than about 10%, (3) adding benzoguanamine crystal to the dried material in an amount sufficient to provide a total mol ratio of melamine to benzoguanamine between about 1:1.4 and 1:1.6, respectively, (4) comminuting and homogeneously blending the dried impregnated composition and benzoguanamine crystal, (5) densifying the comminuted composition and (6) granulating the densified composition, and the molding composition thus produced.

3,367,918
POLYMERIC AMIDE-SECONDARY DIALKYL AMMONIUM SALT-PARAFORMALDEHYDE FLOCCULANT COMPOSITION AND METHOD

Chester A. Lesinski, Bay City, and Joseph W. Van Wyk, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 4, 1964, Ser. No. 387,477
6 Claims. (Cl. 260—72)

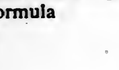
A free flowing solids admixture of a water-soluble polymeric amide flocculant, a solid, water-soluble secondary dialkylammonium salt and paraformaldehyde forms a highly useful cationic flocculant in water solution.

3,367,919
COPOLYMERS FORMED BY REACTING TEREPHTHALALDEHYDE WITH UNSATURATED MONOMER UTILIZING A FRIEDEL-CRAFTS CATALYST

Albert A. Fournier, Jr., Oakland, N.J., assignor to Uniroyal Inc., a corporation of New Jersey

No Drawing. Filed June 24, 1963, Ser. No. 290,207
4 Claims. (Cl. 260—73)

1. A copolymer formed by reacting, in an organic solvent, substantially equimolar quantities of terephthalaldehyde and a compound having the formula



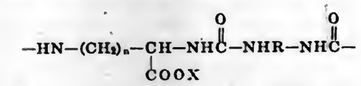
wherein R is hydrogen or methyl and R′ is an alkyl radical having 1 to 5 carbon atoms, an aryl radical, or an alkoxy radical having 1 to 12 carbon atoms at a temperature of from —20° C. to +30° C. in the presence of a Friedel-Crafts catalyst.

3,367,920
POLYUREA AND METHOD OF PREPARING SAME

David Wasserman, Springfield, and John D. Garber, Allendale, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 24, 1964, Ser. No. 413,623
13 Claims. (Cl. 260—77.5)

A solid polyurea which consists of a plurality of units which recur, each unit being of the formula



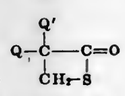
wherein each X may be hydrogen, alkali metal, or alkyl, *n* may be 3 or 4 and wherein R in each recurring unit may be alkylene, phenylene, mononuclear divalent alkaryl, mononuclear divalent aralkylene, divalent cycloalkyl or divalent cycloalkyl alkylene.

3,367,921
PROPIOTHIOLACTONE POLYMERS

Wilfred Sweeny, Wilmington, Del., and Donald James Casey, Chadds Ford, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 7, 1965, Ser. No. 485,623
3 Claims. (Cl. 260—79)

Propiothiolactones of the formula



wherein Q and Q′ are the same or different alkyl radicals containing from 1 to 4 carbon atoms are readily prepared and can be used to form linear polymers and copolymers

easily extruded to form elastomeric fibers and films exhibiting high tensile recovery and low stress decay.

3,367,922

PROCESS FOR COPOLYMERIZING ETHYLENE AND HIGHER 1-MONOOLEFINS

Richard J. Sonnenfeld and Ollie G. Buck, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Sept. 12, 1963, Ser. No. 308,338

7 Claims. (Cl. 260—80.78)

1. In a continuous process for solution polymerizing ethylene and at least one higher 1-monoolefin with a two-component soluble polymerization coordination catalyst comprising at least one compound of a reducible polyvalent transition metal of Groups IVB, VB, VIB, VIIB and VIII, and at least one reducing compound of a metal of Group I, II IIIA, IVA, and V, the improvement comprising separately and simultaneously charging to a polymerization reaction zone a first feed stream comprising said ethylene, solvent, and one of said catalyst components and the second feed stream comprising said higher 1-monoolefin, solvent, and the other of said catalyst components and withdrawing effluent therefrom at a rate sufficient to maintain a constant liquid volume in said reaction zone.

3,367,923

PROCESS FOR THE POLYMERIZATION OF OLEFINS

Tsutomu Tanaka and Tadaichi Tokuzumi, Hiroshima-ken, and Hiroshi Fujimura, Yamaguchi-ken, Japan, assignors to Mitsui Petrochemical Industries, Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Feb. 5, 1964, Ser. No. 342,774

Claims priority, application Japan, Mar. 11, 1963, 38/11,018

11 Claims. (Cl. 260—88.2)

1. A process for the polymerization of olefins wherein at least one ethylenically unsaturated hydrocarbon is contacted in a solvent with a catalyst comprising (1) at least one organic aluminium compound, (2) at least one compound of a metal selected from the group consisting of metals of Groups IV to VI of Periodic Table, provided that at least one of these metal compounds (1) and (2) being present in the form of alkoxy or aryloxy compound and (3) a substance selected from the group consisting of organic polybasic acid esters, esters of organic acids with polyalcohols and polysiloxanes, characterized in that the polymerization is carried out in presence of hydrogen to attain a higher impact strength than without hydrogen for the resulting product.

3,367,924

POLYMERIZATION OF BICYCLO[2.2.1]-HEPT-2-ENE COMPOUNDS IN AQUEOUS EMULSION

Robert E. Rinehart, Rutherford, N.J., assignor to Uniroyal, Inc., a corporation of New Jersey

No Drawing. Filed Mar. 9, 1964, Ser. No. 350,589

12 Claims. (Cl. 260—89.3)

Olefinically unsaturated compounds containing a bicyclo [2.2.1]-hept-2-ene ring system, such as 5-carbomethoxy-norbornene, trans-dimethyl bicyclo[2.2.1]-hept-5-ene-2,3-dicarboxylate, halogenated norbornenes and norbornene itself, are polymerized, preferably in aqueous emulsion, with a catalyst based on an iridium or ruthenium compound (e.g., iridium trichloride) and a reducing agent (e.g., an alcohol, aldehyde, zinc, stannous chloride).

3,367,925

POLYMERIZATION OF SYMMETRICAL DICHLOROETHYLENE

Gordon Y. T. Liu, Plaquemine, La., and Coleman J. Bryan, Arlington, Va., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 27, 1964, Ser. No. 340,512

6 Claims. (Cl. 260—91.7)

This invention relates to solid, high-melting polymers of symmetrical dichloroethylene and to a method for preparing the same using especially effective complex Ziegler-type catalysts formed by reacting (1) a compound of a metal of Groups II-B, IV-A, IV-B, V-B, VI-B, VII-B and VIII (including thorium and uranium) of the periodic system, (2) an organometallic compound of an alkali metal, an alkaline earth metal, zinc or aluminum, and (3) a complexing agent for the organometallic compound.

3,367,926

MODIFICATION OF CRYSTALLINE STRUCTURE OF CRYSTALLIZABLE HIGH POLYMERS

John F. Voeks, Pleasant Hill, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 25, 1964, Ser. No. 354,790

12 Claims. (Cl. 260—93.5)

1. In a process for fabricating articles from a thermoplastic crystallizable high polymer which on cooling from a molten condition tends to supercool without crystallization to temperatures substantially below its crystalline melting point, the improvement which comprises modifying the crystalline structure of the polymer in such fabricated articles by compounding a composition of such thermoplastic crystallizable high polymer and a nucleation effective proportionate amount of at least about 10 parts per million by weight based on the polymer of an added nucleation agent which is chemically stable at temperatures above the crystalline melting point of the polymer and possesses a sterically ordered polar structure at temperatures below the crystalline melting point of the polymer, and which nucleation agent is selected from the compounds containing sulfur listed in Table 6 of the specification the composition being heated to a temperature above the crystalline melting point of the crystallizable polymer but below the decomposition temperature of the ingredients of the composition, shaping the composition and cooling the same to a temperature below the crystalline melting point of the crystallizable polymer, and crystallizing the crystallizable polymer, the added nucleation agent being present in the crystallizing composition as solid particles smaller than about 800 microns.

3,367,927

POLYMERIZATION PROCESS

Abner B. Stryker, Jr., Paramonga, Peru, and Philip Messina, Hanover, Md., assignors, by mesne assignments, to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Continuation of application Ser. No. 282,868, May 24, 1963. This application Sept. 14, 1965, Ser. No. 487,308

5 Claims. (Cl. 260—93.7)

1. In a process for the polymerization of propylene in a diluent free system wherein propylene is polymerized in liquid propylene in the presence of a polymerization catalyst, the improvement which comprises polymerizing said liquid propylene in the presence of a catalytic amount of a titanium trichloride-aluminum trichloride complex and dialkyl aluminum halide cocatalyst system at a pressure of about 130 to 650 p.s.i.g. and at a temperature of about 20 to 170° C. and from 0.001 to 0.5 mole percent of hydrogen based on liquid propylene, to increase the rate of polymerization.

3,367,928

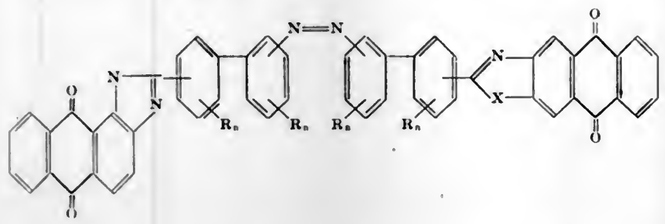
UNSYMMETRICAL BIS-(ANTHRAQUINONE-AZOLE) - AZOBIPHENYL YELLOW VAT DYES

Walter R. Demler, Hamburg, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Feb. 2, 1965, Ser. No. 429,907

8 Claims. (Cl. 260—157)

Unsymmetrical bis-(anthraquinone-azole)-azo biphenyl compounds of the formula



wherein X is O or S, R is H or lower alkyl, *n* is whole number from 1 to 3 and the anthraquinone nuclei A and B may each be further substituted by 1 to 3 chloro, bromo, lower alkyl, lower alkoxy, perchloro, or perbromo, lower alkyl, lower alkylol amino aryl and aroylamino of no more than 6 ring carbon atoms substituents which give strong yellow dyeings on vegetal fibers from the vat and which dyeings have good fastness properties to light, to washing and to bleaching treatments and have excellent stability to high temperatures.

3,367,929

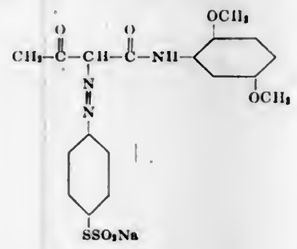
AZO DYE FROM COUPLING DIAZOTIZED SODIUM S-4-AMINOPHENYLTHIOSULFATE AND ACETO-ACET-2',5'-DIMETHOXYANILIDE

Isom E. Wagoner, Jr., Gastonia, N.C., assignor to Martin-Marietta Corporation, a corporation of Maryland

No Drawing. Filed June 11, 1965, Ser. No. 463,348

1 Claim. (Cl. 260—193)

An azo dye of the formula



and method for making same by coupling equimolar amounts of diazotized sodium S-4-aminophenylthiosulfate and acetoacet-2'-5'-dimethoxyanilide. This yellow dye may be solubilized to its mercaptide form with aqueous sodium sulfide, and that the dye may be applied to cotton fabric by reduction-oxidation, either singly or in combination with pre-reduced liquid sulfur dyes.

3,367,930

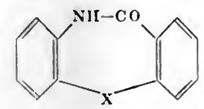
PROCESS FOR THE PREPARATION OF HETEROCYCLIC COMPOUNDS

Jean Schmutz, Muri, near Bern, Fritz Hunziker, Bern, Othmar Schindler, Gurzelen im Einschlag, and Franz Martin Künzle, Bern, Switzerland, assignors to Dr. A. Wander, S.A., Bern, Switzerland, a Swiss corporation

No Drawing. Filed Sept. 24, 1964, Ser. No. 399,096

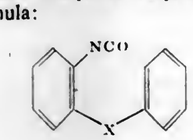
4 Claims. (Cl. 260—239.3)

A process of preparing heterocyclic compounds having the general formula:



(1)

wherein X denotes a member of the group consisting of oxygen, sulfur, methylene, ethylene, substituted methylene, and substituted ethylene, and (B) derivatives of (A) which contain in one or both benzene nuclei one or several substituents; which comprises subjecting isocyanates of the general formula:



(2)

wherein X has the above-mentioned meaning, or derivatives thereof which contain substituents in one or both benzene nuclei, to cyclization by treatment with a condensing agent, such as aluminum chloride.

The heterocyclic compounds produced by the foregoing process can be used as intermediates for preparing pharmaceuticals in accordance with the prior art teachings.

3,367,931

1-(2-HYDROXY-3-METHOXYPROPYL)-3-(5-NITROFURFURYLIDENEAMINO)-2-IMIDAZOLIDINONE

Harry Raymond Snyder, Jr., Norwich, N.Y., assignor to The Norwich Pharmacal Company, a corporation of New York

No Drawing. Filed Mar. 8, 1965, Ser. No. 438,085

1 Claim. (Cl. 260—240)

Antibacterially active new 1-(2-hydroxy-3-methoxypropyl)-3-(5-nitrofurfurylideneamino)-2-imidazolidinone.

3,367,932

3-SUBSTITUTED-1-(5-NITROFURFURYLIDENE-AMINO)-2-IMIDAZOLIDINONES

Harry Raymond Snyder, Jr., Norwich, N.Y., assignor to The Norwich Pharmacal Company, a corporation of New York

No Drawing. Filed Mar. 10, 1965, Ser. No. 438,770

3 Claims. (Cl. 260—240)

New antibacterial 3-substituted-1-(5-nitrofurfurylideneamino)-2-imidazolidinones.

3,367,933
PROCESS FOR THE PRODUCTION OF 7-AMINOCEPHALOSPORANIC ACID

Stephen Eardley, Ruislip, England, Michael Edgar Hall, Swansea, Wales, and John Francis Oughton, Gerrards Cross, and Peter John May, North Harrow, England, assignors to Glaxo Laboratories Limited, Greenford, England, a British company

No Drawing. Continuation of application Ser. No. 267,928, Mar. 26, 1963. This application July 19, 1966, Ser. No. 566,387
Claims priority, application Great Britain, Mar. 28, 1962, 11,874/62
5 Claims. (Cl. 260—243)

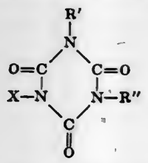
1. In a process for the production of 7-aminocephalosporanic acid wherein a cephalosporin compound selected from the group consisting of cephalosporin C and a salt thereof is reacted with nitrosyl chloride in a solvent medium at a temperature of not more than 60° C. the resulting intermediate is decomposed with a compound containing an active hydrogen atom and said 7-aminocephalosporanic acid is precipitated by addition of a base, the steps of carrying out the reaction with nitrosyl chloride in a mixed solvent medium comprising formic acid and an inert diluent selected from the group consisting of a nitroloweralkane, nitrobenzene, a haloloweralkane containing both hydrogen and halogen atoms and a loweralkyl nitrile, and contacting the resulting intermediate with methanol prior to adding said base.

3,367,934
DERIVATIVES OF ISOCYANURIC ACID

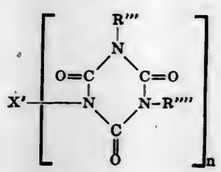
Francis Edward Gervase Tate and James Harry Wild, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Continuation-in-part of application Ser. No. 793,980, Feb. 18, 1959. This application July 27, 1961, Ser. No. 127,129
Claims priority, application Great Britain, Feb. 24, 1958, 5,873/58
5 Claims. (Cl. 260—248)

1. An isocyanurate derivative selected from the group consisting of (a) compounds having the formula



in which R′ and R″ are carbocyclic aromatic groups carrying free isocyanate groups and are attached to the nitrogen at a carbon atom which is a part of the aromatic nucleus of said aryl group and X is selected from the group consisting of lower alkyl, cyclohexyl and lower carbocyclic aralkyl groups attached to the nitrogen through a carbon atom which is not a member of an aromatic nucleus, and (b) compounds having the formula



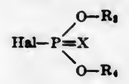
in which R‴ and R⁗ are carbocyclic aromatic groups carrying free isocyanate groups and are attached to the nitrogen atom at a carbon atom which is a part of the aromatic nucleus of said aryl group and X′ is the polyvalent organic residue of a member of the group consisting of lower alkanes, cyclohexane and lower alkyl carbocyclic aromatic compounds attached to the nitrogen atoms through carbon atoms which are not members of aromatic nuclei and in which *n* is an integer not less than 2.

3,367,935
PROCESS FOR THE PREPARATION OF PHOSPHORIC ACID ESTERS

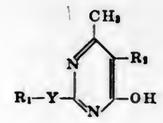
Robert P. Curry, Mobile, and Carlton G. Craddock, Jackson, Ala., assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 14,1965, Ser. No. 496,140
8 Claims. (Cl. 260—251)

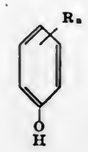
1. In a process for the production of O,O-dialkyl-O-aryl phosphates and thiophosphates which comprises reacting a dialkyl phosphoric acid halide of the formula



wherein Hal is chlorine or bromine, X is oxygen or sulfur, and R_3 and R_4 are lower alkyl, with a compound of the formulae



or



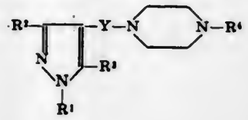
wherein R is lower alkyl, halogen, nitro or methylmercapto, R_1 is alkyl, alkenyl, alkoxyalkyl or alkylmercaptoalkyl, R_2 is hydrogen, lower alkyl or lower alkenyl, Y is sulfur or the direct link and *n* is an integer of from 1 to 3, in a hydrocarbon diluent and in the presence of an acid binding agent, the improvement which consists in refluxing said reactants in the presence of a cupric nitrate catalyst.

3,367,936
4-(PIPERAZINOALKYL)-PYRAZOLES

Volker Koppe, Karl Schulte and Helmut Muller-Calgan, Darmstadt, Germany, assignors to E. Merck A.G., Darmstadt, Germany

No Drawing. Filed Nov. 3, 1965, Ser. No. 506,260
Claims priority, application Germany, Nov. 4, 1964, M 62,985; Feb. 9, 1965, M 64,086
21 Claims. (Cl. 260—268)

1. A member selected from the group consisting of a 4-(ω-piperazinoalkyl)-pyrazole of Formula I, and a physiologically acceptable acid addition salt thereof



wherein

R^1 represents H, alkyl of 1–4 carbon atoms, phenyl (lower)alkyl of 7–10 carbon atoms, phenyl and substituted phenyl wherein the substituents are 1 to 3 members selected from the group consisting of lower alkyl, lower alkoxy, phenyl, hydroxy, lower alkylmercapto, trifluoromethyl, halo, and methylene dioxy,

R^2 and R^3 being identical or different, represent H or alkyl of 1–4 carbon atoms,

R^4 represents alkyl of 1–6 carbon atoms, cycloalkyl and cycloalkenyl of 5–7 carbon atoms each, phenyl(lower) alkyl of 7–10 carbon atoms, Ar, or a cyclic residue selected from the group consisting of naphthyl, thienyl, pyridyl, thiazolyl, pyrazolyl, 2-pyrimidinyl, 2-benzimidazolyl, 2-benzoxazolyl, pyrazinyl, 3-pyridazinyl, isothiazolyl, 2- and 3-benzothienyl, 2-quinoxalyl, and quinolyl, said cyclic residue being optionally substituted by one lower alkoxy group or one to three lower alkyl groups,

phenyl and substituted phenyl wherein the substituents are 1–3 members selected from the group consisting of lower alkyl, lower alkoxy, phenyl, hydroxy, lower alkylmercapto, trifluoromethyl, halogen atom, and methylene dioxy, and

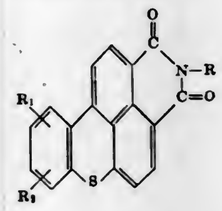
Y is alkylene of 1–10 carbon atoms.

3,367,937
BENZOTHIOXANTHENE DICARBOXYLIC ACID IMIDE DYESTUFFS

Otto Fuchs and Helmut Tröster, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed July 27, 1965, Ser. No. 475,279
Claims priority, application Germany, Aug. 7, 1964, F 43,691
7 Claims. (Cl. 260—281)

1. A dyestuff of the formula



in which R represents hydrogen, alkyl, hydroxy-alkyl, alkoxy-alkyl, alkoxy-alkoxy-alkyl, cyclohexyloxy-alkyl, carboxylic, acyloxy-alkyl-, phenyl, lower alkyl-phenyl, lower alkoxy phenyl, hydroxyl or amino and R_1 and R_2 represent hydrogen, chlorine, lower alkyl, lower alkoxy, carbalkoxy or carboxylic acyloxy.

3,367,938
PROCESS FOR PRODUCING PYRIDINE

Lothar Hockenberger, Ludwigshafen (Rhine), and Hans Binder, Frankfurt am Main-Sud, Germany, assignors to Rutgerswerke und Teerverwertung Aktiengesellschaft, Frankfurt am Main, Germany

No Drawing. Filed Mar. 3, 1965, Ser. No. 436,935
Claims priority, application Germany, Mar. 12, 1964, R 37,433
9 Claims. (Cl. 260—290)

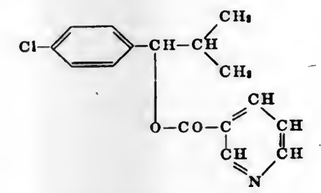
1. Process for producing pyridine, comprising mixing diethanolamine with a compound selected from the group consisting of methylalcohol, formaldehyde and formaldehyde polymers and reacting the resulting mixture in the gaseous phase at a temperature in the range of 400 to 550° C. in the presence of catalysts having dehydrogenating and dehydrating action and being selected from the group consisting of vanadium oxide, molybdenum oxide, thorium oxide and zinc oxide.

3,367,939
CERTAIN NICOTINATE ESTERS OF p-CHLOROPHENYL ISOPROPYL CARBINOL

Joseph Nordmann, Paris, and Henri Blaise Swierkot, Bondy, France, assignors to Etablissements Kuhlmann, Paris, France

No Drawing. Filed Apr. 7, 1965, Ser. No. 446,400
Claims priority, application France, Apr. 10, 1964, 970,539
2 Claims. (Cl. 260—295.5)

The compound p-chlorophenylisopropylcarbinol nicotinate represented by



and the hydrochloride thereof. The compounds are useful for the treatment of hypercholesterolemia and hyperlipemia.

3,367,940
BETA-PICOLINAMIDE DERIVATIVES

Bruce W. Hotten, Orinda, Calif., assignor to Chevron Research Company, a corporation of Delaware

No Drawing. Original application Jan. 2, 1963, Ser. No. 248,877, now Patent No. 3,235,496, dated Feb. 15, 1966. Divided and this application June 11, 1965, Ser. No. 474,535
7 Claims. (Cl. 260—295.5)

Polybasic acid amides of amino methyl pyridine which find use as oxidation inhibitors in lubricating oils.

3,367,941
4-PYRIDYL AND 4-SUBSTITUTED PYRIDYLBICYCLO-[2.2.2]OCTANE-1-AMINES

Walter A. Gregory and James C. Kauer, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 28, 1965, Ser. No. 467,705
14 Claims. (Cl. 260—296)

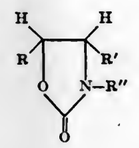
4-pyridyl and 4-substituted pyridylbicyclo[2.2.2]-octane-1-amines and nontoxic salts thereof and their use as antidepressant agents.

3,367,942
CYCLIC AMIDE PLASTICIZERS FOR POLYVINYL ALCOHOL

Richard A. Hickner, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 9, 1963, Ser. No. 314,852
4 Claims. (Cl. 260—30.2)

1. Polyvinyl alcohol plasticized with a compound of the formula



wherein R and R′ individually are H or a lower alkyl group containing up to 4 carbon atoms and R″ is H or a hydroxyalkyl group containing up to 4 carbon atoms.

3,367,943

PROCESS FOR PREPARING OIL SOLUBLE ADDITIVES WHICH COMPRISES REACTING A C_2 TO C_5 ALKYLENE OXIDE WITH (a) REACTION PRODUCT OF AN ALKENYLSUCCINIC ANHYDRIDE AND AN ALIPHATIC POLYAMINE (b) REACTION PRODUCT OF ALKENYLSUCCINIC ANHYDRIDE, A C_1 TO C_{30} ALIPHATIC HYDROCARBON CARBOXYLIC ACID AND AN ALIPHATIC POLYAMINE

Harold N. Miller, Plainfield, and Joseph Versteeg, Roselle, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Nov. 1, 1963, Ser. No. 320,821
4 Claims. (Cl. 260—326.3)

3. A method of preparing an oil-soluble additive for mineral oil which comprises reacting, at a temperature in the range of about 200° F. to 450° F., from 0.5 to 20 molar proportions of a C_2 to C_5 alkylene oxide with about 1 mole proportion of a condensation product selected from the class consisting of

(a) products obtained from the reaction of about 1 to 1.5 molar proportions of an alkenylsuccinic anhydride and about 1 molar proportion of an aliphatic polyamine, and

(b) products obtained from the reaction of about 1 to 1.5 molar proportions of an alkenylsuccinic anhydride, about 0.5 to 1.5 molar proportions of a C_1 to C_{30} aliphatic hydrocarbon carboxylic acid, and about 1 molar proportion of an aliphatic polyamine,

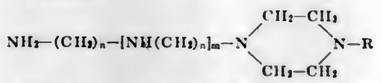
said products (a) and said products (b) having been obtained under conditions evolving water of reaction,

said alkenylsuccinic anhydride having alkenyl groups totaling in the range of from about 40 to 250 carbon atoms,

said aliphatic polyamine being selected from the group consisting of polyamines of the formula

$$NH_2(CH_2)_n—[NH(CH_2)_n]_m—NH_2$$

wherein n is 2 to 3 and m is a number from 0 to 10 and N-aminoalkylpiperazines having at least two amino groups and represented by the formula:



wherein n is a number from 1 to 3, m is a number from 0 to 6, and R is selected from the group consisting of hydrogen and aminoalkyl radicals of from 1 to 3 carbon atoms.

4. A method as defined by claim 3 wherein said aliphatic polyamine is tetraethylene pentamine.

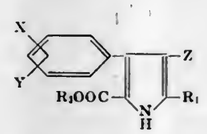
3,367,944

PROCESS FOR PREPARING 3-PHENYLPYRROLE-2-CARBOXYLIC ACID DERIVATIVES

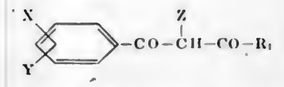
Suminori Umio, Kawanishi, Kazuo Kariyone, Kyoto, Kunihiko Tanaka, Osaka, Teiji Kishimoto, Kyoto, and Hideyo Noguchi, Kobe, Japan, assignors to Fujisawa Pharmaceutical Co., Ltd., Osaka, Japan, a company of Japan

No Drawing. Filed Sept. 22, 1965, Ser. No. 489,412
Claims priority, application Japan, Mar. 22, 1965, 40/16,850, 40/16,851
4 Claims. (Cl. 260—326.3)

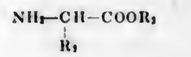
1. A process for preparing a compound having the formula:



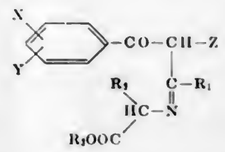
which comprises reacting 1-phenylalkanone derivative having the formula:



or its alkali metal salt, with glycine derivative having the formula:



or its salt to obtain N-(3-phenyl-3-oxopropylidene) glycine derivative having the formula:



and then ring-closing said resultant compound in the presence of a condensing agent,

wherein X is hydrogen, halogen, nitro or lower alkoxy; Y is halogen, nitro or lower alkoxy; Z is hydrogen or halogen; R_1 is lower alkyl; R_2 is hydrogen, or esterified carboxyl; —$COOR_3$ is esterified carboxyl.

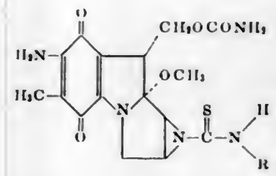
3,367,945

THIOUREA DERIVATIVES OF MITOMYCIN

Masanao Matsui, Tokyo, Izuru Yamamoto, Yokohama-shi, Yoshinori Soeda, Hiratsuka-shi, and Shigetoshi Wakaki, Tokyo, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Dec. 1, 1965, Ser. No. 510,800
Claims priority, application Japan, May 18, 1965, 40/28,772
18 Claims. (Cl. 260—326.3)

1. A compound of the formula



wherein R is a member selected from the group consisting of alkyl with 1 to 6 carbon atoms, cycloalkyl containing 5 to 6 carbon atoms, phenyl, chlorine-substituted phenyl, lower alkylphenyl, phenyl(lower)alkyl, chlorine-substituted phenyl(lower)alkyl and naphthyl.

3,367,946

XANTHENE DYES

Harvey Irvin Stryker, Carney's Point, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 22, 1964, Ser. No. 405,831
2 Claims. (Cl. 260—336)

Water soluble xanthene dyes which are useful for tracing water currents.

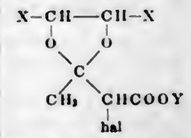
3,367,947

AMIDATION OF 2-HALO-ACETATES

John W. Cornforth, Sittingbourne, Kent, England, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

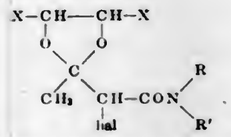
No Drawing. Filed Nov. 30, 1964, Ser. No. 414,896
Claims priority, application Great Britain, Dec. 2, 1963, 47,437/63
14 Claims. (Cl. 260—340.9)

1. The ester of the formula:



wherein X is a member of the group consisting of hydrogen and alkyl of 1 to 10 carbon atoms, hal is selected from the group consisting of chlorine and bromine and Y is alkyl of 1 to 10 carbon atoms.

7. The amide of the formula:



wherein X is a member of the group consisting of hydrogen and alkyl of from 1 to 10 carbon atoms, hal is selected from the group consisting of chlorine and bromine, and R and R′ each is a member of the group consisting of hydrogen and alkyl of 1 to 10 carbon atoms.

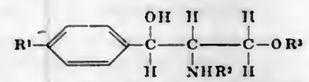
3,367,948

NOVEL D-THREO-1-PHENYL-2-AMINO-PROPANE-1,3-DIOL-DERIVATIVES

Fritz Gapp, Hans Margreiter, and Ekkehard Schmid, Tyrol, Austria, assignors to Biochemie Gesellschaft mit beschränkter Haftung, Kundl Tyrol, Austria, a corporation of Austria

No Drawing. Filed Feb. 26, 1965, Ser. No. 435,729
Claims priority, application Austria, Mar. 2, 1964, A 1,810/64
11 Claims. (Cl. 260—349)

Compounds having antibiotic properties and of the following type are disclosed. They are D-threo-1-phenyl-2-amino propane-1,3-diol derivatives of the general formula



wherein R^1 may preferably be a nitro group, R^2 may be a Cl_2CH— or N_3CH_2-group and R^3 may be a radical of a carbamido monocarboxylic or dicarboxylic acid.

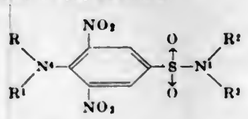
3,367,949

SULFANILAMIDES

Quentin F. Soper, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Aug. 22, 1966, Ser. No. 573,829
6 Claims. (Cl. 260—397.7)

1. A compound of the formula:



wherein

R, when taken separately, is hydrogen, C_3–C_4 alkenyl, or C_3–C_6 alkyl;

R^1, when taken separately, is C_3–C_4 alkenyl or C_3–C_6 alkyl;

R and R^1, when both are selected from the group consisting of C_3–C_4 alkenyl and C_3–C_6 alkyl, contain a total of from 4 to 8 carbons;

R and R^1, when taken together with the nitrogen atom to which they are attached, form a pyrrolidino, piperidino, or morpholino ring;

R^2 and R^3, when taken together with the nitrogen atom to which they are attached, form a pyrrolidino or aziridino ring;

R^2 and R^3, when taken separately, are the same or different, and are hydrogen, C_1–C_5 alkyl, allyl, phenyl. or C_3–C_5 cycloalkyl;

when R^2 is hydrogen, R^3 contains less than 7 carbons; and

R^2 and R^3, when neither is hydrogen, contain a total of not more than 4 carbon atoms.

2. A compound as in claim 1, said compound being 3,5-dinitro-N^4,N^4-di(n-propyl)sulfanilamide.

3,367,950

PROCESS FOR THE ISOLATION OF CHOLECALCIFEROL FROM A MIXTURE OBTAINED ON IRRADIATION OF 7-DEHYDROCHOLESTEROL

Henryk Stanislaw Salwa, Ul. Sniadeckich 1/15 m. 1; Romana Teofila Jaworska, Ul. Ksiecia Janusza 16 m. 23; Wieslaw Ludwik Levenstein, Ul. Stoleczna 4 m. 22; Zofia Bury, Ul. Smiala 1 m. 28; Jacek Vaedtke, Ul. Lowicka 7/15 m. 50; Janina Kazimiera Jedrzejuk, Aleja Zjednoczenia 3/9 m. 179; and Anna Klara Czarnocka, Ul. Mazowiecka 11 m. 49, all of Warsaw, Poland

No Drawing. Filed Dec. 17, 1965, Ser. No. 514,649
Claims priority, application Poland, Dec. 19, 1964, P 106,698
6 Claims. (Cl. 260—397.25)

1. A process for obtaining cholecalciferol which comprises irradiating a solution of 7-dehydrocholesterol with ultra violet light to convert a portion of the 7-dehydrocholesterol in the solution to precholecalciferol, removing unconverted 7-dehydrocholesterol from the irradiated solution, heating the precholecalciferol to form a solution mixture of cholecalciferol and 7-dehydrocholesterol, adding to the solution mixture 7-dehydrocholesterol in an amount sufficient to provide equal weights of cholecalciferol and 7-dehydrocholesterol, heating the solution mixture to dissolve the added 7-dehydrocholesterol, reducing the volume of the solution mixture to form a complex compound of cholecalciferol and 7-dehydrocholesterol, subjecting the complex compound to decomposition by adsorbing same on an activated adsorbent to form cholecalciferol, 7-dehydrocholesterol and a mixture thereof, eluting the decomposed complex compound from the activated adsorbent to obtain separate portions of cholecalciferol, 7-dehydrocholesterol and a mixture thereof.

3,367,951

PROCESS FOR PURIFYING SOLID PEROXIDES

William W. Nielsen, El Cerrito, and Ronald L. Friedman and Whitney E. Lawrence, Pinole, Calif., assignors to U.S. Peroxygen Corporation, Richmond, Calif.

Filed Apr. 10, 1964, Ser. No. 358,707
11 Claims. (Cl. 260—406)

Method for purifying fatty acid peroxides by heating the peroxide in an aqueous mixture to a temperature just above the melting point of the peroxide to bring it into the liquid phase. The organic and aqueous liquid phases are then physically separated while the peroxide is held at the elevated temperature to maintain its liquid phase. Water soluble impurities are separated with the aqueous phase. The liquid peroxide is then cooled to a dry, pure solid.

3,367,952
POLYMERIZATION OF UNSATURATED FATTY ACIDS
Herbert George Arlt, Jr., Ridgefield, Conn., assignor to Arizona Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 22, 1964, Ser. No. 405,847
5 Claims. (Cl. 260—407)

There is provided a process for polymerizing unsaturated higher fatty acids in the presence of small quantities of water by (a) subjecting an unsaturated higher fatty acid under autogenous presure for from 1 to 6 hours to the action of a sulfonic acid, styrene-divinyl-benzene copolymer in particulate form of from about 20 to not smaller than about 200 mesh size and present in amounts ranging from 1% to 15% in an aqueous menstruum and at a temperature ranging from between about 180° C. and 300° C., (b) cooling the resultant reaction mixture, (c) rapidly separating within about one hour the sulfonated resin catalyst therefrom, (d) recovering a mixture comprising monomeric and polymeric higher fatty acids, and (e) separating the polymeric higher fatty acids from said mixture.

3,367,953
PREPARATION OF ACYL HALIDES
Louis Schmerling, Riverside, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Nov. 24, 1964, Ser. No. 413,625
11 Claims. (Cl. 260—408)

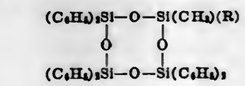
Preparation of acyl halides by reaction of saturated hydrocarbons with carbon tetrahalides and carbon monoxide in the presence of peroxy compounds at about 50–300° C. and about 10–2000 atmosphere pressure.

3,367,954
PROCESS FOR PREPARING DIORGANOANTIMONY COMPOUNDS $R_2SbOOCR'$ AND NOVEL PRODUCTS SO PREPARED
John R. Leebrick, Old Lyme, Conn., and Nathaniel L. Remes, Livingston, N.J., assignors to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 241,023, Nov. 29, 1962. This application Apr. 24, 1964, Ser. No. 362,484
25 Claims. (Cl. 260—414)

In accordance with certain of its aspects, the process of this invention for preparing a diorganoantimony compound of the formula $R_2SbOOCR'$ wherein R is selected from the group consisting of alkyl, aryl, and alkenyl, and R' is hydrocarbon, comprises mixing together as reactants R_2SbX wherein X is halogen having an atomic weight greater than 19; and $M(OOCR')_a$ wherein M is a cation selected from the group consisting of ammonium, alkali metals and alkaline earth metals, and *a* is the valence of M; in the presence of an inert solvent for at least one of said reactants, thereby forming product $R_2SbOOCR'$; and recovering said product.

3,367,955
1,1-DIALKYL-3,3,5,5,7,7-CYCLOTETRASILOXANE
Howard A. Vaughn, Jr., Scotia, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 160,267, Dec. 18, 1961. This application Nov. 27, 1962, Ser. No. 240,441
4 Claims. (Cl. 260—448.2)

1. A 1-methyl-1-alkyl-3,3,5,5,7,7-hexaphenylcyclotetrasiloxane having the formula:



where R is an alkyl radical selected from the class consisting of methyl, ethyl and propyl.

3,367,956
PREPARATION OF BIURET POLYISOCYANATES
Hans Joachim Hennig, Cologne-Stammheim, and Otto Bayer, Erwin Windemuth, and Wilhelm Bunge, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
No Drawing. Filed Apr. 1, 1964, Ser. No. 356,650
Claims priority, application Germany, Apr. 13, 1963, F 39,482
6 Claims. (Cl. 260—453)

1. A process for the preparation of a biuret polyisocyanate which comprises reacting a urea selected from the group consisting of

$R'HN—CO—NHR'$
$R'HN—CO—NH—R—NH—CO—NHR'$
$H_2N—CO—NHR'$
$R'HN—CO—NH—R—NR'—CO—NH_2$

wherein R represents an aliphatic or aromatic divalent radical having 1 to 18 carbon atoms and R' represents an aliphatic or aromatic monovalent radical having 1 to 6 carbon atoms with an organic diisocyanate which is free from urethane groups in such proportions that there are at least 3 mols of organic diisocyanate present per mol of said urea at about 150–250° C. while continuously removing the organic monoisocyanate resulting from said reaction as rapidly as it is formed.

3,367,957
CYCLOPROPYL CARBINYL ISOTHIOCYANATE
Peter E. Newallis, Morris Plains, and Langley A. Spurlock, Montclair, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Apr. 1, 1965, Ser. No. 444,794
1 Claim. (Cl. 260—454)

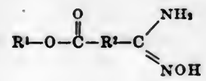
The compound cyclopropyl carbinyl isothiocyanate which is useful as a nematocide.

3,367,958
STABILIZED POLYCARBONATES
Robert K. Kirkendall, Pittsburgh, Pa., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 216,323, Aug. 13, 1962. This application Aug. 28, 1964, Ser. No. 392,907
4 Claims. (Cl. 260—45.8)

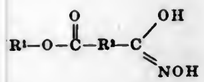
Polycarbonate polymers stabilized against the degradative effects of ultraviolet radiation with a maximum of about 0.5 percent by weight of 2-(2'-hydroxy-5'-methylphenyl)benzotriazole.

3,367,959
ESTERS OF AMIDOXIMES AND HYDROXAMIC ACIDS
Charles A. Fetscher, Short Hills, and Stanley A. Lipowski, Livingston, N.J., assignors to Diamond Shamrock Corporation, a corporation of Delaware
No Drawing. Filed Sept. 28, 1964, Ser. No. 399,841
14 Claims. (Cl. 260—482)

Amidoximes of the formula



and hydroxamic acids of the formula



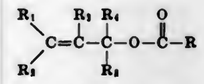
wherein R^1 is a monovalent hydrocarbon radical having 3 to 18 carbon atoms and R^2 is a divalent hydrocarbon radical having 1 to 3 carbon atoms which are chelators and which have improved solubility and compatibility in hydrocarbon solvents are provided. An amidoxime was prepared by reacting n-hexyl cyanoacetate with hydroxylamine and a hydroxamic acid was prepared by reacting dihexyl malonate with hydroxylamine.

3,367,960
PROCESS FOR REACTING 2,3-DICHLOROHEXAFLUORO - 3 - CYCLOHEXENE - 1 - ONE WITH ALCOHOLS AND RESULTING PRODUCTS
Richard F. Sweeney, Randolph Township, Morris County, and Louis G. Anello, Basking Ridge, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Apr. 30, 1965, Ser. No. 452,383
5 Claims. (Cl. 260—483)

Process for preparing a mixture of 2-chloro-3-hydroxyhexafluoro-2-cyclohexene-1-one and an alkyl or hydroxyalkyl 1,1,2,2,3,3-hexafluoro-4-oxo-5-chlorohexanoate by heating a mixture of 2,3-dichlorohexafluoro-2-cyclohexene-1-one and an aliphatic alcohol.

3,367,961
PREPARATION OF ESTERS BY CARBONYLATING ESTERS OF ALLYL ALCOHOLS IN THE PRESENCE OF GROUP VIII NOBLE METAL CATALYSTS
James L. Brewbaker, Farmington, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Aug. 31, 1964, Ser. No. 393,395
18 Claims. (Cl. 260—486)

A catalytic process is described for preparing an ester of an unsaturated acid and an alcohol having up to 18 carbon atoms. The process comprises reacting an alcohol of this type with carbon monoxide and an allyl ester of up to 30 carbon atoms:

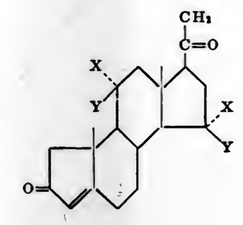


R is a C_{1-18} hydrocarbyl radical and R_1, R_2, R_3, R_4 and R_5 are hydrogen or univalent C_1–C_{12} hydrocarbyl groups. The process is carried out in the presence of a catalytic amount of palladium metal, rhodium metal, or chelates and inorganic salts of said metals. Palladium on charcoal is an example of a useful catalyst; ethylvinyl acetate is an especially useful product.

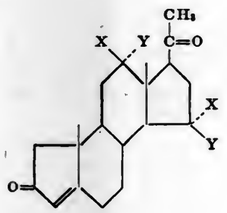
The process is described as a batch process as well as a continuous process.

3,367,962
11,15- AND 12,15-OXYGENATED A-NORPROGESTERONES
Edward J. Becker, Princeton, Robert S. Robison, North Brunswick, and Patrick A. Diassi, Westfield, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 2, 1964, Ser. No. 415,502
9 Claims. (Cl. 260—488)

1. A compound selected from the group consisting of steroids of the formulae



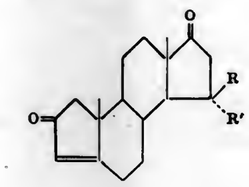
and



wherein both X's and both Y's are the same, and Y is hydrogen; X is selected from the group consisting of hydroxy and acyloxy; wherein the acyl radical is of hydrocarbon carboxylic acid of less than twelve carbon atoms; and together X and Y is oxo.

3,367,963
15-OXYGENATED-Δ^3-A-NORANDROSTENE-2,17-DIONES
Seymour D. Levine, Princeton, and Pacifico A. Principe, South River, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 30, 1965, Ser. No. 483,784
5 Claims. (Cl. 260—488)

1. A compound of the formula



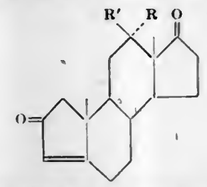
wherein R is hydrogen; R' is selected from the group consisting of hydroxy and the acyloxy radical of a hydrocarbon carboxylic acid of less than twelve carbon atoms; and together R and R' is oxo.

3,367,964
12-OXYGENATED-A-NORANDROST-3-ENES

Seymour D. Levine, North Brunswick, and Pacifico A. Principe, South River, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 20, 1965, Ser. No. 488,773
5 Claims. (Cl. 260—488)

1. A compound of the formula



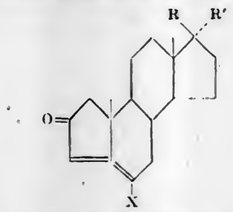
wherein R is hydrogen; R′ is selected from the group consisting of hydroxy and the acyloxy radical of a hydrocarbon carboxylic acid of less than twelve carbon atoms; and together R and R′ is oxo.

3,367,965
$\Delta^{3,6}$-A-NORANDROSTADIENES AND INTERMEDIATES

Seymour D. Levine, North Brunswick, N.J., assignor, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 1, 1965, Ser. No. 492,286
16 Claims. (Cl. 260—488)

1. A compound of the formula



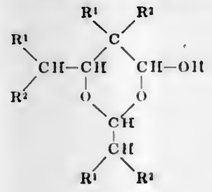
wherein X is selected from the group consisting of chloro and bromo, R is selected from the group consisting of hydroxy and the acyloxy radical of a hydrocarbon carboxylic acid of less than twelve carbon atoms, and R′ is selected from the group consisting of vinyl, ethynyl, halo substituted vinyl, trifluoromethyl substituted vinyl, halo substituted ethynyl and trifluoromethyl substituted ethynyl.

3,367,966
PRODUCTION OF 1,3-GLYCOL HALF ESTERS

Robert J. Knopf, St. Albans, and Louis F. Theiling, Jr., Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 22, 1965, Ser. No. 427,514
4 Claims. (Cl. 260—494)

1. Process which comprises heating a 4-m-dioxanol in a closed reaction zone to an elevated temperature above the decomposition temperature of said 4-m-dioxanol, said temperature being within the range of from about 75° to 250° C., for a period of from about 1 to about 20 hours, to produce a half-ester of a 1,3-glycol, wherein said 4-m-dioxanol is a compound of the formula:



wherein each R^1 and R^2 individually represents a member of the group consisting of hydrogen and alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, phenyl, aralkyl, and alkaryl groups of up to 10 carbon atoms, and R^1 and R^2 taken together with the carbon atom to which they are bonded to form cycloalkyl or cycloalkenyl groups of up to 10 carbon atoms.

2. Process of claim 1 wherein said 4-m-dioxanol is heated in a closed reaction zone in admixture with an aldehyde of the formula:



wherein each R individually represents hydrogen, phenyl, or cycloalkyl, alkyl, alkenyl, aralkyl, or alkaryl of up to 10 carbon atoms, or the two R variables taken together with the carbon atom to which they are bonded to form cycloalkyl or cycloalkenyl of up to 10 carbon atoms.

3,367,967
TREATMENT OF SULFONAMIDES

William G. Bauer, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Oct. 18, 1965, Ser. No. 497,456
10 Claims. (Cl. 260—556)

This invention relates to the use of alkali earth metal silicates to improve the color stability of aromatic sulfonamides.

3,367,968
1 - [(DIFLUOROAMINO)DIFLUOROMETHYL]-1,2,3,3 - TETRAFLUOROGUANIDINE AND PROCESS FOR PREPARING THE SAME

John J. Hoekstra, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 31, 1962, Ser. No. 222,256
3 Claims. (Cl. 260—564)

1. The compound 1-[(difluoroamino)difluoromethyl]-1,2,3,3-tetrafluoroguanidine.

2. A process for preparing 1-[(difluoroamino)difluoromethyl]1,2,3,3-tetrafluoroguanidine which comprises:

(a) passing fluorine into substantially anhydrous cyanoguanidine at a temperature of from about minus 25° C. to about 10° C.,

(b) collecting the reaction product mixture, and

(c) separating said 1-[(difluoroamino)difluoromethyl]-1,2,3,3-tetrafluoroguanidine therefrom.

3,367,969
PROCESS FOR THE PREPARATION OF 4,4′-METHYLENEDIANILINE

Gilbert Thornton Perkins, Landenberg, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 8, 1965, Ser. No. 438,072
2 Claims. (Cl. 260—570)

The present invention is directed to a new and improved process for the manufacture of 4,4′-methylenedianiline wherein significantly improved yields are obtained by reacting aniline hydrochloride with formaldehyde and thereafter adding additional amounts of aniline prior to the second, rearrangement, step.

3,367,970
PROCESS FOR PREPARING DIMETHYLAMINOALKANES FROM NITROPARAFFINS

Robert W. Rosenthal, Pittsburgh, and Richard Seekircher, Gibsonia, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Nov. 23, 1964, Ser. No. 413,301
8 Claims. (Cl. 260—583)

A process for converting a nitroparaffin to the corresponding dimethylaminoalkane which involves reacting a nitroparaffin with formaldehyde and hydrogen in the presence of a hydrogenation catalyst.

3,367,971
PREPARATION OF PERFLUOROISOPROPYL SULFIDE AND PERFLUOROACETONE

Norman L. Madison, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 21, 1966, Ser. No. 528,813
7 Claims. (Cl. 260—593)

1. A process for preparing perfluoroisopropyl sulfide and perfluoroacetone which comprises:

(a) preparing a solution of perfluoropropene and thionyl fluoride in an inert carrier which at least partially dissolves the reactants, the gram mole proportions of said perfluoropropene/thionyl fluoride in the reaction mixture ranging from about 1/1 to about 5/1,

(b) maintaining said reaction mixture in the presence of a weak base catalyst at a temperature of from about 50° C. to about 150° C. for a period of from about 12 to about 120 hours in a sealed reactor under the vapor pressure of the reaction mixture, and

(c) separating and recovering perfluoroacetone and perfluoroisopropyl sulfide from said product mass.

3,367,972
SELECTIVE HYDROLYSIS OF DIALKYL ETHERS OF PROTOCATECHUIC ALDEHYDE

Wayne Benjamin Gitchel, Rothschild, Edmunds Modrins Pogainis, Mosinee, and Eugene Wilhelm Schoeffel, Kronenwetter, Wis., assignors to Sterling Drug, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 19, 1964, Ser. No. 412,302
15 Claims. (Cl. 260—600)

Alkyl vanillins, e.g., ethyl vanillin, are produced by selectively hydrolyzing a dialkyl ether of protocatechuic aldehyde with concentrated sulfuric acid, to a 4-monoether; re-alkylating to another dialkyl ether and selectively hydrolyzing that dialkyl ether under basic conditions at a temperature above 200° C. to a 3-mono-ether.

3,367,973
GLYOXAL MONOALKYL HEMIACETAL

Charles H. Schramm and Morris Zief, Easton, Pa., assignors to J. T. Baker Chemical Company, Phillipsburgh, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 27, 1963, Ser. No. 311,956
5 Claims. (Cl. 260—602)

1. Glyoxal monoethyl hemiacetal.

3,367,974
PROCESS FOR THE PREPARATION OF DINUCLEAR HALOPHENOLS

Francis N. Apel, Nutley, and Louis B. Conte, Jr., Newark, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 4, 1965, Ser. No. 461,508
4 Claims. (Cl. 260—607)

Dinuclear halophenols are prepared by reacting a dihalo dinuclear compound and water in the vapor phase in the presence of a hydrolysis promoting catalyst.

3,367,975
PROCESS FOR PREPARING ORGANIC DISULFIDES FROM TETRATHIOCARBONATES AND ALKYL HALIDES

Robert W. Liggett, Birmingham, Ala., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 2, 1965, Ser. No. 436,687
2 Claims. (Cl. 260—608)

1. The process for preparing alkyl disulfides of the formula

R—S—S—R

wherein R is alkyl as defined below, which comprises heating a mixture of an alkali metal tetrathiocarbonate with an alkyl halide of the formula

RX

wherein R is alkyl of 1 to 20 carbon atoms, X is a halogen selected from the group consisting of chlorine and bromine, dispersed in a lower aliphatic alcohol reaction medium, at temperatures between about 40° C. and the reflux temperature of the mixture, for a period of at least about 30 minutes.

3,367,976
SUBSTITUTED RESORCINOL COMPOUND AND METHOD OF MAKING SAME

Barrymore T. Larkin, Valencia, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Aug. 22, 1966, Ser. No. 573,788
6 Claims. (Cl. 260—611)

1. A process for the production of a liquid, non-resinous resorcinol-formaldehyde reaction product containing 6–16 moles of formaldehyde per mole of resorcinol comprising: refluxing a mixture of resorcinol and formaldehyde, said formaldehyde to resorcinol being present in a mole ratio of 6–20/1, in the presence of methanol and under anhydrous conditions and maintaining the reaction mixture substantially anhydrous during reflux by removing the water of reaction formed during reflux.

5. The product produced by the process of claim 1.

3,367,977
PROCESS FOR THE PREPARATION OF PHENOL-α-MONOCHLOROHYDRIN MONOETHERS

Ewald Katzschmann, Dortmund-Kruckel, Germany, assignor to Chemische Werke Witten G.m.b.H., Witten (Ruhr), Germany

No Drawing. Filed Oct. 19, 1964, Ser. No. 404,949
Claims priority, application Germany, Oct. 25, 1963, C 31,238
9 Claims. (Cl. 260—613)

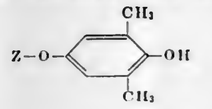
1. A process for the preparation of phenol-α-monochlorohydrin monoethers which comprises reacting a phenol selected from the group consisting of mononuclear monohydric phenols, mononuclear polyhydric phenols, polynuclear monohydric phenols, polynuclear polyhydric phenols, alkyl, and halogen nuclear-substituted derivatives thereof and mixtures of said phenols with epichlorohydrin in the presence of water, in a weight ratio of water epichlorohydrin of at least about 2:1, and a water-soluble neutral inorganic alkaline earth metal salt at a temperature of between approximately 70° and 100° C., said epichlorohydrin being employed in amounts of up to about 1.62 moles per phenolic hydroxyl group.

3,367,978
4-(PHENOXY)PHENOLS

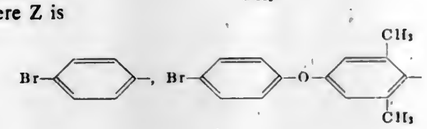
Dwain M. White, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed May 3, 1966, Ser. No. 547,182
5 Claims. (Cl. 260—613)

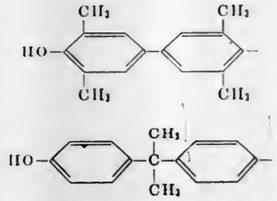
1. The chemical compounds having the formula



where Z is



and



3,367,979
MANUFACTURE OF BIS-PHENOLS

Donald Harper and Arthur Lambert, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Jan. 29, 1965, Ser. No. 429,134
Claims priority, application Great Britain, Feb. 5, 1964, 4,881/64
8 Claims. (Cl. 260—619)

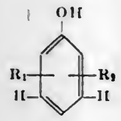
A process for producing substantially pure bis-1:1-(2'-hydroxy-3':5'-dimethylphenyl) alkanes wherein the alkane group contains from 7–12 carbon atoms, by interacting a 2:4-dimethylphenol containing dialkylphenols in which the alkyl groups are not in the 2 and 4 positions with an aliphatic aldehyde containing between 7–12 carbon atoms. The reaction is carried out in the presence of an acidic catalyst at a temperature between 60–180° C. and in the presence of a solvent such as an alkanol, an aliphatic hydrocarbon, a cycloaliphatic hydrocarbon or an olefinic hydrocarbon.

3,367,980
PREPARATION OF ALKYLIDENE BISPHENOLS

Edward F. Zaweski, Royal Oak, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed July 15, 1965, Ser. No. 472,345
11 Claims. (Cl. 260—619)

1. A process for the production of alkylidene bisphenols, said process comprising reacting (*a*) a phenol having the formula



with (*b*) a carbonyl compound having the formula



wherein R_1, R_2, R_3 and R_4 are independently selected from the group consisting of hydrogen, alkyl radicals containing 1–12 carbon atoms, aryl radicals containing 6–12 carbon atoms, aralkyl radicals containing 7–12 carbon atoms and alkaryl radicals containing 7–12 carbon atoms, in the presence of a sulfoxide having the formula



wherein R_5 and R_6 are independently selected from the group consisting of alkyl radicals containing 1–8 carbon atoms and aryl radicals containing 6–12 carbon atoms, within a temperature range of 50° to 250° C.

3,367,981
PHENOL ALKYLATION PROCESS

John P. Napolitano, Royal Oak, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed May 10, 1963, Ser. No. 279,624
6 Claims. (Cl. 260—624)

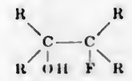
Phenols are preferentially alkylated in the ortho position by the reaction of a phenol having at least one ortho position unsubstituted with an unsaturated hydrocarbon in the presence of a transitional alumina.

3,367,982
FLUOROHYDRINS AND A METHOD FOR THEIR PREPARATION

Richard F. Merritt, Huntsville, Ala., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

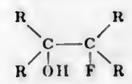
No Drawing. Filed June 2, 1965, Ser. No. 460,821
6 Claims. (Cl. 260—633)

1. A composition of matter represented by the formula



where the R's represent alkyl groups having a total of up to 24 carbon atoms.

4. A method for the preparation of a compound having the formula



comprising reacting oxygen difluoride with a compound having the formula



at a temperature range of about —80° C. to 0° C. and at subatmospheric pressure wherein the oxygen difluoride is added to the olefin reactants, wherein the R's represent alkyl groups having a total of up to 24 carbon atoms.

3,367,983
HIGH TEMPERATURE, SHORT CONTACT-TIME PYROLYSIS OF DICHLORODIFLUOROMETHANE

John Richard Soulen, Narberth, and William Ford Schwartz, King of Prussia, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 18, 1965, Ser. No. 497,535
6 Claims. (Cl. 260—653)

Dichlorodifluoromethane (CCl_2CF_2) is pyrolyzed at a temperature within the range of about 1100° C. to about 2000° C. for a period of from 0.0002 to 0.05 second to produce, as a major product, 1,2-dichlorotetrafluoroethane ($CClF_2CClF_2$).

3,367,984
PROCESS FOR PREPARING FLUOROALKANES

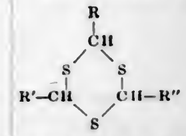
Ferenc M. Pallos, El Cerrito, and Attila E. Pavlath, Berkeley, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 16, 1967, Ser. No. 609,319
5 Claims. (Cl. 260—653)

A process for preparing fluoroalkanes such as 1,1-difluoroethane and 1,1-difluoropropane by reacting

$$[AsCl_4]^+[AsF_6]^-$$

or $[SbCl_4]^+[SbF_6]^-$ with trithianes having the formula



wherein R, R', and R'' are alkyl groups having from 1 to 5 carbon atoms by heating at atmospheric pressure at a temperature of at least 90° C. and collecting the fluoroalkanes.

3,367,985
PROCESS FOR THE MANUFACTURE OF POLYENE COMPOUNDS

Joseph Donald Surmatis, West Caldwell, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 18, 1966, Ser. No. 543,018
25 Claims. (Cl. 260—666)

1. A process for the preparation of a cis-β-carotene comprising the steps of:

(a) reacting a cis-vitamin A alcohol isomeric mixture with a compound selected from the group consisting of (1) manganese dioxide (2) potassium permanganate and (3) potassium dichromate to form a cis-vitamin A aldehyde isomeric mixture; and

(b) reacting the so-formed cis-vitamin A aldehyde isomeric mixture with a compound selected from the group consisting of (1) a triarylphosphine salt of a vitamin A alcohol (2) a triarylmonoalkylphosphine salt of a vitamin A alcohol and (3) a monoaryldialkylphosphine salt of a vitamin A alcohol in contact with a proton acceptor to form said cis-β-carotene.

25. 13-mono-cis-β-carotene.

3,367,986
COMPLEX LEWIS ACID CATALYZED AROMATIC HYDROCARBON POLYMERIZATION

Louis De Vries, Richmond, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Apr. 12, 1966, Ser. No. 541,950
6 Claims. (Cl. 260—670)

1. A method for preparing polycyclic aromatic hydrocarbons of higher molecular weight which comprises contacting aromatic hydrocarbons of from 6 to 12 carbon atoms with an aluminum chloride-silver chloride complex, comprising from about 1 to 5 moles of aluminum chloride per mole of silver chloride, in the presence of anhydrous hydrogen chloride and a noble metal dehydrogenation catalyst at a temperature in the range of from about 80° to 200° C.

3,367,987
PROCESS FOR PURIFYING AN ALPHA OLEFIN

William L. Walsh, Glenshaw, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 358,933, Apr. 10, 1964. This application Nov. 23, 1966, Ser. No. 596,462
18 Claims. (Cl. 260—677)

1. A process which comprises:

contacting a mixture consisting essentially of hydrocarbons, said mixture containing predominantly at least one normal alphaolefin and lesser amounts of at least one vinylidenes type olefin, the number of carbon atoms in said olefins being from 6 to 18;

with a Friedel-Crafts catalyst selected from the group consisting of ferric chloride, boron trifluoride and boron trifluoride-etherate;

under conditions including a temperature between about —50° C. to about 100° C. to selectively polymerize said vinylidene type olefins.

3,367,988
ACYCLIC OLEFIN ISOMERIZATION

John M. McEuen, Detroit, Larry Plonsker, Royal Oak, and Michael Dubeck, Birmingham, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

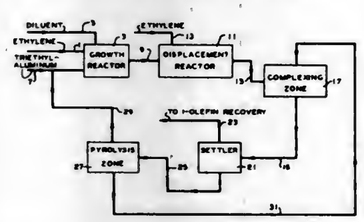
No Drawing. Filed Feb. 1, 1965, Ser. No. 429,634
19 Claims. (Cl. 260—683.2)

An improved process for isomerizing α-olefins to internal olefins using a Group VIII metal or metals on an inert support as a catalyst, and an alcohol as a promoter. Suitable catalysts are palladium, platinum, rhodium, iridium or ruthenium and mixtures thereof on finely divided charcoal. Paraffinic mono- and dihydroxy alcohols are examples of useful promoters.

3,367,989
COMPLEXES OF PHOSPHONIUM COMPOUNDS WITH TRIALKYLALUMINUMS AND USES THEREFOR

Lacey E. Scoggins and Tommey A. Yokley, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed May 8, 1964, Ser. No. 366,043
7 Claims. (Cl. 260—683.15)



Phosphonium compounds of the formula $(R)_4PX$ wherein R is an alkyl, aryl, aralkyl, alkaryl or cycloalkyl radical and X is chlorine, bromine or iodine form complexes with 1 and 2 mols of trialkylaluminum compounds. The complexes can be utilized for the separation of trialkylaluminums from mixtures of hydrocarbons and also used in a growth reaction wherein olefins are reacted with trialkylaluminums to form higher trialkylaluminums which are subsequently displaced to triethylaluminum and high molecular weight 1-olefins.

3,367,990
EPOXY RESINS FORMED BY INTERACTING A DIGLYCIDYL ETHER OF A DIHYDRIC PHENOL, AN EPOXIDIZED NOVOLAC AND A DIHYDRIC PHENOLIC COMPOUND

Bart J. Bremmer, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 9, 1963, Ser. No. 314,893
8 Claims. (Cl. 260—831)

This application is concerned with epoxy resins having an increased reactivity in the presence of a latent catalyst at an elevated temperature comprising (1) 10 to 35 parts

by weight per hundred parts resin of a dihydroxy phenolic compound selected from the group consisting of 4,4'-dihydroxy diphenyl dimethyl methane, 4,4'-dihydroxy diphenyl sulfone, 4,4'-dihydroxy diphenyl methane, 4,4'-dihydroxy diphenyl oxide, 4,4'-dihydroxy biphenyl or hydroquinone and the nuclear chlorinated or brominated derivatives thereof and (2) an epoxide mixture of (a) from 15 to 89 parts by weight per hundred parts resin of the diglycidyl ether of a dihydroxy phenolic compound and (b) an epoxidized novolac.

3,367,991
THERMOSETTING MIXTURE OF EPOXIDE RESIN-AMINE ADDITION PRODUCTS AND AMINE-ALDEHYDE RESINS
Darrell D. Hicks, Louisville, Ky., assignor to Celanese Coatings Company, a corporation of Delaware
No Drawing. Filed Jan. 27, 1965, Ser. No. 428,540
16 Claims. (Cl. 260—834)

Thermoplastic addition product of amines and polyepoxide resins are cured by reaction with amine-aldehyde resins. In an example 21.3 parts of a butylamine-epoxide resin adduct was blended with 2.5 parts of a 60% solution of methylated methylol melamine solution and 0.8 part of a 25% solution of the morpholine salt of p-toluene sulfonate.

3,367,992
2-HYDROXYALKYL ACRYLATE AND METHACRYLATE DICARBOXYLIC ACID PARTIAL ESTERS AND THE OXYALKYLATED DERIVATIVES THEREOF
Charles R. Bearden, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed June 5, 1964, Ser. No. 373,102
14 Claims. (Cl. 260—837)

Thermosetting resins are prepared from dicarboxylic acid partial esters which may in turn be prepared by reacting 2-hydoxyalkyl acrylates or methacrylates with dicarboxylic acid anhydrides. The partial esters can be mixed with a polymerizable monomer and a polyfunctional material such as a polyepoxide, a polyisocyanate or a polyamine and cured; or alternately, the partial ester may be reacted first with the polyfunctional material and then mixed with a polymerizable monomer to form a thermosettable resin composition. The resins find utility in reinforced plastics, laminates and the like and readily accept high loadings of various inert fillers.

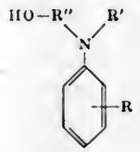
3,367,993
POLYCARBONATE ELASTOMERS FROM 5,6,7,8-TETRAHYDRO-1,4-NAPHTHALENEDIOLS
John R. Caldwell and Winston J. Jackson, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Aug. 9, 1965, Ser. No. 478,430
19 Claims. (Cl. 260—858)

Highly elastic polycarbonates are prepared from (A) at least one dihydroxy compound including a tetrahydronapthalenediol, (B) at least one polymer glycol, such as a hydroxy-terminated polyester, and (C) a carbonyl halide, such as phosgene or bromophosgene.

3,367,994
NOVEL ACCELERATOR FOR UNSATURATED POLYESTER RESINS
Earl E. Parker, Allison Park, and Bela Udvarnoki, Jr., Cheswick, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed July 20, 1965, Ser. No. 473,489
10 Claims. (Cl. 260—864)

1. A rapidly polymerizable unsaturated polyester composition, having improved storage stability, comprising:

(A) A liquid polymerizable, ethylenically unsaturated compound,
(B) A polyester of a dihydric compound and an alpha,beta-ethylenically unsaturated acid, and
(C) A compound of the structure:



wherein R and R' are lower alkyl groups, and R'' is an ethylene group.

3,367,995
METHOD FOR PREPARING GRAFT COPOLYMERS OF DIENE RUBBER, STYRENE, ACRYLONITRILE AND ALPHA-METHYL STYRENE
Masaaki Yoshino and Masataka Isogawa, Kobe, Japan, assignors to Kanegafuchi Chemical Industry Company, Limited, Higashi-ku, Osaka, Japan, a corporation of Japan
No Drawing. Filed Feb. 26, 1965, Ser. No. 435,706
1 Claim. (Cl. 260—880)

A process for the manufacture of a graft copolymer containing, by weight, substantially 5% to 35% synthetic diene rubber, 15% to 60% alpha-methyl styrene, 15% to 45% acrylonitrile, and 4% to 40% styrene.

3,367,996
PHOSPHORUS-CONTAINING POLYMERS
Richard Strauss, Lexington, and James Bottomley, Tewksbury, Mass., assignors to National Polychemicals, Inc., Wilmington, Mass., a corporation of Massachusetts
No Drawing. Continuation-in-part of applications Ser. No. 377,110, June 22, 1964, and Ser. No. 441,369, Mar. 19, 1965. This application June 8, 1965, Ser. No. 462,385
23 Claims. (Cl. 260—887)

Phosphorus-containing polymers useful as stabilizers in a variety of compositions are prepared by the reaction of a phenolic compound, an aldehyde capable of condensing with the phenol, and a trivalent phosphorus compound. In one embodiment, a phosphite polymer is prepared by a reacting phenyl phosphite such as trisnonyl phenyl phosphite with an aldehydic compound like formaldehyde. In another embodiment, an ester polymer is prepared by reacting a trivalent phosphite compound with a thermoplastic resinous novolak such as for example, the reaction of phosphorus trichloride or organic phosphite with a phenol-formaldehyde novolak resin. These phosphorus-containing polymers are useful stabilizers in synthetic elastomers like styrene butadiene rubber and thermoplastic resins like polypropylene.

3,367,997
BLOW MOLDING COMPOSITION COMPRISING A BLEND OF VINYL CHLORIDE HOMOPOLYMERS AND A.B.S. TERPOLYMER
Harold V. Smith, Villa en Genevroz, La Conversion, Vaud, Switzerland
No Drawing. Filed Feb. 20, 1964, Ser. No. 346,086
Claims priority, application Great Britain, Mar. 2, 1963, 8,451/63
8 Claims. (Cl. 260—891)

1. A blow moulding composition comprising a mixture of vinyl chloride homopolymers at least one of which has a minimum K value of approximately 50, which value is lower by not less than 10 than the K value of at least one other of said homopolymers in said mixture, said mixture of homopolymers containing at least 20% by weight of each homopolymer, and a terpolymer of acrylonitrile, butadiene and styrene, which terpolymer

is present in an amount of from 5% to 30% by weight of the total weight of said terpolymer and said mixture of vinyl chloride homopolymers, and which has an acrylonitrile content of from 15% to 35% by weight of said terpolymer, a butadiene content of from 20% to 40% by weight of said terpolymer, and a styrene content of from 35% to 55% by weight of said terpolymer.

3,367,998
POLYETHYLENE BASE COMPOSITIONS CONTAINING POLYTERPENE RESINS
Michel Osterrieth, Brussels, and Franz Cocquyt, Schaerbeek, Brussels, Belgium, assignors to Solvay & Cie, Brussels, Belgium
Filed Aug. 12, 1964, Ser. No. 389,159
Claims priority, application France, Oct. 11, 1963, 950,290, Patent 1,378,310
6 Claims. (Cl. 260—897)

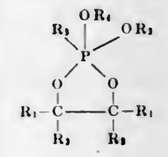
The suitability of high density polyethylene for fabrication into film is improved by mixing with the polyethylene a polyterpene resin having a fusion point no higher than 55° C.

3,367,999
METHOD OF MAKING POLYETHYLENE SURFACE HYDROPHILIC AND INK RECEPTIVE BY ADDING OXIDIZED POLYETHYLENE
Bernard L. Steierman, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
No Drawing. Continuation of application Ser. No. 793,255, Feb. 16, 1959, which is a continuation-in-part of application Ser. No. 550,753, Dec. 2, 1955. This application Oct. 22, 1965, Ser. No. 502,515
10 Claims. (Cl. 260—897)

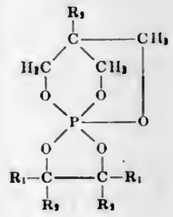
1. The method of making a printed polyethylene article whose surface is hydrophilic and receptive to printing inks, without the necessity of subjecting said surface to any printability treatment, consisting essentially of the steps of plasticizing a major proportion of a high molecular weight polyethylene with a minor proportion of a low molecular weight oxidized polyethylene, shaping the plasticized mixture to form the article, and, without subjecting the surface of said article to any intervening printability treatment, applying a printing ink directly to said surface of said article to form an image thereon, said ink firmly adhering to said surface.

3,368,000
FLUOROOXYPHOSPHORANES
Robert Arnold Braun, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 30, 1964, Ser. No. 407,895
3 Claims. (Cl. 260—937)

Fluorooxyphosphoranes having the structure

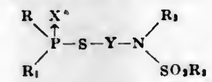


or



3,368,001
ALKYL SULFONAMIDE PHOSPHATES AND PHOSPHONATES
Karoly Szabo, Orinda, Llewellyn W. Fancher, Lafayette, and David J. Broadbent, San Jose, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 25, 1964, Ser. No. 399,369
6 Claims. (Cl. 260—944)

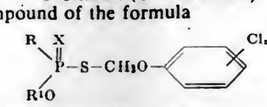
Compounds of the formula



in which R and R_1 are lower alkoxy or lower alkyl groups; R_2 is hydrogen, lower alkyl or lower haloalkyl; R_3 is lower alkyl (when R_2 is hydrogen) and R_3 is lower alkyl, phenyl or halophenyl (when R_2 is lower alkyl or lower haloalkyl); X is oxygen or sulfur; and Y is a divalent lower alkylene or lower alkylalkylene group. The compounds are useful in killing pests such as insects and mites.

3,368,002
S-CHLOROPHENOXYMETHYL THIO, DITHIO PHOSPHONATES OR PHOSPHATES
Karoly Szabo, Orinda, Calif., and John Gary Brady, West Chester, Pa., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 12, 1964, Ser. No. 374,823
8 Claims. (Cl. 260—951)

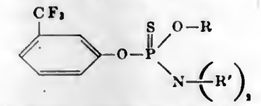
1. A compound of the formula



wherein R is selected from the group consisting of loweralkyl, loweralkoxy, chloroloweralkyl and phenyl radicals, R' is a lower alkyl radical, X is selected from the group consisting of oxygen and sulfur, and *n* in an integer from 1 to 3, inclusive.

3,368,003
3-TRIFLUOROMETHYL PHENYL PHOSPHORAMIDOTHIOATES
Etcyl H. Blair and Kenneth C. Kauer, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Aug. 16, 1965, Ser. No. 480,179
3 Claims. (Cl. 260—955)

1. Compound of the formula:



wherein R represents loweralkyl and each R' independently represents hydrogen or loweralkyl.

3,368,004
FORMING BALLS FROM POWDER
Aurelio Frederick Sirianni and Ira Edwin Puddington, Ottawa, Ontario, Canada, assignors to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a corporation of Canada
No Drawing. Filed Oct. 21, 1965, Ser. No. 500,223
17 Claims. (Cl. 264—.5)

Powders are formed into balls or spheres in a two-phase liquid, the first liquid being inert and the second

having a preferential affinity for the powder, by shaking the three-phase system in a container having rounded surfaces to agglomerate the powder and second liquid and cause the agglomerates to undergo impact and ricocheting action until the balls are shaped and densified, and the desired balls subsequently recovered from the system.

3,368,005
PROCESS OF SEALING A BELL AND SPIGOT JOINT

George S. Buczala, 306 Church Road, Abington Township, Montgomery County, Pa. 19001, and Walter E. Rosengarten, Jr., 2895 Gradyville Road, Broomall, Pa. 19008, and Lynn L. Copeland, Philadelphia, Pa.; said Copeland assignor to said Buczala and said Rosengarten jointly

Original application Mar. 27, 1963, Ser. No. 268,388, now Patent No. 3,260,280, dated July 12, 1966. Divided and this application Mar. 24, 1966, Ser. No. 554,225
9 Claims. (Cl. 264—32)



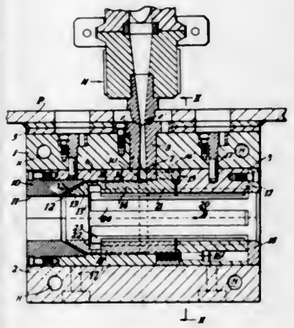
A process for sealing a bell and spigot joint in a pipe line buried beneath a paved area which comprises breaking the paving in an area less than one square foot directly over the joint, and through this opening excavating around the joint, blast cleaning the face of the bell and the adjoining spigot, applying and securing an expendable mold about the joint, and forcing sealant into the mold cavity. The mold is of rubberized fabric in the form of an overlapping girdle which in released position conforms to the shape of the joint and has a bell end portion, a spigot end portion and an inclined intermediate portion which includes the mold cavity and in the preferred embodiment is provided with a fill tube and a tensile spring engageable therewith. Longhandled tools are used to apply the mold, to connect the spring to the fill tube and to apply and tighten respective steel banding straps around the bell and spigot end portions of the mold.

3,368,006
METHOD AND APPARATUS FOR PROVIDING MOULDED JOINTS OR REPAIRS

Peter Herbert Gill, Welling, Kent, England, assignor to Submarine Cables Limited, London, England, a corporation of Great Britain

Filed Oct. 30, 1963, Ser. No. 320,127
9 Claims. (Cl. 264—36)

1. Method of applying a layer of thermoplastic insulation to an exposed portion of a conductor member of an electric cable or the like, which conductor member already is covered by an existing layer of thermoplastic material except at said exposed portion, said existing layer having two spaced ends at opposite ends of said exposed portion of said conductor member, said method comprising enclosing said exposed portion of the conductor member in a demountable mould having an extrusion chamber the length of which is relatively small in relation to the length of said exposed portion, said mould extrusion chamber having, in coaxial alignment, an entrance die of variable diameter which is adjustable within a range including the inner and outer diameters respectively of the thermoplastic layer to be applied, and an exit die of constant diameter substantially equal to the external diameter of said layer; locating the mould extrusion chamber and conductor member at the start of the operation with one end of said existing plastic layer in the exit die; injecting thermoplastic material in a molten condition into the mould extrusion chamber so that it unites with said thermoplastic layer at said one end thereof; effecting relative longitudinal movement

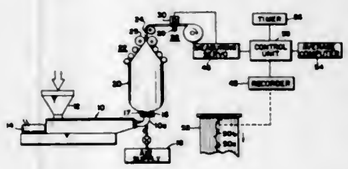


of the mould extrusion chamber with respect to the conductor member so that the conductor member passes through the mould extrusion chamber from the entrance die toward the exit die and leaves at the exit die with the applied thermoplastic layer in position on said conductor portion, the entrance die engaging said conductor member and maintaining the latter in an axial position relative to said mould extrusion chamber during extrusion; effecting adjustment of the internal diameter of said entrance die to substantially the outer diameter of the other end of said existing plastic layer when the latter arrives at said entrance die; and effecting entrance of said other end of said existing plastic layer through said entrance die into said mould extrusion chamber and uniting said other end of said existing plastic layer with the molten plastic in said mould extrusion chamber.

3,368,007
ROTARY DIE EXTRUDER SYSTEM

William H. Palmer, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio

Continuation of application Ser. No. 309,631, Sept. 18, 1963. This application Nov. 21, 1966, Ser. No. 596,002
18 Claims. (Cl. 264—40)

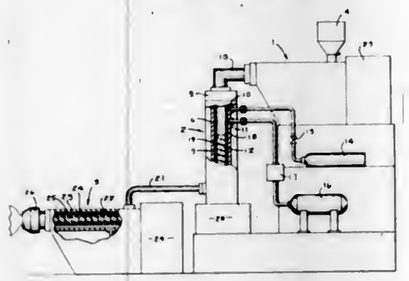


The single thickness profile of the flattened output from a blown film extruder where the extruder die rotates to distribute thickness variations circumferentially about the film is obtained from a measurement of the double sheet thickness at such a position immediately adjacent the edge of the film that the output of each profile forming portion of the extruder die can be obtained. The average sheet thickness is determined by integrating the single thickness profile measurement for a time period equal to the period of revolution of the extruder die, as determined by electro-mechanical timers.

3,368,008
METHOD FOR PRODUCING FOAMABLE THERMOPLASTIC RESIN COMPOSITION

Kimikazu Azuma, 6703 Kugenuma, Fujisawa-shi, Kanagawa-ken, Japan

Filed July 6, 1964, Ser. No. 380,586
Claims priority, application Japan, Jan. 9, 1964, 39/2,738
11 Claims. (Cl. 264—53)

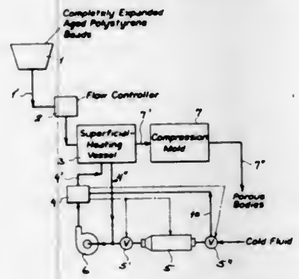


A method and an apparatus for manufacturing a foamable resin composition, in which a thermoplastic resin is melted in an extruding apparatus of a known type, the molten resin is then supplied to a heated, upright mixing chamber having therein a horizontal perforate plate so as to cause the molten resin to flow downwardly through the perforations into a zone located below the perforated plate in the form of numerous fine streams of the molten resin, and a foaming agent is mixed into said molten resin streams as they pass downwardly through said zone.

3,368,009
PROCESS FOR MOLDING SYNTHETIC EXPANDED THERMOPLASTIC MATERIAL

Piero Oddi, Milan, Italy, assignor to Montecatini S.p.A., Milan, Italy

Filed June 23, 1965, Ser. No. 466,306
Claims priority, application Italy, July 26, 1964, 14,152/64
6 Claims. (Cl. 264—53)



Process for making porous cellular styrene bodies wherein noncoherent, completely expanded and aged particles of a thermoplastic resin consisting of at least 50% by weight chemically combined styrene are heated only superficially (i.e. to a depth of at most the order of 0.01 mm. when the particle size is 0.15 to 5 mm.) at a temperature of 10 to 80° C. above the softening point of the resin for a period of 0.1 to 20 seconds and yet insufficient for general melting of the particles, and only thereafter compressing the particles to bond them together along superficially heated regions. The particles are superficially heated by a treatment with hot gas at a temperature of 120 to 150° C. and compressed after this superficial heating by a pressure of 0.1 to 1 kg./cm.².

3,368,010
PROCESS FOR MAKING HYDRATION RESISTANT REFRACTORY BRICK

John L. Cummings, Sr., Clearwater, Fla.

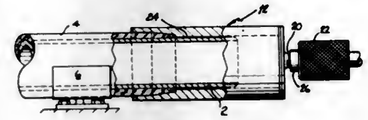
No Drawing. Continuation-in-part of application Ser. No. 262,333, Mar. 4, 1963. This application Dec. 27, 1965, Ser. No. 516,676
6 Claims. (Cl. 264—63)

A process for making a hydration resistant refractory brick or ramming material from easily hydratable refractory aggregates. The refractory aggregates are first coated with core oil as a moisture inhibitor to reduce the hydration properties of the aggregates. The coated aggregates are then mixed with powdered pitch and the core oil coating serves as an adhesive or carrier so that the powdered pitch adheres to the coated refractory aggregates and forms a second moisture inhibitor coating on the aggregates. The core oil coating also serves to evenly distribute the powdered pitch on the aggregates. The aggregates, with the core oil coating and powdered pitch coating, are compacted and molded into brick shapes and heated to a temperature above the melting point of the powdered pitch. The liquified pitch encapsulates the aggregates and forms a relatively impervious seal against hydration.

3,368,011
METHOD AND APPARATUS FOR USE IN THE MANUFACTURE OF ASBESTOS-CEMENT ARTICLES

Leonard Irving Daniel, Flagtown, N.J., assignor to Johns-Mansville Corporation, New York, N.Y., a corporation of New York

Filed Dec. 15, 1964, Ser. No. 418,453
4 Claims. (Cl. 264—72)



A process for shaping a spigot end profile on an asbestos-cement pipe by the compaction and densification of the asbestos-cement material while the asbestos-cement pipe is still on the mandrel on which it was formed.

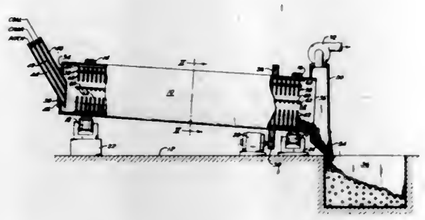
3,368,012
PROCESS FOR AGGLOMERATING CARBONACEOUS MATERIALS

Arnold R. Erickson, Orange, Conn., assignor, by mesne assignments, to Consolidation Coal Company, a corporation of Delaware

Filed July 13, 1964, Ser. No. 382,293
4 Claims. (Cl. 264—117)

1. A method of agglomerating finely divided carbonaceous material at an elevated temperature and forming a substantial quantity of agglomerates having a preselected spectrum of sizes consisting of:

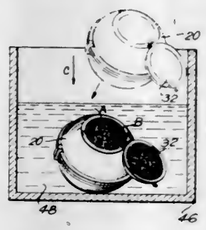
feeding finely divided carbonaceous material at an elevated temperature into an inclined rotary retort having wall mounted tines, said wall mounted tines being symmetrically spaced and extending radially inwardly from said retort wall, and



rotating said retort at a preselected speed to thoroughly mix said finely divided carbonaceous material and a carbonaceous liquid binder and form agglomerates therefrom,

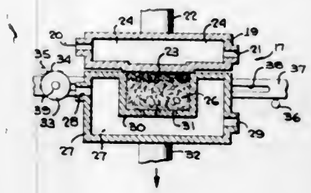
said tines each having an adjacent spacing of between about 5 and 2 inches to control the size of said formed agglomerates so that a major portion of said agglomerates have a size spectrum of between ¾ of an inch and 2 inches.

3,368,013
METHOD OF MOLDING MULTI-VENTED HOLLOW ARTICLES
Humbert A. Pisciotta, Islip Terrace, and Anthony T. Pisciotta, Jr., Glendale, N.Y., assignors to Jefferson Tank & Seat Mfg. Co., Inc., Brooklyn, N.Y., a corporation of New York
Filed June 17, 1965, Ser. No. 465,240
4 Claims. (Cl. 264—125)



A method of making multi-vented hollow articles by charging a hollow sectional mold with a mass of coarse granular particles in a quantity sufficient to cover the internal surface of the mold to a predetermined shallow depth, then rotating the mold about compound axes so as to distribute the particles around the internal surface of the mold, while the mold is rotating applying heat to the mold in such a manner that the particles fuse at their skins and autogenously weld to one another only where they are in contact to form a hollow shell leaving portions of the particles spaced apart so as to provide interstices therebetween which constitute multiple vents in the shell, then opening the mold and forming an opening in the shell in registry with the mold opening, and next concurrently cooling the mold and the shell by inserting the mold into water while at the same time introducing water into the interior of the shell through the openings in the mold and in the shell and thus preventing distortion of the shell.

3,368,014
PRINTING ONTO FOAMED PLASTICS
Donatas Tijunelis, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed May 1, 1963, Ser. No. 277,398
9 Claims. (Cl. 264—132)



1. A method of printing onto a surface of foamed plastic comprising the steps of printing on a hot glossy metal surface, contacting the surface of the foamed plastic to the printing on the hot glossy metal surface, dwelling under contact pressure to melt the surface of the foamed plastic, and cooling the metal and foamed surfaces.

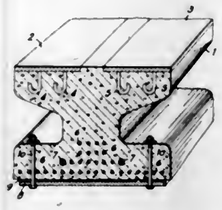
3. A method of making a member of thermoplastic foam and simultaneously printing on said member comprising the steps of applying an inking compound to a carrier, providing a quantity of expandable thermoplastic material adjacent to said carrier, heating said carrier for plasticizing said inking compound, activating the thermoplastic material for causing it to expand into foam and fill said mold such that part of the foam engages the heated carrier and the inking compound carried thereby, and cooling said carrier and said foam.

3,368,015
SPINNING OF ACRYLONITRILE POLYMER SOLUTIONS
Wilhelm Irion and Werner Saar, Neumunster, Germany, assignors to Phrix-Werke Aktiengesellschaft, Hamburg, Germany
No Drawing. Filed July 9, 1963, Ser. No. 293,862
Claims priority, application Germany, July 23, 1962, P 29,884
8 Claims. (Cl. 264—182)

1. Method of improving the spinnability of polyacrylonitrile solutions, which comprises subjecting a spinning solution consisting essentially of at least one polymer selected from the group consisting of polyacrylonitrile and copolymers of polyacrylonitrile composed of at least 85% by weight of acrylonitrile units, dissolved in an aqueous zinc chloride solution to a heat treatment at a temperature of between about 35° C. and 120° C., and terminating said heat treatment when the addition under stirring of between about 5.5 and 8.5 cc. of water to 2 g. of said spinning solution diluted with 10 cc. of said aqueous zinc chloride solution causes the resulting solution to become turbid; and spinning the thus treated spinning solution.
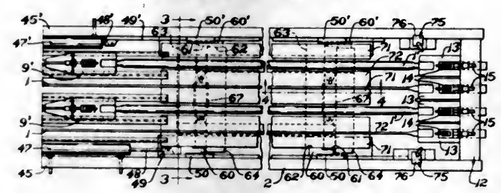
3,368,016
PROCESS OF MANUFACTURING COMPOSITE AND PRESTRESSED STEEL-CONCRETE BEAMS
Alexandre Birguer, 36 Rue Lincoln, Uccle, Brussels, Belgium
Filed Aug. 3, 1965, Ser. No. 476,833
Claims priority, application Belgium, May 21, 1965, 664,243
4 Claims. (Cl. 264—228)

A composite steel-concrete beam has a zone adapted to be subjected to a compressive stress, and another zone adapted to be subjected to a tensive stress. The process of making the beam includes subjecting it to one prestress by means of wires located in the second-mentioned zone, then attaching metal flats, whereby at least one flat is attached by bolts of high tensile strength, applying a layer



of mortar between this flat and the underlying flange and then subjecting the beam to another prestress by means of wires located in the second-mentioned zone.

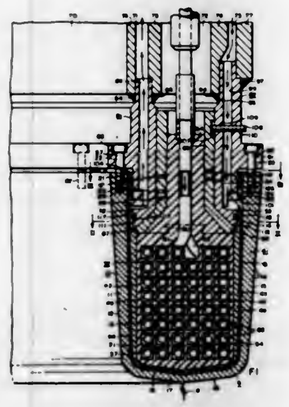
3,368,017
HOSE CURING UNIT
Paul J. Lister, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Mar. 2, 1964, Ser. No. 348,602
6 Claims. (Cl. 264—347)



The method of processing hose which preliminarily cures the hose in a round cross-sectional form followed by a final curing of the hose in an oblong cross-sectional form.

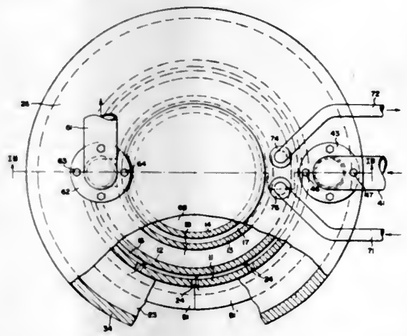
ELECTRICAL

3,368,018
ELECTRODE AND ELECTRODE TIP FOR USE THEREIN
Serafino M. De Corso, Wilkins Township, Pittsburgh, and Charles B. Wolf, North Huntington Township, Irwin, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 17, 1965, Ser. No. 440,425
13 Claims. (Cl. 13—18)



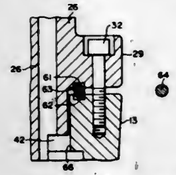
1. An electrode tip comprising an outer annular cup member composed of a non-magnetic material having good electrical and thermal conductivity and providing an arcing surface, an inner annular cup member composed of a material having similar thermal, electrical, and magnetic characteristics, said inner annular cup member being disposed within the outer annular cup member, the inner annular cup member having outer dimensions chosen in accordance with the inner dimensions of the outer annular cup member to provide a space between adjacent wall surfaces, and a plurality of generally U-shaped tubes disposed within the space between the outer annular cup member and the inner annular cup member, said plurality of tubes being disposed at closely spaced intervals around the entire periphery of the inner annular cup member, the entire tip structure being joined into a single unit, said tubes being adapted to conduct a cooling fluid near the arcing surface of the electrode tip.

3,368,019
NON-CONSUMABLE ELECTRODE
Serafino M. De Corso, Wilkins Township, Pittsburgh, and Charles B. Wolf, Irwin, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 24, 1965, Ser. No. 458,240
16 Claims. (Cl. 13—18)



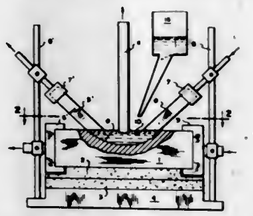
14. In a non-consumable electrode, in combination, an annular electrode face member adapted to be fluid cooled, the electrode face member including an annular tip having a plurality of generally U-shaped passageways therein, each of the U-shaped passageways passing near the arcing surface of the annular electrode face member, a field coil disposed within the tip, means including cylindrical fluid channeling means for bringing a cooling fluid to the electrode face member, means including other cylindrical fluid channeling means for conducting fluid from the electrode face member, fluid inlet header means and fluid outlet header means communicating with the fluid channeling means and the other fluid channeling means respectively, the fluid inlet header means including means forming an annular chamber encircling the electrode and having a plurality of fluid passageways for conducting fluid therefrom, fluid filter means in the annular chamber, and plug means including at least one removable plug composed of a highly heat resistant material mounted in the central aperture of the electrode and preventing the passage of heat flux therethrough.

3,368,020
CONTACT RING AND SEAL
Serafino M. De Corso, Media, and Charles B. Wolf, Irwin, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 6, 1967, Ser. No. 628,907
14 Claims. (Cl. 13—18)



In electrodes which have a fluid cooled removable tip forming an arcing surface, a seal must be provided between the tip and the supporting structure for the tip, which supporting structure must carry current to the electrode tip from electrical connection means made to the supporting structure and which tip must also provide sealing against internal water pressure. We provide a single seal consisting of a deformable metal ring such as copper which may be round or hexagonal in cross-section and which is compressed into aligned annular grooves on the supporting structure and on the tip. Our seal may also be a deformable metal ring composed of two oblique slanting surfaces which are compressible. The ring may consist of a deformable gasket of soft metal or a deformable metal gasket having on the inside thereof a rubber portion.

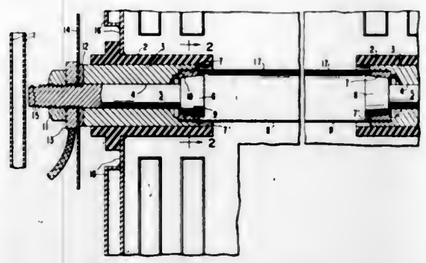
3,368,021
FURNACE FOR REFRACTORY METALS
Pai Yen Loung, 3119 David Ave., Palo Alto, Calif. 94303
Original application Nov. 15, 1962, Ser. No. 237,987, now Patent No. 3,160,497, dated Dec. 8, 1964. Divided and this application Oct. 15, 1964, Ser. No. 416,665
5 Claims. (Cl. 13—23)



An apparatus for melting refractory metals including a sintered block of the refractory metal, means for passing through the block a first electric current sufficient to heat the block and to close the voids in a predetermined portion of the block thereby increasing the electrical and thermal conductivity of the predetermined portion and means for passing a second electric current through the predetermined portion of the block to act together with the first electric current in melting part of the refractory material, the unmelted sintered portion of the block insulating and containing the melted portion.

3,368,022
HEATING ELEMENT FOR VACUUM FURNACE
Harold E. Mescher, Pico Rivera, and Walter E. Heyer, Los Alamitos, Calif., assignors to Pacific Scientific Company, City of Commerce, Calif., a corporation of California
Filed June 10, 1966, Ser. No. 556,643
5 Claims. (Cl. 13—31)

1. A heating element for vacuum furnaces comprising a thin-walled tubular member of high-temperature-resistant metal, said tubular member being rolled from a flat sheet and having an open longitudinal seam, a terminal member having a cylindrical recess receiving an end portion of said tubular heating member, and wedging means



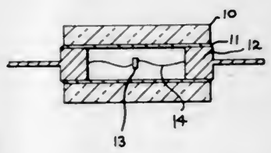
within said recess forcing said tubular member outwardly into intimate electrical contact with the wall of said recess and hence with said terminal member, the tubular member seam permitting such expansion of said member.

3,368,023
HERMETICALLY SEALED ENVELOPE STRUCTURE FOR VACUUM COMPONENT
Joseph M. Dimock, Jr., San Jose, Calif., assignor to Jennings Radio Manufacturing Corporation
Filed Jan. 11, 1965, Ser. No. 424,600
10 Claims. (Cl. 174—50.5)



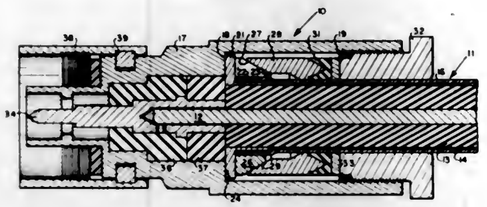
An envelope structure is provided utilizing a flexible metallic seal interposed between metallic and dielectric portions of the envelope in a manner to accommodate differences in thermal expansion and contraction between the metal and dielectric parts so as to preserve the integrity of the hermetic union therebetween. The seal is formed so that no part of the end cap structure or seal flange extends beyond the outer periphery of the dielectric member.

3,368,024
GLASS SEMICONDUCTOR HOUSING HAVING ITS INTERIOR SURFACES COVERED WITH AN ALKALI-FREE SOLDER GLASS
Frederic L. Bishop, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Dec. 22, 1965, Ser. No. 515,667
13 Claims. (Cl. 174—52)



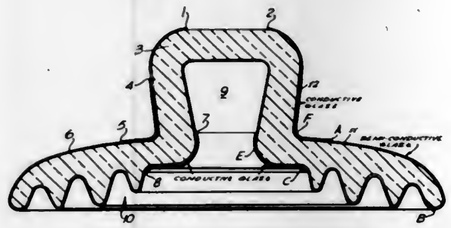
13. An article of manufacture comprising an encapsulating envelope for electronic components wherein said envelope consists of a rigid hollow body portion of a relatively high melting non-metallic material and wherein the interior exposed surfaces of said body portion are covered with an essentially alkali-free solder glass.

3,368,025
COAXIAL CABLE CONNECTOR
Malcolm H. Burdett, Indianapolis, Ind., and Daniel B. Buchler, Burnsville, Minn., assignors, by direct and mesne assignments, to The Anaconda Wire and Cable Company, New York, N.Y., a corporation of Delaware
Filed Dec. 8, 1965, Ser. No. 512,479
4 Claims. (Cl. 174—75)



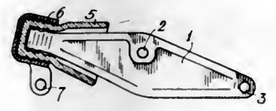
1. A connector for a coaxial cable of the type having a dielectric jacket bonded to the outer conductor and a wall of insulation under said conductor comprising:
(A) a cylindrical, electrically conducting shell,
(B) a radially inwardly extending shoulder formed in said shell,
(C) a bushing fitting within said shell,
  (a) said bushing having a thin-walled tubular length insertable between said conductor and said wall, and
  (b) a flange matching said shoulder,
(D) a split ring
  (a) abutting said flange, and
  (b) fitting over said tubular length and capable of enclosing said jacket,
  (c) said ring being tapered inwardly,
(E) a clamping ring tapered to match the taper of said split ring, and
(F) means for urging said clamping ring against said split ring whereby said flange is urged against said shoulder, making good electrical contact therewith, and said jacket and outer conductor are compressed between said split ring and said tubular length of said bushing.

3,368,026
ELECTRICAL INSULATOR HAVING IMPROVED SURFACE ELECTRICAL STRESS DISTRIBUTION
Patrick Michael Vince, Tamworth, England, assignor to Doulton & Co. Limited, London, England, a corporation of Great Britain
Filed Oct. 21, 1966, Ser. No. 588,411
Claims priority, application Great Britain, Nov. 2, 1965, 46,318/65
9 Claims. (Cl. 174—140)



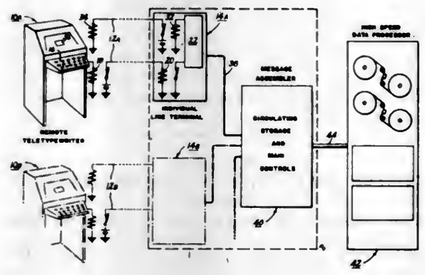
An electrical insulator, having improved electrical stress distribution over its surface, has a layer of semiconducting glaze over substantially its entire surface and a second layer of a glaze, having a higher conductivity, over those areas of the insulator which, when the insulator is in use, are subjected to comparatively high electrical stress. The insulator may be of the cap-and-pin disc type.

3,368,027
INSULATING DEVICE FOR SUPPORTING A BUNDLE OF CONDUCTORS IN HIGH VOLTAGE ELECTRIC LINES
Rodolfo Claren, Milan, Italy, and Dominique Riviere, Paris, France, assignors to A. Salvi and Co. S.p.A., Milan, Italy, a corporation of Italy and Società Sediver, Paris, France, a French corporate body
Filed Feb. 17, 1967, Ser. No. 616,922
Claims priority, application Italy, Feb. 23, 1966, 14,822/66, Patent 760,175
8 Claims. (Cl. 174—140)



A device for supporting a bundle of conductors in high voltage electric lines particularly for enabling such lines to be used as information transmission carriers includes a metal bar on which is fixed at one end an insulating cap and a metal cap thereover. The metal cap carries a support for one conductor of the bundle, and the opposite end of the bar carries a support for another conductor. The device further includes a spark gap and a guard ring to protect the insulator cap. A suspension rod or a further like metal bar may be added for supporting an additional one or two conductors.

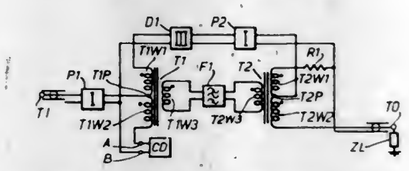
3,368,028
DATA ENTRY APPARATUS
Richard Windels, Darien, Conn., and Robert J. Duggan, Bronx, N.Y., assignors to The Bunker-Ramo Corporation, a corporation of Delaware
Filed Sept. 6, 1963, Ser. No. 307,190
33 Claims. (Cl. 178—4.1)



1. A data entry system comprising a central station, a plurality of remote stations connected to said central station and arranged to transmit thereto a variety of messages in the form of a plurality of individual characters each including a number of signal pulses; cyclically operated memory means at said central station defining a storage to hold a series of data bits, said memory means including a plurality of distinct regions each adapted to store a number of data bits; clock means for said memory means; means controlled by said clock means to provide access to the individual bit storage positions in all of said regions; control circuit means responsive to the outputs of said remote stations and arranged to store in said memory means signals corresponding to said messages;

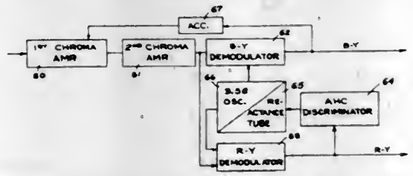
said control circuit means including means to store each message in a storage region of said memory means corresponding to the originating remote station, each such region having storage capacity for a plurality of successive characters forming a complete message; data processing means to perform computation operations in response to message signals; and transmission means operable after a complete message of a plurality of characters has been stored in any region of said memory means, said transmission means serving to transmit such complete message to said data processing means for corresponding computation operations.

3,368,029
ELECTRICAL DISTORTION CORRECTOR
Ian Ferguson Macdiarmid, Dollis Hill, London, England, assignor to Her Majesty's Postmaster General, London, England
Filed Aug. 20, 1965, Ser. No. 481,178
Claims priority, application Great Britain, Aug. 26, 1964, 35,001/64
26 Claims. (Cl. 178—5.2)



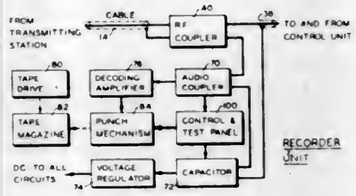
1. Electrical signal differential distortion correction apparatus including a balanced hybrid transformer network having intercoupled first and second conjugate pairs of arms, of the first conjugate pair of arms one being connected to a correction impedance device adjustable to alter the balance condition of the first pair of arms, the other arm of said first pair being connected by a direct electrical path via one arm of the second conjugate pair of arms to an output arm for the apparatus, and being connected via the other arm of said second pair of arms to an output arm balance impedance, an input arm connected to both arms of the first pair of arms, and a transmission delay device connected in the said direct electrical path to effect a desired time relation between electrical signals fed from the input arm to the second conjugate pair of arms via the said direct electrical path and any electrical signals fed via the intercoupling between the first and second conjugate pair of arms as a result of the correction impedance device providing an unbalanced condition to such signals.

3,368,030
COLOR TELEVISION SYNCHRONIZATION SYSTEM
Zbigniew Wiencek, Palatine, Ill., assignor to Warwick Electronics Inc., a corporation of Delaware
Original application Aug. 8, 1958, Ser. No. 753,927, now Patent No. 3,148,243, dated Sept. 8, 1964. Divided and this application June 30, 1964, Ser. No. 379,114
4 Claims. (Cl. 178—5.4)



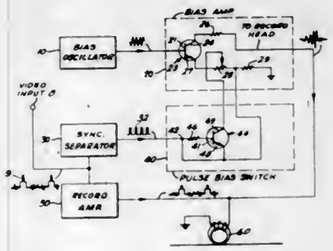
Color television receiver circuitry in which the color reference oscillator is controlled through a closed loop by synchronizing information derived from the output of the R–Y synchronous detector. Synchronizing information from the B–Y synchronous detector is gated to an integrator which develops a control signal which is a function of the received signal strength. The control signal is utilized to control the gain of the chroma amplifier, including the action of the color killer.

3,368,031
SUBSCRIPTION TELEVISION SYSTEM HAVING PROGRAM USE RECORDING
William A. Eisele, Pleasantville, N.Y., assignor to Universal Match Corporation, St. Louis, Mo., a corporation of Delaware
Filed July 6, 1964, Ser. No. 380,552
10 Claims. (Cl. 178—6)



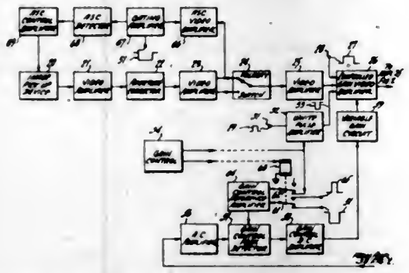
In a television system wherein free and subscription programs are transmitted simultaneously, a recorder is provided at the receiver station for recording the condition whether a free or a subscription program is being received. The subscription program is provided with an inaudible code signal which is recorded by the recorder. The recording medium may be analyzed to determine whether a free or a subscription program was received, which of a plurality of subscription programs, and, if desired, the charge rate for the subscription program may be indicated also and used for billing purposes.

3,368,032
MAGNETIC RECORDER HAVING BIAS AMPLITUDE VARIED AS A FUNCTION OF THE RECORDED SIGNAL
Beverley R. Gooch, Sunnyvale, and Maung Gyi, South San Francisco, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Mar. 9, 1964, Ser. No. 350,482
8 Claims. (Cl. 178—6.6)



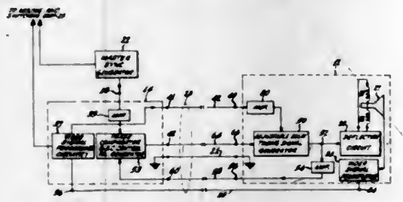
Apparatus for selectively changing the AC bias introduced to a video recording head, wherein the amplitude of the bias is increased during the presence of the video sync pulses to thus increase the magnitude of the magnetic signal applied to the recording medium during the sync pulses, and thus the magnitude of the sync pulses recorded on the medium.

3,368,033
VIDEO SIGNAL PROCESSING SYSTEM
Robert A. Dischert, Burlington Township, Burlington County, and Norman P. Kellaway, Haddon Heights, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 3, 1964, Ser. No. 357,029
17 Claims. (Cl. 178—7.1)



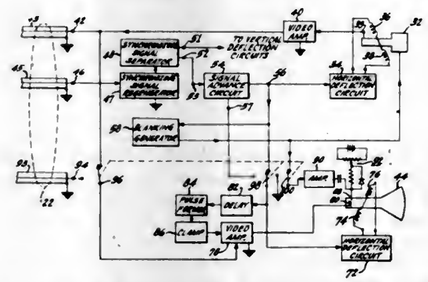
Between a signal source and a video signal output the system includes in succession a controlled gain video signal amplifier, a clamp, a gamma amplifier and clipper, and a video output amplifier. At a point between the controlled gain and output amplifiers black level setting apparatus is connected to operate in conjunction with the clamp to set the black representative portions of the video signals either automatically to a fixed reference potential or manually to a potential represented by a black pulse of selected amplitude and polarity inserted for occurrence during retrace intervals of the video signals. A feedback loop from the video signal output to the controlled gain amplifier controls this amplifier either automatically in response to white representative signal peaks or manually in response to white pulses of selected amplitude inserted for occurrence during retrace intervals of the video signals.

3,368,034
DELAY COMPENSATION CIRCUIT ARRANGEMENT
Robert A. Dischert, Burlington, and Norman P. Kellaway, Haddon Heights, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 3, 1964, Ser. No. 357,028
4 Claims. (Cl. 178—69.5)



1. A circuit arrangement for compensating for signal delays in a television broadcast apparatus, comprising:
a camera component for generating a video signal,
said camera component including circuit means for generating a timing signal which is delayed in time with respect to a synchronizing signal applied thereto;
said circuit means adapted for automatically varying the timing signal delay in a response to a control signal applied thereto;
a video signal processor component,
said processor component including phase comparator circuit means for providing a control signal having a characteristic thereof which is proportional to the phase relationship betweeen two input signals applied thereto;
means for providing and applying a synchronizing signal of said phase comparator circuit means;
means for coupling said synchronizing and control signals from said processor component to said camera component and for applying said synchronizing and control signals to said timing signal generating means; and
means for coupling said timing signal and a video signal from said camera to said processor component and for applying said timing signal to said phase comparator circuit means.

3,368,035
DELAY COMPENSATION CIRCUIT ARRANGEMENT
Robert C. Dennison, Westmont, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Apr. 3, 1964, Ser. No. 357,237
5 Claims. (Cl. 178—69.5)

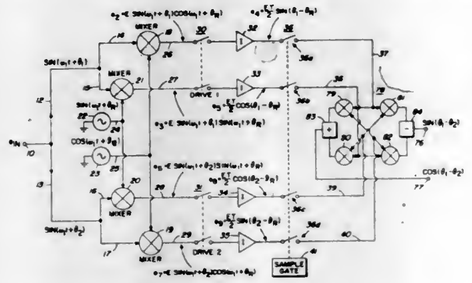


1. A circuit arrangement for compensating for signal delays in a television broadcast apparatus comprising:
a camera component for generating a video signal;
a video signal processor component;
means for applying a synchronizing signal to said processor component;
means for coupling the synchronizing signal from said processor component to said camera component and for coupling a video signal from said camera component to said processor component;
said camera component having a cathode ray device,
a deflection circuit for deflecting an electron beam of said device across a target thereof,
a signal advance circuit for generating a periodic deflection circuit timing signal which is advanced in time with respect to a synchronizing signal applied thereto,
said signal advance circuit including an automatic phase control feedback loop having signal delay circuit means for delaying a feedback signal with respect to said timing signal.

3,368,036
DEMULTIPLEXING AND DETECTING SYSTEM FOR PREDICTED WAVE PHASE-PULSED DATA TRANSMISSION SYSTEM
Robert C. Carter, Paul M. Cunningham, and Robert D. Tollefson, Richardson, Tex., assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed May 24, 1965, Ser. No. 458,158
16 Claims. (Cl. 178—67)

1. A system for detecting a phase-pulse modulated signal, said signal comprising synchronous intervals each interval of which is phase shifted from the preceding interval by a predetermined phase relationship; comprising first multiplying means receiving said input signal and a first reference signal defined as sin $(\omega_1 t + \theta_R)$ and developing the product thereof, second multiplying means

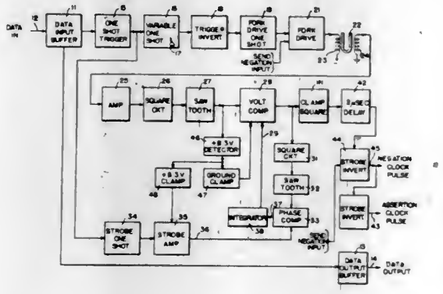
receiving said input signal and a second reference signal defined as cos $(\omega_1 t+\theta_R)$ and developing the product thereof, means alternatively gating the outputs from said first and second multiplying means at a rate defined by said input signal intervals to first and second detection channels, each of said detection channels comprising first and second integrating means receiving respectively the aforedefined gated products and developing therefrom outputs proportional respectively to sine $(\theta_S-\theta_R)$ and cos $(\theta_S-\theta_R)$ where θ_S is the phase angle of said input signal interval; means for gating simultaneously the outputs from the integrators in said first and second channels to a further product detecting means, said further product detecting means comprising multiple mixing means for developing the respective cross-products of the outputs of said integrators in said first channel with those integrators in said second channel, means for adding the cross-products of the outputs of the first integrators in each of said channels with those of the second integrators in each of said channels to develop a first output proportional to cos $(\theta_{s1}-\theta_{s2})$ and means subtracting the cross products of the first integrators of said first channel with those of the second integrators of the second of said channels to develop a second output signal proportional to sin $(\theta_{s1}-\theta_{s2})$ where $(\theta_{s1}-\theta_{s2})$ is the phase shift between successive ones of said input signal intervals.



3,368,037
SYNCHRONIZING ARRANGEMENT UTILIZING AN ELECTROMECHANICAL RESONATOR TO DERIVE CLOCK PULSES FROM A BINARY DATA SIGNAL

William W. MacGregor, Wellesley Hills, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed June 24, 1964, Ser. No. 377,620
5 Claims. (Cl. 178—69.5)

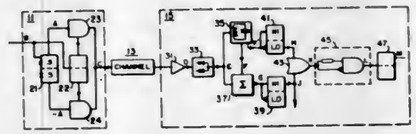


1. A communication synchronizer for received binary signals having a bit interval determined by a nominal transition frequency comprising means for producing drive pulses of predetermined phase from each binary transition of said signals, an electromechanical resonator driven by said drive pulses, said resonator being tuned to said nominal transition frequency of said binary signals, means for deriving an output signal induced by the vibrations of said resonator, means for obtaining a comparison waveform from said output signal, means for selecting an intermediate point on said comparison waveform and producing a clock pulse in fixed time relation to said immediate point, and means responsive to the position of said intermediate point and said data transitions for adjusting the position of said intermediate point to be midway beway between said transitions.

3,368,038
DI-PHASE RECEIVER AND REPEATER TERMINAL

Otmar E. Ringelbaan, Munich, Germany, assignor to the United States of America as represented by the Secretary of the Army

Filed June 11, 1964, Ser. No. 406,644
3 Claims. (Cl. 178—88)



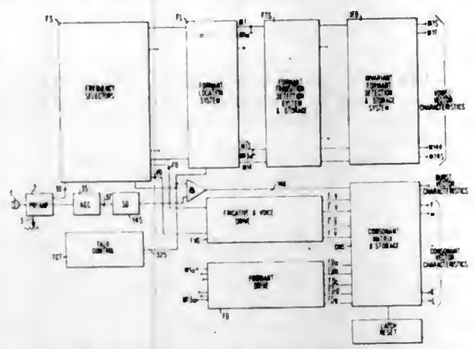
1. A receiver terminal for a diphase signal, comprising:
receiver input means for receiving a diphase signal produced from a carrier of frequency equal to a predetermined clock rate,
said carrier being applied in direct or reversed phase under control of a binary information signal at said clock rate to produce other components of frequency half said clock rate, the combined direct and reversed waves involving resultant polarity transitions, and transmitted over a channel which attenuates said carrier components to an amplitude substantially less than said half frequency components,
absolute value detector means to convert both polarities of received signal to a common polarity, with high amplitude pulses corresponding to each change of carrier phase and low amplitude ripple corresponding to double the carrier frequency,
means to extract the double frequency of said ripple and similar component of said pulses to provide a retiming wave for said receiver and means responsive to said high amplitude pulses to identify the information signal and convert it to a rectangular binary wave.

3,368,039
SPEECH ANALYZER FOR SPEECH RECOGNITION SYSTEM

Genung L. Clapper, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Jan. 22, 1965, Ser. No. 427,371
9 Claims. (Cl. 179—1)

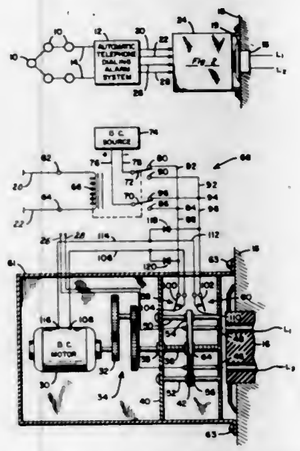
The system employs formant locating means which detect rising, falling and invariant formants in the speech spectrum to yield a total of 40 speech vectors (speech measures) constituting the vowel characteristics. A network responsive to the formant locating means and to fricative and voice detecting means provide four basic consonant measures which are classified as follows: (1) fricatives and sibilants; (2) voiced or liquid consonants; (3) voiced fricatives; and (4) unvoiced aspirants. These four speech classes are recombined with the different formant energies to provide fifteen different consonant speech characteristics.



3,368,040
DEVICE FOR ELECTRICALLY AND PHYSICALLY CONNECTING AUTOMATIC DIALER TO TELEPHONE LINE IN RESPONSE TO ALARM CONDITION

McNeil Bryan, Centerville, Minn., assignor, by mesne assignments, to Lectro Systems, Incorporated, a corporation of Minnesota

Filed Mar. 1, 1965, Ser. No. 435,909
9 Claims. (Cl. 179—5)



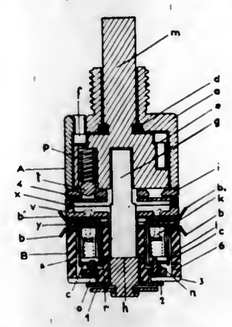
In response to an alarm condition a reversible motor is actuated to drive, via a worm screw, a pair of contact pins into telephone jacks, thereby connecting an automatic-dialing alarm device to the telephone lines. Upon cessation of the alarm signal, switching means reverse the motor, thereby retracting the contact pins from the jacks.

3,368,041
ROTARY MINIATURE COMMUTATOR SWITCH WITH IMPROVED CONTACT STRUCTURE

Henri L. Chambaut, Villeneuve-Loubet, France

Filed June 13, 1966, Ser. No. 557,010
Claims priority, application Monaco, June 25, 1965, 41
6 Claims. (Cl. 200—11)

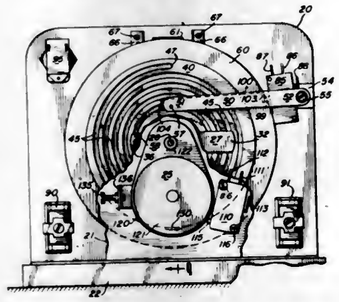
A rotary commutator miniature switch, with improved contact structure comprising two annular discs in juxtaposed position, one of the discs includes a control axle secured thereto, and spring means for locking and associated with the one of said discs are provided in a plurality of contact positions. A ball complementary to and locating each contact position and to maintain the respective contact positions. Circuit means include a plate having three portions, and a rotor supports and secures the three portions. Each of the portions includes a circuit of mobile contacts, adapted to be disposed opposite of fixed contacts. Two of the circuits having no continuous contact and a third of the circuits has continuous contact, so that contact continuity through at least one of the portions is assured.



3,368,042
TIMING DEVICE DRIVEN BY A BIDIRECTIONAL MOTOR

Melvin A. Lace, Prospect Heights, Ill., assignor to Oak Electro/Netics Corp., a corporation of Delaware

Filed May 25, 1965, Ser. No. 458,643
20 Claims. (Cl. 200—38)



A bidirectional timer motor rotates a slide assembly, having a pin captured in a spiral channel, between stops located along the spiral channel, causing the motor to reverse its direction of rotation and reciprocate the slide assembly along the spiral path. A switch, opened when the slide assembly is rotated against a stop, may be connected to de-energize the motor after a single cycle of reciprocation. As the slide assembly strikes the stops, the motor unit itself slides over a surface to actuate another switch.

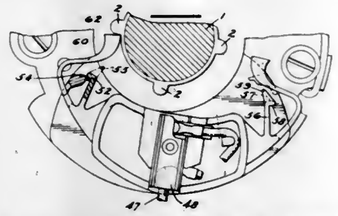
3,368,043
DIRECTION SIGNALING APPARATUS HAVING LANE CHANGE POSITIONS

Walter T. Stol, Warren, and Robert Thomson, Dearborn Heights, Mich., assignors to Boyne Products, Inc., Boyne City, Mich., a corporation of Michigan

Filed June 15, 1966, Ser. No. 557,676
13 Claims. (Cl. 200—61.34)

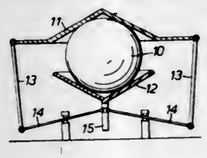
Direction signaling apparatus having a support on which is mounted an actuator for manual rocking movement from a neutral position to a latched, operating posi-

tion in which a set of indicator lamps at one side or the other of a vehicle is actuated and from which position the actuator automatically may be restored to its neutral position, the latching means being capable of arresting move-



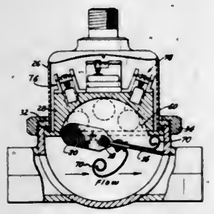
ment of the actuator in an intermediate position between the neutral and operating positions in which one or the other set of indicator lamps is actuated and from which intermediate position the actuator automatically is restored to its neutral position.

3,368,044
INERTIA RESPONSIVE DEVICES
Norman C. Green, Maidenhead, and David E. Morris, Sudbury Town, England, assignors to Graviner (Colnbrook) Limited, London, England, a British company
Filed Jan. 10, 1966, Ser. No. 519,662
Claims priority, application Great Britain, Jan. 13, 1965, 1,590/65
13 Claims. (Cl. 200—61.45)



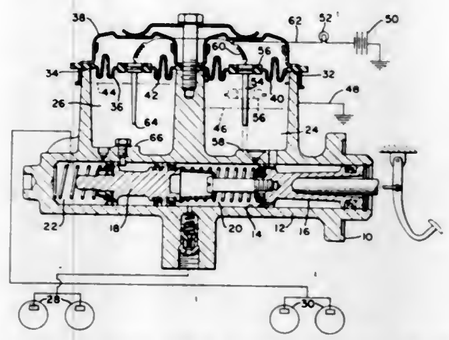
An inertia responsive device is disclosed comprising a spherical inertia element supported between and in contact with two facing inclined surfaces. The inclined surfaces are interconnected for synchronous movement away from one another when the inertia element applies a force to one of the members as a result of change of velocity of the device.

3,368,045
FLOW INDICATOR UTILIZING PERMANENT MAGNETS FOR SWITCH ACTUATION
Jay A. Harper, Gardena, Calif., assignor to Acme Machine Works, Inc., Hawthorne, Calif., a corporation of California
Filed Nov. 30, 1964, Ser. No. 414,629
9 Claims. (Cl. 200—81.9)



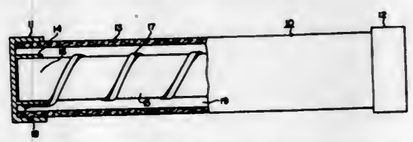
A flow meter has a vane extending across the path of fluid flow to be deflected thereby and a thin ferromagnetic blade connected to the vane swings edgewise between two closely spaced parallel walls of the fluid passage. A pair of permanent magnets with opposed holes straddle the parallel walls and are isolated from the fluid thereby. One of the permanent magnets operates a switch by movement in response to changes in the magnetic repellant propulsion force caused by the presence or absence of the ferromagnetic blade.

3,368,046
BRAKE FLUID LEVEL INDICATOR SYSTEM
Douglas J. Wing, St. Clair Shores, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 4, 1966, Ser. No. 531,813
3 Claims. (Cl. 200—83)



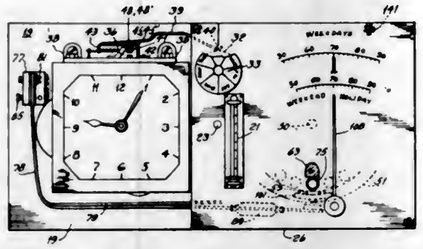
A vehicle brake master cylinder assembly having a system which provides an indication of the brake fluid level by mounting an electrical contact on the diaphragm, sealing the top of the fluid reservoir and utilizing the housing forming the reservoir as another contact. The diaphragm follows the surface level of the fluid in the reservoir and causes the contacts to engage when the fluid is sufficiently depleted. Engagement of the contacts actuates an indicator sensible by the vehicle operator. The contact on the diaphragm may be so positioned as to indicate loss of fluid at a predetermined fluid level. Multiple reservoir master cylinder assemblies utilizing the invention have a diaphragm and a pair of electrical contacts associated with each reservoir cavity, the indicator circuit being energized when any pair of contacts close. The diaphragm not only seals the reservoir but also acts as an electrical insulator for the contact movable therewith.

3,368,047
FUSE HAVING A SAND CORE
Charles McClure, Jr., Mercer, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 435,423, Feb. 26, 1965. This application June 19, 1967, Ser. No. 647,064
10 Claims. (Cl. 200—120)



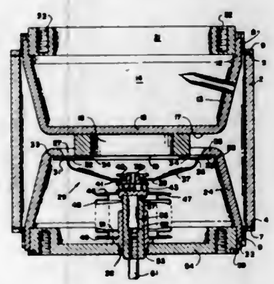
A fuse, which may be a current limiting fuse, is provided which has a core composed of sand and a carefully selected binder material in suitable proportions, the binder holding the sand core rigid while the fuse element is wound thereon, the binder being blown apart by forces generated by the arc when the fuse blows, whereby the sand of the fuse core is loosened and the space therein made available for storage of gas or energy, the freed sand assisting in extinguishing the arc.

3,368,048
TIME CONTROLLED TEMPERATURE REGULATOR
Arthur J. Berger, 123 N. Highland Place, Croton-on-Hudson, N.Y. 10520
Original application Jan. 27, 1964, Ser. No. 340,183, now Patent No. 3,264,897, dated Aug. 9, 1966. Divided and this application Oct. 18, 1965, Ser. No. 516,805
10 Claims. (Cl. 200—136.3)



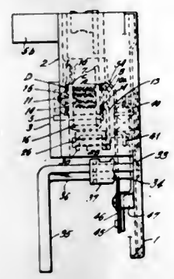
The adjustable temperature control device includes a vertically stacked arrangement of peripherally adjustable cams which are coupled to rotate with an electric clock-motor. A set of temperature responsive bimetal members are supported with their operative ends proximate the periphery of the stacked cams so as to move toward and away therefrom. A dielectric shoe is urged against each cam by a metallic spring contact which is disposed intermediate the operative end of the bimetal member and the cam surface. The operative end of the bimetal member is provided with a contact element which, in conjunction with the metal spring comprises a set of contacts whose closure is dependent on the environmental temperature. A selector switch operated by a day or interval timer selects and places in the circuit a utilization device, such as a heater or cooler with the selected set of contacts associated with the cams. Thus, the environmental temperature is controlled in a preset manner by said cams and switch.

3,368,049
HIGH CURRENT RADIO FREQUENCY SWITCH
Robert D. McClaflin and Ted N. Tilman, San Jose, Calif., assignors to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of California
Filed May 7, 1965, Ser. No. 454,080
5 Claims. (Cl. 200—144)



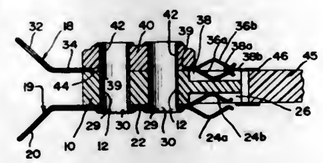
A vacuum switch structure utilizing an annular lightweight bridge contact and conductor assembly to achieve low inductance transmission through the switch. The conductor assembly is designed to distribute the voltage gradient uniformly across the envelope and reduce the volume within the envelope to facilitate evacuation.

3,368,050
HIGH PRESSURE CONTACT SWITCH HAVING AN OPERATING LEVER AND TWO ARCUATE BALL-RACES FOR EACH CONTACTOR
Elwood T. Platz, Grosse Pointe Farms, Mich., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 4, 1966, Ser. No. 532,007
7 Claims. (Cl. 200—162)



7. In a switch operating mechanism for a pair of parallel switch blades rotatable about a common axis; a first and second ballrace adjacent one another; said first ballrace positioned adjacent one side of one of said switch blades and connected thereto, a biasing spring connected between said switch blades and exerting a biasing force to normally deflect said switch blades with respect to one another, a pivot pin connected to the other of said pair of switch blades at one end thereof and pivotally mounting said switch blades; said second ballrace connected to the other end of said pivot pin; said first and second ballraces having opposing faces; each of said opposing faces including outwardly depressed pocket sections extending along a common radius and equally angularly spaced from one another; said ball means captured between respective opposite pockets of said first and second ballraces.

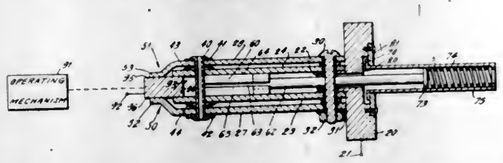
3,368,051
SWITCH CONSTRUCTION
Bernard J. Golbeck, Crystal Lake, Ill., assignor to Oak Electro/Netics Corporation, a corporation of Delaware
Filed Oct. 18, 1966, Ser. No. 587,475
3 Claims. (Cl. 200—166)



A wiper contact mounting for use in an electric switch in which a contact carrying member of insulating material has contacts mounted in back-to-back pairs on opposite sides of the member. The contacts each have a body portion on the member with an aperture aligned with an aperture in the member and a metallic rivet extends through the apertures securing the contacts to the member. The aperture in one of the contacts is larger than the aligned aperture in the member and an insulating block is disposed between the one contact and the rivet with an aperture aligned with the aligned apertures in the contact and the member. The rivet passes through the aligned apertures to maintain the contacts and insulating block rigidly on the member. The block includes a boss completely surrounding the rivet and extending into the enlarged aperture of the one contact to maintain

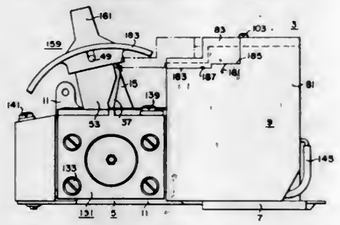
the contact spaced from the rivet and reduce arcing between the contact and the rivet. The boss is substantially the same thickness as the one contact so that the insulating block holds the contacts securely against the member.

3,368,052
COMBINED BUTT AND FINGER CONTACT
Otto Jensen, Malvern, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Nov. 10, 1966, Ser. No. 593,479
6 Claims. (Cl. 200—166)



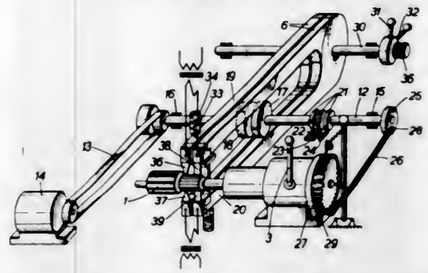
A contact structure particularly useful for circuit breakers is formed with a combined butt and jaw structure where cooperating contacts engage on abutting surfaces, which surfaces are subjected to arcing during closing and opening of the contacts. The butt-contact of the stationary contact is slidably engaged along its sides to opposing jaw-contacts with the movable contact continuing to move inwardly and driving the stationary butt-contact inwardly of the jaw-contacts after engagement of the butt-contacts. The continued movement of the stationary contact moves the sides thereof into jaw-contact type engagement with the sides of the jaw-contacts of the stationary contact. The spacing of the stationary jaws are equal to the width of the movable contact so that there is no bounce of the jaw-contacts with the major current flow path occurring through the jaw-contact after the butt-contact portions have absorbed the major burden of any arcing.

3,368,053
CIRCUIT INTERRUPTER WITH INTERLOCK MEANS AND TERMINAL COVER
John N. Groves, Beaver, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 14, 1966, Ser. No. 579,426
13 Claims. (Cl. 200—168)



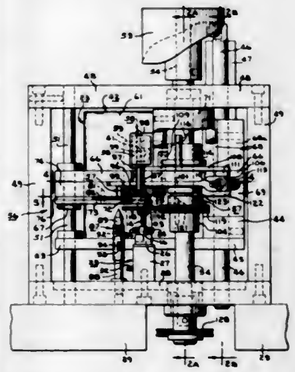
An improved circuit interrupter comprises an insulating cover member movable from a position covering certain terminals to a position exposing the terminals for connection, inspection and adjustment. Interlock means is provided to prevent closing of the interrupter when the terminals are uncovered and to prevent uncovering of the terminals when the interrupter is closed. The terminals are positioned such that they are accessible for adjustment from the front of the interrupter when the cover is positioned to expose the terminals. An improved circuit interrupter comprises an insulating cover member movable from a position covering certain terminals to a position exposing the terminals for connection, inspection and adjustment. Interlock means is provided to prevent closing of the interrupter when the terminals are uncovered and to prevent uncovering of the terminals when the interrupter is closed. The terminals are positioned such that they are accessible for adjustment from the front of the interrupter when the cover is positioned to expose the terminals.

3,368,054
APPARATUS FOR WELDING COMMUTATOR BARS
Ernst Brunner, Bassersdorf, Switzerland, assignor to H. A. Schlatter A.G., Schlieren, Switzerland
Filed May 20, 1965, Ser. No. 457,389
Claims priority, application Switzerland, May 22, 1964, 6,759/64
9 Claims. (Cl. 219—78)



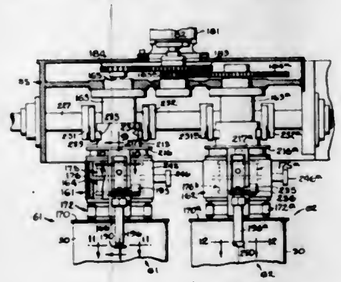
This invention comprises a welding machine for welding the ends of rotor coils to commutator bars. The machine includes a pair of upper electrodes and a pair of lower electrodes supported in diametrically opposed relationship on arms mounted for movement both transversely of and parallel to the axis of the commutator supported between the electrodes. The upper and lower arms are arranged to be moved relative to each other for simultaneous welding of diametrically opposed commutator bars and welding current is supplied simultaneously to the upper electrodes and lower electrodes independently whereby the oppositely disposed welding pressures are approximately balanced.

3,368,055
ARTICLE ASSEMBLING APPARATUS
Gary G. Seaman, Omaha, and James A. Trenerry, Millard, Nebr., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 12, 1965, Ser. No. 432,213
11 Claims. (Cl. 219—80)



In apparatus for welding a coil spring to an article, as a tubular welding electrode is moved relative to a support for the coil spring and the article, a guide mechanism guides an axially extending portion of the spring into the tubular electrode and guides the coils of the spring into substantially axial alignment with the electrode. An orienting mechanism then orients the coil spring about its longitudinal axis to locate it in a desired orientation with respect to the article. Subsequently, the tubular electrode engages a radially extending portion of the oriented coil spring adjacent its lower end to weld the portion to the article.

3,368,056
WELDING MACHINE HAVING PROVISION FOR PRECISE POSITIONING OF WORKPIECES PROCESSED AT HIGH PRODUCTION SPEEDS
Oscar W. Garver, Villa Park, Frederick E. Ullman, Winnetka, Christian H. Stettler, Northbrook, and Hans W. Kopp, Evanston, Ill., assignors to Grotnes Machine Works, Inc., Chicago, Ill., a corporation of Illinois
Original application Mar. 15, 1962, Ser. No. 180,415, now Patent No. 3,233,072, dated Feb. 1, 1966. Divided and this application Apr. 29, 1965, Ser. No. 463,062
10 Claims. (Cl. 219—80)



A welding machine for welding attachments to base members on a high speed production basis and wherein provision is made for both relatively rapid and relatively slow orientation of the base member prior to the welding operation so as to insure precise positioning of the base member relative to the machine.

3,368,057
METHOD OF BONDING
Dean K. Hanink, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Original application Mar. 15, 1962, Ser. No. 180,043, now Patent No. 3,339,269, dated Sept. 5, 1967. Divided and this application June 22, 1967, Ser. No. 647,903.
5 Claims. (Cl. 219—92)

A method of bonding and the joint resulting therefrom involving boronizing a surface to be joined, assembling the surface in the desired manner and spot welding such that the boron-rich layer and the base metal are fused in a localized region to form a spot weld or nugget which extends through the boron-rich layer. The temperature immediately surrounding the weld nugget is sufficient to fuse only the boron-rich layer about the nugget, which layer upon cooling further brazes the parts to be joined. A welded joint having a circumscribing brazed joint is produced.

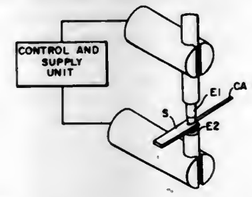
3,368,058
ELECTRICAL WELDING METHOD AND APPARATUS
Edwin F. Ziemendorf, Wilson, and John R. Lampus, Tonawanda, N.Y., assignors to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware
Filed Feb. 27, 1964, Ser. No. 347,862
20 Claims. (Cl. 219—110)

1. A method of welding electrical lead wires to a body having a resistance which changes with its temperature, such as a single crystal of silicon carbide having a negative temperature coefficient of resistivity, in order to form an assembly, such as a thermistor assembly, said method including the steps of monitoring the changing resistance of said assembly as it is heated, passing a welding current



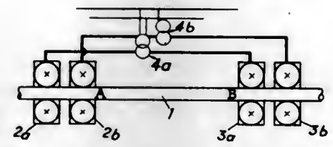
pulse of controlled increasing amplitude through said assembly when said resistance reaches a predetermined value, monitoring said pulse as it passes through said assembly, and removing said pulse from said assembly when said pulse reaches a predetermined value.

3,368,059
METHOD OF METALLURGICALLY JOINING AN ALUMINUM CONDUCTOR TO A STRANDED COPPER CONDUCTOR BY RESISTANCE WELDING
George W. Scott, Sharpsville, and John L. Harper, Lacawona, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 18, 1964, Ser. No. 397,513
5 Claims. (Cl. 219—118)



A method of welding stranded copper conductor CA (FIG. 1) to aluminum strap S in which the stranded conductor and the strap are engaged between electrodes E1, of lower thermal conductivity (molybdenum), and E2, of higher thermal conductivity (copper), of a resistance welding machine under pressure and current is transmitted between the electrodes to form a eutectic of the copper and aluminum without melting either the conductor CA or the strap S. The eutectic flows into the capillary spaces between the strands of the conductor CA and solidifies to form the joint.

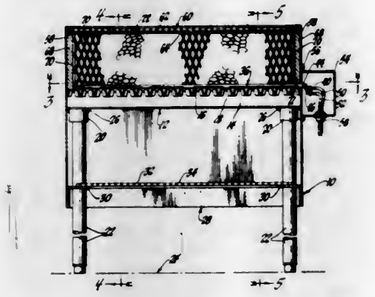
3,368,060
METHOD AND APPARATUS FOR HEATING CYLINDRICAL ELEMENTS
Hubert De Corta, Fontenay-sous-Bois, France, assignor to Firma Friedrich Kocks, a company of Germany
Filed July 26, 1965, Ser. No. 474,801
Claims priority, application France, July 29, 1964, 983,454
4 Claims. (Cl. 219—155)



This invention relates to a process and apparatus for heating cylindrical elements or tubes during manufacture comprising passing the elements between at least two upstream and two downstream cages, the first upstream

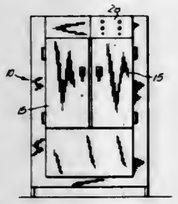
cage and the first downstream cage being fed with electric current through a transformer, the second upstream cage and the second downstream cage likewise being fed with electric current through the same or a second transformer in such a manner as to produce inphase electromotive forces.

3,368,061
ELECTRICALLY HEATED SAUNA BATH STOVE
Paul T. Lahti, 3600 W. Thirteen Mile, Royal Oak, Mich. 48072
Filed July 19, 1965, Ser. No. 473,001
15 Claims. (Cl. 219—366)



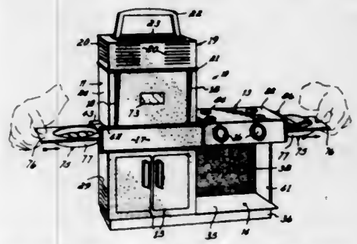
A sauna stove including an outer enclosure having a lower support member and an upper support member disposed therein, and supported from the floor or ground by a plurality of legs. The transverse support members are open to permit air flow therethrough, and located above and engaging the surface of the upper transverse member is a resistance heating device. The rocks are disposed above the upper transverse member and in engagement therewith for heating by the resistance elements. The enclosure above the upper transverse member is insulated to prevent heat loss through the walls thereof.

3,368,062
APPARATUS FOR REGULATING A HEATING OVEN TO CONTROL THAWING OF FROZEN FOOD
Hans David Gramenius and Sture Ingemar Nilsson, Alingsas, Sweden, assignors to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden
Filed June 12, 1964, Ser. No. 374,664
Claims priority, application Sweden, June 13, 1963, 6,573/63
4 Claims. (Cl. 219—400)



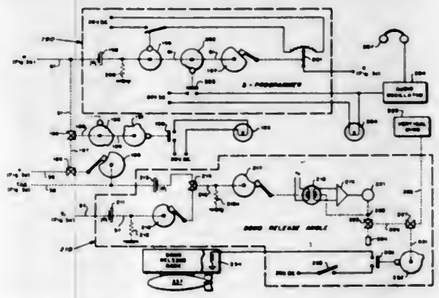
Thawing and heating like portions of frozen food in a heating space by forcibly circulating therethrough a plurality of heated air streams which combine to form a single moving body of air with the air streams flowing at the same speed and only once past the frozen food portions, heating the air streams to preheat the space to a first high elevated temperature before inserting the frozen food portions therein to make the latter ready to receive the frozen food portions to be thawed and heated, and, after inserting the frozen food portions in the space, heating the air streams to a second lower elevated temperature to heat the food portions to a definite elevated temperature, and supplying to the space and storing therein during preheating a definite quantity of heat which will increase the temperatures of the frozen food portions in the space to 0° C. when the space is preheated to the first high elevated temperature and also effect thawing of the portions of frozen food substantially at 0° C.

3,368,063
TOY OVEN
James O. Kuhn, Cincinnati, Ohio, assignor to Kenner Products Company, Cincinnati, Ohio, a corporation of Delaware
Filed Dec. 23, 1964, Ser. No. 420,575
7 Claims. (Cl. 219—411)



A toy oven for baking foods that includes a baking chamber and a cooling chamber disposed side by side, there being openings in the walls of the baking and cooling chambers to provide a substantially horizontally aligned passageway through both chambers. The passageway mounts opposed tracks to slidably support a baking pan along the tracks so that pans can be moved successively through the baking chamber, the cooling chamber, and out of the toy by inserting a pan into the baking chamber, thereby pushing the pan already in the baking chamber to the cooling chamber. Light bulbs are located in the baking chamber, both above and below the passageway, to create radiant heat for baking the food contained in the baking pans.

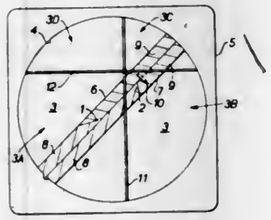
3,368,064
BALLISTIC COMPUTER FOR LOW-ALTITUDE, LOFT-BOMBING SYSTEMS
Pliny G. Holt, Bethesda, Md., and Louis S. Guarino, Hatboro, and Donald N. Spangenberg and Walter Grzywacz, Southampton, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Original application May 29, 1961, Ser. No. 113,556, now Patent No. 3,136,595, dated June 9, 1964. Divided and this application Aug. 27, 1963, Ser. No. 305,017
12 Claims. (Cl. 235—61.5)



A low-altitude loft-bombing system for high performance aircraft comprising a ballistic computer in combination with a navigational dead-reckoning computer for

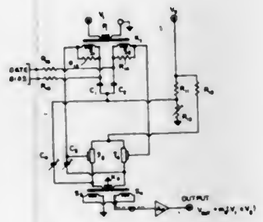
accurate placement of a bomb over a target. The system compensates for various factors, such as run-in speed and altitude, wind and aircraft weight and thrust. Compensation takes the form of corrected steering angle, variable pull-up point, programmed pull-up and variable bomb release angle.

3,368,065
AIRCRAFT INSTRUMENTS
Eric Raymond Kendall, Cheltenham, England, assignor to S. Smith & Sons (England) Limited, London, England, a British company
Filed May 14, 1964, Ser. No. 367,466
Claims priority, application Great Britain, May 16, 1963, 19,399/63
21 Claims. (Cl. 235—150.22)



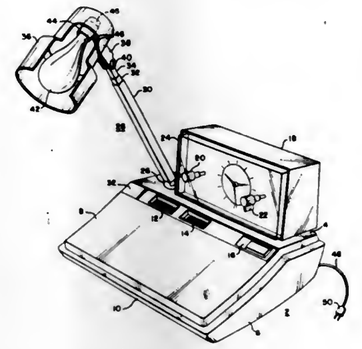
An aircraft take-off monitor has an index driven across a four-region display-area in accordance with progress along the runway. The index, by the region it occupies and its movement relative to the other regions, indicates the current situation and trend in take-off safety. The index has a fixed path intersected by movable cursors defining the four regions, or has a path variable in two coordinates relative to invariable regions. With the fixed index-path, a second index indicates the extra distance required to achieve a fixed velocity-increment.

3,368,066
FAST MULTIPLIER EMPLOYING FIELD-EFFECT TRANSISTORS
Gabriel L. Miller, Westfield, N.J., and Veljko Radeka, East Patchogue, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Feb. 14, 1964, Ser. No. 345,055
5 Claims. (Cl. 235—194)



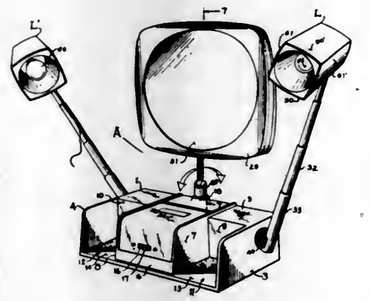
A transistorized circuit utilizing field effect transistors for multiplying a pair of parameters represented by voltages applied to the drain and gate contacts of these transistors. The output is in the form of current whose magnitude is a function of this product.

3,368,067
CLOCK RADIO LAMP COMBINATION
Hercules Paxinos, Highland Park, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 29, 1965, Ser. No. 491,267
4 Claims. (Cl. 240—2)



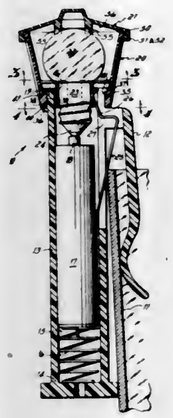
The present disclosure relates to a clock-radio-lamp combination wherein a common base structure is provided whereon a high intensity lamp, including a thermally insulating cover for the lamp, is pivotally mounted. The lamp includes a telescoping assembly so that the lamp may be placed in various positions. The clock mechanism and radio circuitry are incorporated into the structure, with the clock, radio and lamp being energized from a common electrical energy source.

3,368,068
ILLUMINATED MIRROR
Richard B. Cronheim, 411 N. 7th St., St. Louis, Mo. 63101
Filed Sept. 16, 1965, Ser. No. 487,683
10 Claims. (Cl. 240—4.2)



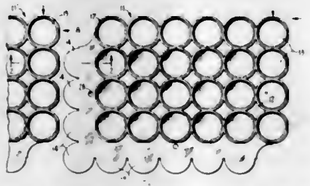
An illuminated mirror having a housing, at least one forwardly and upwardly opening recess provided in said housing, a mirror-carrying frame pivotally mounted on the upper portion of said housing for movement downwardly toward said housing into collapsed position, at least one arm swingably mounted on the side of said housing and carrying a lamp member at its outer end, said arm being telescopic and so mounted as to cause said lamp member to be receivable within the said recess when in inoperative position.

3,368,069
GLOBE AND BULB MOUNTING FOR SIGNAL LIGHT
David H. Trott, 5240 Wooster Road, Cincinnati, Ohio 45226
Filed Sept. 14, 1967, Ser. No. 667,712
8 Claims. (Cl. 240—6.4)



A globe and light bulb mount for a signal light having an open ended barrel, the globe and barrel having a snap on connection, the globe having prongs which hold the bulb, and a cap for said globe which has centrally located pins engaging and centering the bulb.

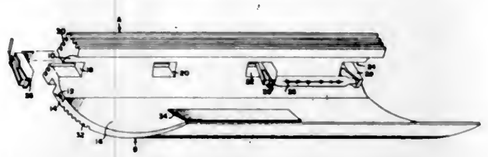
3,368,070
MODULAR CLOSED LOUVER PANEL SYSTEM
Robert A. D. Schwartz, Oakland, and Philip W. Pfeiffer, San Mateo, Calif., assignors to United Lighting and Ceiling Co., Oakland, Calif., a corporation of California
Filed June 15, 1965, Ser. No. 464,122
5 Claims. (Cl. 240—9)



A translucent or transparent lighting panel incorporating adjacent cell members and a planar backing sheet enclosing one end of the cells. The backing extends laterally beyond the cells on two adjacent edges of the panel and is omitted from the end cells on the other two adjacent edges of the panel so that a plurality of panels may be connected together to form a continuous ceiling or the like of uniform design.

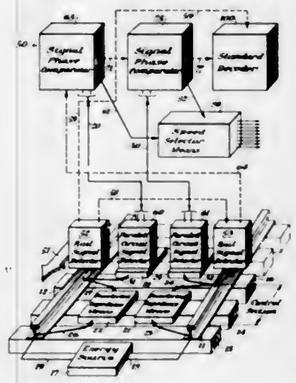
3,368,071
REFLECTOR ASSEMBLY FOR A PHOTOCOPY MACHINE
Louis Bentzman, Levittown, Pa., assignor to Quik-Chek Electronics and Photo Corporation, Philadelphia, Pa., a corporation of Delaware
Filed May 17, 1965, Ser. No. 456,083
7 Claims. (Cl. 240—41.1)

A reflecting assembly system comprising a generally semi-circular, specular reflecting surface, a diffuse reflector adjoined to the specular reflector, and adjacent reflecting surfaces and masked surfaces as required to direct



a substantially even light pattern over a surface to be photocopied.

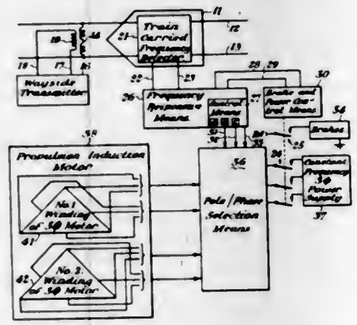
3,368,072
VEHICLE SPEED CONTROL SYSTEM
George W. Baughman, Swissvale, Pa., assignor to Westinghouse Air Brake Company, Swissvale, Pa., a corporation of Pennsylvania
Filed Jan. 3, 1966, Ser. No. 518,312
20 Claims. (Cl. 246—63)



1. A vehicle speed control system to control a vehicle speed along a predetermined way comprised of
(a) a pair of control circuits positioned along said predetermined way,
each one of said pair of circuits having a series of electrically connected individual sets of parallel circuits, one circuit of each of said sets having a selectable predetermined impedance, while another one of the circuits of each of said sets has a substantially constant impedance,
(b) a source of energy connected to said pair of control circuits,
(c) a vehicle-carried first pair of serially connected signal detectors each positioned on said vehicle to detect the presence of energy respectively in each one of said circuits of substantially constant impedance as said vehicle moves along said way,
(d) a second pair of vehicle-carried signal detectors each positioned on said vehicle to detect the presence of energy respectively in each of said circuits of selectable predetermined impedance as said vehicle moves along said way,
(e) a pair of signal phase comparators, each of said signal phase comparators connected respectively to one of said second pair of signal detectors,
(f) said first pair of serially connected signal detectors electrically connected to both of said signal phase comparators, said first pair of serially connected signal detectors providing a reference signal to said signal phase comparators,

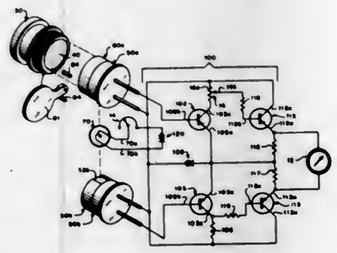
each one of said second pair of signal detectors providing a signal to each of said signal phase comparators, which signal is indicative of the impedance present in said circuits having said selectable predetermined impedance,
each one of said signal phase comparators having an output which represents the phase differential between said reference signal and one of said signals from one of said second pair of signal detectors,
(g) a speed selector means controlled by said outputs from said pair of signal phase comparators, said speed selector means having an output which is a direct function of the combined impedances present in said circuits of selectable predetermined impedance as said vehicle moves along said way.

3,368,073
TRAIN SPEED CONTROL SYSTEM
George W. Baughman, Swissvale, Pa., assignor to Westinghouse Air Brake Company, Swissvale, Pa., a corporation of Pennsylvania
Filed Oct. 1, 1965, Ser. No. 492,224
13 Claims. (Cl. 246—187)



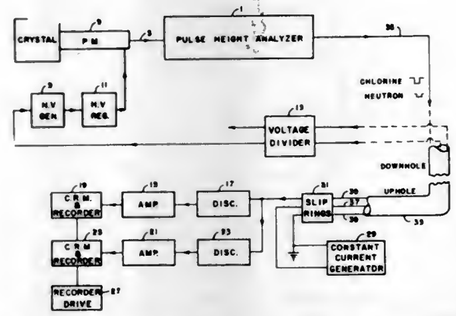
This invention relates to a train speed control system in which the propulsion motor is an induction motor, the output speed of which is mutually dependent upon a variable frequency delivered to the train from the wayside and the number of poles per phase utilized in the propulsion induction motor. The propulsion induction motor is driven by a constant frequency signal source.

3,368,074
SOLID STATE NUCLEAR DETECTOR
George E. Wilcox, Doylestown, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 26, 1965, Ser. No. 435,758
12 Claims. (Cl. 250—71.5)



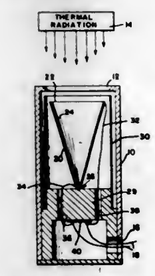
A detector for measuring various types of nuclear radiation and including both a pair of photoconductive cells each activated by a common light source and a normally balanced difference amplifier whose output signal is monitored by a meter. In the presence of radiation, a scintillation crystal emits light energy of corresponding intensity which is directed to one of the photoconductive cells and causes the difference amplifier to provide the output signal.

3,368,075
CHLORINE LOGGING SYSTEM COMPRISING DETECTING 5.0 TO 6.5 MEV. GAMMA RAYS
Dale H. Reed, Henry F. Dunlap, and Thomas S. Hutchinson, Dallas, Robert E. McCallum, Irving, and William C. Pritchett, Dallas, Tex., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 183,960, Mar. 30, 1962. This application Aug. 4, 1965, Ser. No. 480,239
9 Claims. (Cl. 250—83.3)



9. An improved method for conducting chlorine logging operations whereby salt water can be distinguished from oil deposits under varying conditions comprising,
(a) irradiating a subsurface formation with fast neutrons,
(b) detecting the prompt capture gamma rays emitted by said formation in response to said neutrons,
(c) analyzing the energy spectrum of said gamma rays to determine pulses within the interval of about 5.0 to 6.5 mev.,
(d) transmitting said pulses uphole, and
(e) recording said pulses as the exclusive indication of chlorine in said formation.

3,368,076
CONICAL RECEIVER FOR THERMAL RADIATION
Richard P. Clifford, Tarzana, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Aug. 18, 1965, Ser. No. 480,693
8 Claims. (Cl. 250—83.3)



1. A receiver to measure thermal radiation comprising:

a hollow thin-walled cone of heat conductive material having the base open to expose its conical cavity to a source of thermal radiation;

a heat sink attached to said cone at its apex, the walls of said cone providing conduction between the walls of said conical cavity and said heat sink so that a temperature differential is produced between the rim of said cone and said heat sink; and

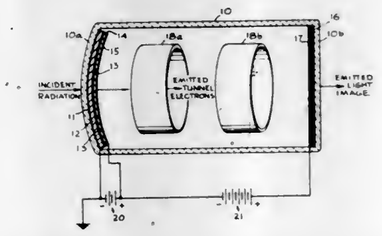
means connecting the rim and said apex to transduce the radiant energy to an electrical signal.

3,368,077

INFRA-RED IMAGE INTENSIFIER HAVING A TUNNEL-EMISSION CATHODE HAVING A CONDUCTIVE MOSAIC

Benjamin Kazan, Los Angeles, Calif., assignor to Electro-Optical Systems, Inc., Pasadena, Calif.

Filed Mar. 8, 1963, Ser. No. 263,861
3 Claims. (Cl. 250—213)



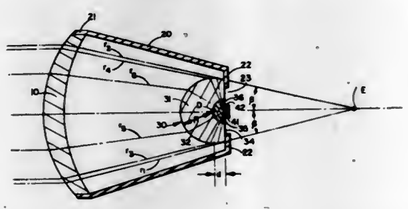
1. An image intensifier tube comprising: a transparent conductive layer coated on the inside surface of the tube faceplate; a photoconductive layer over said transparent conductive layer; a mosaic of separate and distinct conducting elements covering said photoconductive layer; an insulating layer deposited over said mosaic; a metallic film deposited on the surface of said insulating layer; a phosphor layer deposited on the inside surface of the tube baseplate; and an aluminized coating over said phosphor layer.

3,368,078

RADIANT ENERGY SENSITIVE DEVICE

Edward F. Flint, Fullerton, and Robert Bruce Horsfall, Placentia, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed Oct. 2, 1964, Ser. No. 402,063
14 Claims. (Cl. 250—216)



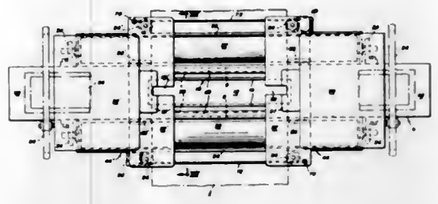
A radiant energy sensitive device comprising an aplanat having a hyperhemispherical surface and a hemispherical surface, and a lens, the front surface of which is hemispherical and in optical contact with the hemispherical surface of the aplanat, the back surface of the lens being substantially flat. The index of refraction of the lens is less than the index of refraction of the first lens. A radiant energy detector is placed in optical contact with the flat surface of the lens.

3,368,079

STRIP GUIDE FOR A PINHOLE DETECTOR

John W. Lerch, Falls Township, Bucks County, Pa., assignor to United States Steel Corporation, a corporation of Delaware

Filed Nov. 4, 1965, Ser. No. 506,333
11 Claims. (Cl. 250—219)



A strip guide for a pinhole detector in which magnetic rolls are provided to hold the strip so as to provide a non-rubbing positive light seal. A light trap is also provided in each carriage adjacent the end of a slot through which light passes to a light sensitive device with the light slot extending beneath the strip. Secondary light traps are provided on each side of the slot adjacent the first light trap.

3,368,080

TUNE SELECTION APPARATUS USING LIGHT SOURCE AND PHOTOCELL

Tadahiko Nakagiri, Hino-shi, and Hiroshi Shimizu, Sayama-shi, Japan, assignors to Citizen Watch Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Feb. 3, 1966, Ser. No. 524,797
Claims priority, application Japan, Feb. 9, 1965, 40/6,854; Mar. 29, 1965, 40/17,943; Mar. 30, 1965, 40/18,004, 40/18,468
13 Claims. (Cl. 250—219)



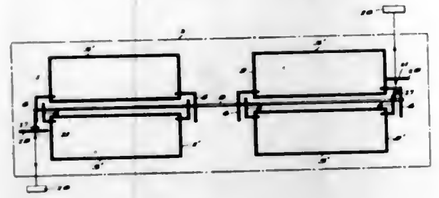
1. A detecting unit for use in automatic tune selection apparatus comprising a detector adapted to project light rays from a light source to a portion of the face of a gramophone record in such manner that the reflected light rays from a mirror face portion of an un-recorded zone of the record may be projected onto a plurality of photoelectric elements; a circuit having a first and a second ones of said a plurality of photoelectric elements symmetrically connected relative to an input point of said circuit, said circuit being arranged in such manner that a first one of said plurality of photoelectric elements is used for the detection of the location of an un-recorded portion of the record and that said a second one of said photoelectric elements is used for correcting the reflection factor of the record face and for correcting the variation factors of the photoelectric elements and also in such manner that a signal wave formr symmetrical relative to an input level is produced; and a circuit arranged to form a shaped pulse corresponding to an un-recorded portion by two levels of a bi-stable circuit having hysteresis established close to the peak points of said signal wave, respectively.

3,368,081

AUTOMATIC TRACKSIDE CAR DOOR POSITION RECORDER

Paul F. Glesking, Sept Iles, Quebec, Canada, assignor to Pickands Mather & Co., Cleveland, Ohio, a corporation of Delaware

Filed Apr. 30, 1965, Ser. No. 452,126
Claims priority, application Canada, Feb. 12, 1965, 923,187
3 Claims. (Cl. 250—230)



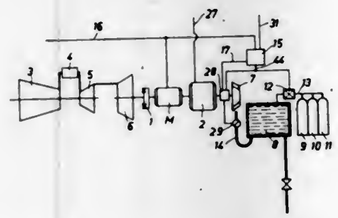
1. In a system for recording data relative to the position of dump doors on gondola cars wherein said car doors are pivotally mounted and wherein means are provided for actuating the doors between their open and closed positions, the combination comprising a trackside located optical scanning and recording device producing a scanning beam having a direction normal to the track, means establishing a viewing aperture at the side of said car for passing said scanning beam therethrough, and a target located on the side of said aperture away from said scanning and recording device for reflecting said scanning beam to said recording device, said target being moved by said door actuating means into a position in alignment with said aperture and reflecting said scanning beam when said doors are closed and into another position out of alignment with said aperture when said doors are open.

3,368,082

INSTANTLY AVAILABLE RESERVE INSTALLATION FOR ELECTRIC NETWORKS

Georg Oberländer, Oberursel, Germany, assignor to Klockner-Humboldt-Deutz Aktiengesellschaft, Cologne, Germany

Continuation-in-part of application Ser. No. 386,860, Aug. 3, 1964. This application Jan. 25, 1967, Ser. No. 611,764
Claims priority, application Germany, Aug. 3, 1963, K 50,425
13 Claims. (Cl. 290—4)



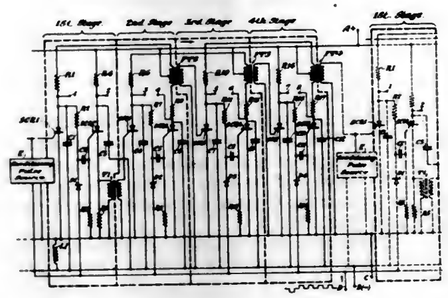
The invention relates to a motor generator set having a standby prime mover for driving the generator in the event of power failure to the motor, and further including an instantly available energy source of limited capacity which goes into action instantaneously upon failure of the said power source and drives the generator during the time that the prime mover is coming up to speed and assuming the load, whereupon the instantly available energy source is interrupted and is restored to ready condition.

3,368,083

SILICON CONTROLLED RECTIFIER SHIFT REGISTER OR RING COUNTER

Peter William Dowding and Clifford Hardcastle, London, England, assignors to Westinghouse Brake and Signal Company Limited, London, England

Filed Aug. 10, 1965, Ser. No. 478,682
15 Claims. (Cl. 307—221)



This invention relates to a counting circuit including a plurality of stages in any one sequence of operations of which a first predetermined state is stepped successively from one stage to the next stage via a coupling device on application of a stepping signal to the one stage. The reception of the stepping signal to the one stage is conditioned upon the one stage being in a first predetermined state, the first predetermined state being stepped to the next stage conditionally upon a stage previous to the one stage first noted having been altered from a first predetermined state to a second predetermined state.

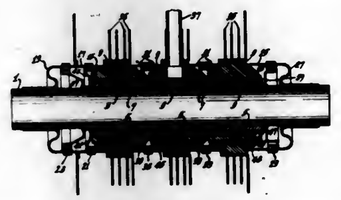
Novelty resides in utilizing a saturable transformer as a coupling device, the transformer being saturated when a previous stage is in a first state and the transformer being in an unsaturated condition which will permit a signal transfer between stages only when the previous stage is in a second predetermined state.

3,368,084

CASCADED THERMIONIC ENERGY CONVERTER TUBE

William B. Hall, Landisville, Pa., assignor to Radio Corporation of America, a corporation of Delaware

Filed July 31, 1964, Ser. No. 386,726
2 Claims. (Cl. 310—4)



1. A thermionic energy converter tube comprising:

(a) a hollow cylindrical heat tube forming the inner wall of an annular envelope;

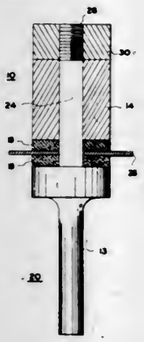
(b) at least two axially-spaced hollow cylindrical thermionic emitters surrounding said heat tube;

(c) means mounting said emitters on said heat tube in heat conducting relation therewith and in electrical insulating relation with each other;

(d) at least two axially-spaced hollow cyindrical collectors each surrounding one of said emitters in spaced relation therewith to form a diode unit;

(e) envelope means surrounding said emitters and at least the inner surfaces of said collectors and sealed to the ends of said heat tube to complete said annular envelope;
(f) means within said envelope electrically connecting each collector except the last one to the emitter of the next diode unit; and
(g) means for precisely spacing and insulating one of said emitters from the surrounding collector, comprising:
(1) a pair of complemental circumferential grooves of substantially semicircular cross-section formed in the adjacent surfaces of said emitter and collector;
(2) a pair of longitudinal grooves of the same cross-section and depth as said circumferential grooves formed in the adjacent surfaces of said emitter and collector, extending from said circumferential grooves to one end of said electrodes; and
(3) a plurality of spherical balls of refractory insulating material distributed around and snugly fitting in said circumferential grooves.

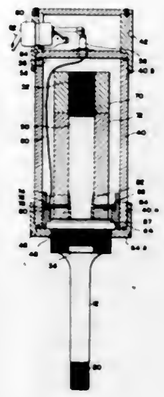
3,368,085
SONIC TRANSDUCER
Robert C. McMaster and Berndt B. Dettloff, Columbus, Ohio, assignors to The Board of Trustees of the Ohio State University, Columbus, Ohio, an institution of Ohio
Filed Nov. 19, 1965, Ser. No. 508,812
13 Claims. (Cl. 310—8.3)



The invention relates to an ultrasonic piezoelectric transducer—specifically, the transducer combines a driving element (piezoelectric disc) with the mechanical displacement amplifier (horn). It is, in essence, a resonant horn structure excited internally relatively close to the vibrational node. The method of excitation is in contrast to the method of external excitation at the antinode common when horns are utilized in a sonic transducer system. In a preferred embodiment the piezoelectric elements located in a region near the node of the resonant structure allows the node to be used as the position of mounting of the transducer and for applying external static force.

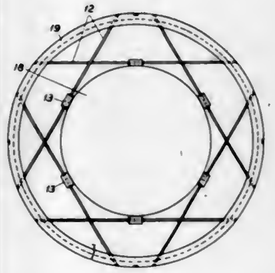
3,368,086
SONIC TRANSDUCER
Charles C. Libby, Columbus, Ohio, assignor to The Board of Trustees of the Ohio State University, Columbus, Ohio, an institution of higher learning of Ohio
Filed Nov. 19, 1965, Ser. No. 508,774
9 Claims. (Cl. 310—9.2)

The invention is a mechanically-biased higher-power, high-Q transducer utilizing the principles of the transducer in the copending application, S.N. 508,812. The over-all structure is enclosed and includes a means of positioning or applying external force through a holding fixture supported near the node of the transducer. The electrical power connections for the driving elements located within the enclosure are reliable under continuous high-power excitation. The clamping arrangement providing internal static stress or mechanical-bias is acoustically an integral part of the horn. The output end of the transducer is



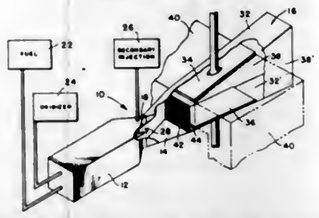
threaded for attachment coupling to the tool. The enclosure is hermetically sealed for safe operation in the field, and to permit oil cooling of the transducer. It has been found that oil cooling improves the electrical insulation, reduces operating temperatures and allows the applied voltage to be increased with the same life expectancy. This in turn raises the potential output-power rating of the transducer.

3,368,087
ROTATING ELECTRIC HIGH POWER MACHINE WITH SUPER-CONDUCTING STATOR
Kristian Dahl Madsen, Vasteras, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed July 20, 1964, Ser. No. 383,865
Claims priority, application Sweden, Aug. 16, 1963, 8,976/63
10 Claims. (Cl. 310—10)



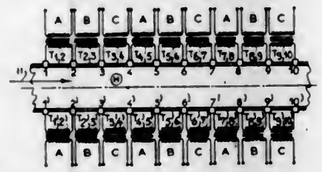
A rotating electric high power machine with a superconducting stator winding enclosed in a container for cooling medium, the container surrounding the rotor and including two concentrically arranged cylindrical bodies, the container being suspended in an evacuated space by means of spokes which are arranged non-radially to the stator winding container and are attached to the stator housing.

3,368,088
STANDING-DETONATION WAVE MAGNETOHYDRODYNAMIC ELECTRICAL GENERATOR
Leroy J. Krzycki and Clinton L. Spindler, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 20, 1963, Ser. No. 310,509
8 Claims. (Cl. 310—11)



1. A method for generating electrical power comprising the steps of:
(a) reacting a nonstoichiometric ratio mixture of a plurality of chemically reactive ingredients;
(b) adding the ingredient necessary to bring the overall mixture ratio up to stoichiometric;
(c) expanding the stoichiometric mixture;
(d) reacting the unreacted ingredients; and
(e) passing the reacted mixture through a magnetic field and in contact with spaced electrodes for extraction of electrical energy from the reacted mixture during its passage through the magnetic field.

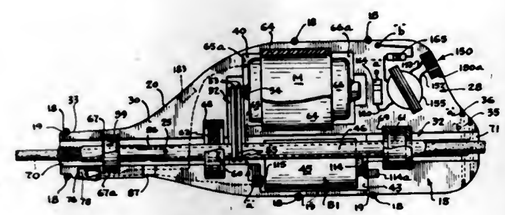
3,368,089
MAGNETOHYDRODYNAMIC GENERATORS WITH SEGMENTED ELECTRODES
Georges Klein, Paris, France, assignor to Compagnie Generale d'Electricite, Paris, France, a corporation of France
Filed Oct. 13, 1964, Ser. No. 403,496
Claims priority, application France, Oct. 24, 1963, 951,657
10 Claims. (Cl. 310—11)



A magnetohydrodynamic generator with segmented electrodes in which a discharge is effected for creating an electric arc between adjacent electrodes and means along one side of the magnetohydrodynamic channel. Pairs of the electrodes are connected to the secondary windings of respective transformers having their primary windings connected to an alternating voltage source. Also, in the case when the voltages originating through the Hall effect between the electrodes located along the same side of the channel are sufficiently high, the electrodes are then connected to each other by resistances with no ancillary current supply being required.

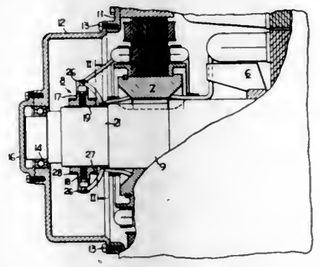
3,368,090
PORTABLE MOTOR DRIVEN POWER TOOL
Henry E. Miller, Chicago, Ill., assignor to Chicago Wheel & Manufacturing Co., Chicago, Ill., a corporation of Illinois
Filed May 28, 1965, Ser. No. 459,868
5 Claims. (Cl. 310—51)

1. In a portable tool constructed to reduce the amount of noise and vibrations emanating therefrom during the use of said power tool comprising: housing elements of molded material having an exterior outer surface for gripping by an operator and having interior, flat surfaces for mating engagement one with another, cavities formed in said flat surfaces and being confined interiorly of said housing elements except for a longitudinal cavity for said tool, shaft means disposed in said longitudinal cavity and for rotating said tool, bearing means for rotatably supporting said shaft means, first isolation means disposed in aligned cavities formed in said housing elements, said



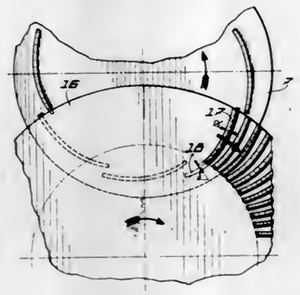
isolation means engaging said bearing means to support said bearing means and to alleviate vibration of said housing means with rotation of said shaft means, motor means disposed in cavities formed within the interior of said housing elements, second isolation means mounted in said motor cavities in engagement with said motor means for isolating said housing elements from vibrations of said motor means, and endless band means extending between said motor means and said shaft means for rotating said shaft means and thereby said tool.

3,368,091
ROTATING RECTIFIER
Buddy H. Layman, Hammersville, Ohio, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed May 24, 1965, Ser. No. 457,986
2 Claims. (Cl. 310—68)



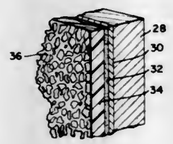
1. In combination with a generator having a rotating shaft including a electrically insulated portion, a rotating rectifier constructed of two half sections positioned on said insulated portion of said shaft in a common plane transverse to the axis of said shaft, said half sections having an air gap between adjacent ends of sufficient magnitude to effectively insulate the half sections from one another, and a plurality of layers of polyester glass band tape upon which is placed a plurality of layers of heat shrinkable nonelectrically conductive tape connecting said half sections to said insulated shaft portion.

3,368,092
MAGNETIC POWER TRANSMISSION DEVICE
Michel Cotton De Bennetot, Brest, France, assignor to Corporation Societe d'Etudes et de Recherches Magnetiques Sermag, a limited company
Filed June 12, 1964, Ser. No. 374,612
Claims priority, application France, June 13, 1963, 938,004, Patent 1,371,831
14 Claims. (Cl. 310—99)



Disclosed herein is a magnetic power transmission device for increasing or decreasing speed of the driven element relative to the driving element. Both elements face each other in a peripheral area with magnetic projections arranged to substantially coincide in a working zone which is substantially offset from the line of centers of the driving and driven elements. The magnetic projections on the driven element are radially disposed, while those on the driving element are disposed at an angle relative to the radius. The speed change ratio is independent of the ratio of any diameter of the elements, but depends upon the ratio of the number of magnetic projections on the respective elements.

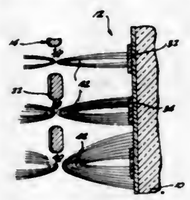
3,368,093
STORAGE TUBE WITH COMPOSITE TARGET CONSISTING OF DISPLAY PHOSPHOR, POROUS DIELECTRIC AND METALLIC MEMBRANE COLLECTOR
Richard L. Sjöberg, Oceanside, Nobuo J. Koda, Vista, and Leon S. Yaggy, North Carlsbad, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed July 20, 1965, Ser. No. 473,324
1 Claim. (Cl. 313—68)



A direct-viewing storage tube having a porous dielectric layer for storage purposes disposed directly on the phosphor layer constituting the viewing screen.

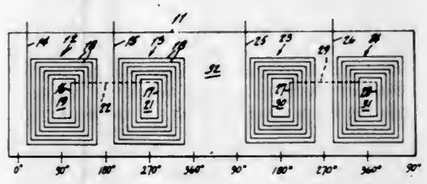
3,368,094
DISPLAY TARGET WITH DISCRETE PHOSPHOR DOTS ON CONTINUOUS PHOSPHOR LAYER FOR STORAGE TUBE
Albert Eberhard Beckers, Oceanside, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,190
1 Claim. (Cl. 313—68)

A color viewing screen especially for storage display tubes and having a continuous layer of one color phosphor



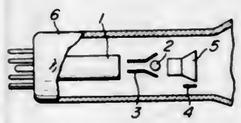
on which is disposed a plurality of discrete spaced phosphor elements of a different color.

3,368,095
FOUR IDENTICAL PRINTED COILS FOR HORIZONTAL AND VERTICAL DEFLECTION ON FLEXIBLE DIELECTRIC
George E. Jannery, Willow Street, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed July 11, 1966, Ser. No. 564,199
5 Claims. (Cl. 313—76)



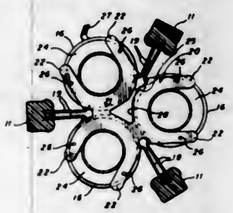
Four identical conductor coil patterns are printed in two pairs on a strip of flexible dielectric material which is rolled into a hollow cylinder having slightly more than two substantially concentric layers. The spacings of the coil patterns on the strip are such that the respective pairs of coils on the inner and outer layers are diametrically opposed to one another, and the coils of one pair are disposed 90° circumferentially to the coils of the other pair.

3,368,096
DEFLECTION PLATES COATED WITH SECONDARY ELECTRON EMISSION-SUPPRESSING METAL
Osamu Yoshida, Kyoto, Shigeya Ashizaki, Hirakata-shi, and Masaharu Kaname, Kyoto, Japan, assignors to Matsushita Electronics Corporation, Osaka, Japan, a corporation of Japan
Continuation of application Ser. No. 392,170, Aug. 26, 1964. This application Apr. 19, 1967, Ser. No. 632,109
Claims priority, application Japan, Aug. 31, 1963, 38/66,149
2 Claims. (Cl. 313—80)



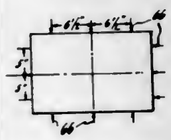
1. A cathode-ray tube with electrostatic deflection and including an evacuated envelope at one end of which is an electron gun for emitting an electron beam and at the other end of which is a fluorescent screen to be bombarded by said electron beam, said cathode ray tube comprising at least one pair of horizontal deflection plates arranged in opposing relationship on opposite sides of the path of said electron beam, a first thin, pure metal plate initially mounted in a plane intersecting with the inner surfaces of said horizontal deflection plates at a right angle to and exterior of the path of said electron beam, said metal plate subsequently forming a thin evaporation-deposited secondary electron emission suppressing metal layer on the inner surfaces of each said horizontal deflection plate when heated, at least one pair of vertical deflection plates arranged in opposing relationship on opposite sides of the path of said electron beam and in a plane intersecting with said horizontal deflection plates at a right angle, and a second thin, pure metal plate initially mounted in a plane intersecting with the inner surfaces of said vertical deflection plates at a right angle to and exterior of the path of said electron beam, said second metal plate subsequently forming a thin evaporation-deposited secondary electron emission suppressing metal layer on the inner surfaces of each said vertical deflection plate when heated.

3,368,097
THREE-ELECTRON GUN ASSEMBLY WITH ELECTRICALLY CONNECTING AND SUPPORTING PLATE FOR THE CONTROL GRIDS
Nathan D. Levin, Highland Park, Ill., assignor to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 577,390
3 Claims. (Cl. 313—82)



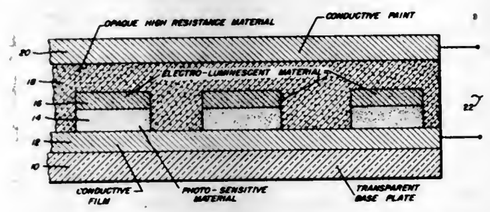
1. An electron gun assembly for a color television picture tube, said assembly adapted to be subjected to R.F. bombardment during the processing of said tube, comprising three similar electron gun structures arranged symmetrically around a center axis for producing three separate electron beams, each of said gun structures including a plurality of substantially cup-shaped elements; means supporting said elements in a substantially fixed relationship; and structural means providing rigid mechanical alignment and coincident electrical interconnection of a particular set of corresponding elements, said electrical interconnection being discontinuous between a pair of said corresponding elements to preclude said structural means acting as a shorted turn during said R.F. bombardment.

3,368,098
SHADOW MASK WELDED TO FRAME AT TWELVE POINTS
Robert C. Demmy, Lancaster, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Mar. 1, 1965, Ser. No. 436,220
2 Claims. (Cl. 313—85)



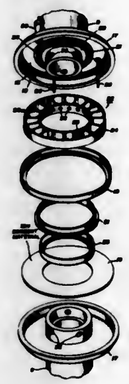
The multi-apertured mask of a rectangular shadow mask cathode ray tube is welded to its reinforcing frame at a limited number of points, e.g. 8 to 14, to permit slight movement of the mask periphery relative to the frame during tube warm-up and thereby minimize picture distortion due to misalignment of the mask apertures and the elements of a mosaic phosphor screen. The preferred arrangement is one in which the mask is welded to the frame at twelve points distributed three on each side of the rectangle, with one weld at the midpoint of the side and the other two spaced closer to the corner than to the midpoint, at approximately two-thirds of the distance between the midpoint and the corner.

3,368,099
ELECTROLUMINESCENT HALF-TONE IMAGE CELL
Charles R. Arnold, Palo Alto, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Aug. 27, 1965, Ser. No. 483,382
4 Claims. (Cl. 313—108)



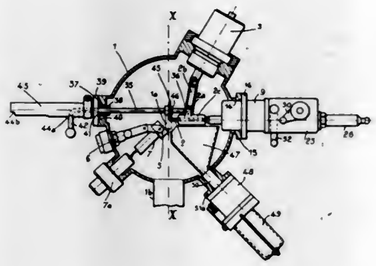
An electroluminescent device having a high electrical resistance material applied to a composite of an electroluminescent coating attached to a previously exposed and developed photosensitive substrate. Electrically conductive coatings attached to the opposite surfaces of the composite enable an operating potential to be applied causing the electroluminescent material to electroluminesce.

3,368,100
VACUUM PUMP HAVING A RADIALLY SEGMENTED, ANNULAR ANODE
Richard Guy Detro, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 112,392, May 24, 1961. This application May 23, 1966, Ser. No. 552,339
15 Claims. (Cl. 313—157)



A vacuum pump comprising annular cathodes and an annular anode permitting introduction of the gas to be pumped into the central portion thereof.

3,368,101
MEANS FOR INTRODUCING OBJECTS IN AN ISOLATED ENCLOSURE
Jacques Louis Romand, Bourg-la-Reine, and Boris Vodar and Jean Martin, Paris, France, assignors to Centre National de la Recherche Scientifique (French Government Administration), Paris, France
Filed June 22, 1964, Ser. No. 376,882
Claims priority, application France, June 25, 1963, 939,304
11 Claims. (Cl. 314—1)



1. In a spectroscope comprising a test chamber, within which a vacuum is maintained and which has a plurality of openings in its walls, electrode handling means comprising:

(a) electrode gripping means disposed within said chamber for temporarily holding an electrode in the position required for the performance of spectrum analysis;

(b) electrode manipulating means extending through one of said chamber openings and having one end which cooperates with said electrode gripping means for releasing the electrode held therein, said manipulating means comprising stop means which controls the length of an electrode which will protrude from said gripping means;

(c) electrode inserting means, extending through a second one of said chamber openings, for passing electrodes from the region surrounding said chamber to the interior of said chamber without disturbing the conditions of the vacuum therein;

(d) electrode receptacle means extending through a third one of said chamber openings and having an opening disposed directly below said electrode gripping means; and

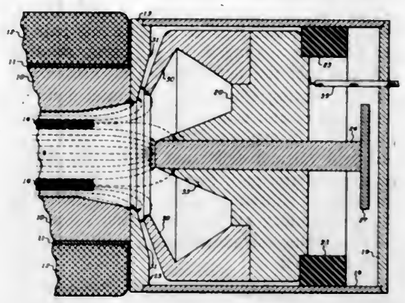
(e) a plurality of air tight seals associated with each of said chamber openings for rendering the joints air tight between the said openings and the above recited devices with which they are associated.

3,368,102
COLLECTOR STRUCTURE OPERATING AT A DEPRESSED POTENTIAL FOR COLLECTING A HOLLOW ELECTRON BEAM
Alex Saharian, Gainesville, Fla., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed June 9, 1965, Ser. No. 462,594
8 Claims. (Cl. 315—3)

1. In a device employing a stream of charged particles that is magnetically focussed by a longitudinally extending magnetic field, means for collecting said stream comprising the combination,

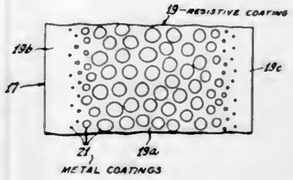
an annular magnetic pole piece positioned to encircle said stream and to terminate a portion of said magnetic field,

a conductive collector electrode of nonmagnetic material positioned along said stream beyond said pole piece,



a member of magnetic material disposed within said collector electrode for terminating the remainder of said magnetic field.

3,368,103
RESISTOR COMPRISING SPACED METAL COATINGS ON A RESISTIVE LAYER AND TRAVELING WAVE TUBE UTILIZING THE SAME
Earle S. Thall, West Orange, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 20, 1964, Ser. No. 368,965
9 Claims. (Cl. 315—3.5)

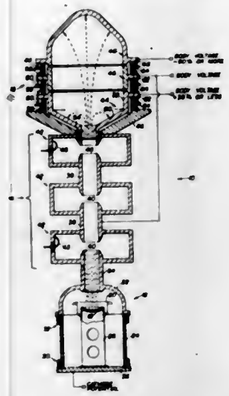


A novel resistive element comprising a discontinuous conductive layer in contact with a continuous resistive layer may be made by projectng fluent carbonaceous material, such as graphite, onto a predetermined portion of a nonconductive base, such as ceramic, to form a resistive layer, and then electrolytically depositing a metal on the resistive layer, terminating the depositing before the metal forms a continuous coating. An attenuator for a traveling wave tube may be made by projecting onto a portion of a rotating cylindrical ceramic rod to form a resistive annular band thereon, followed by the deposition of the discontinuous metal layer. The edges of the resistive layer may be tapered in resistance by slowly moving the carbon source away from the rotating rod during the depositing step.

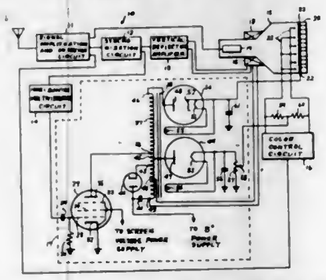
3,368,104
ELECTRON BEAM TUBE INCLUDED DEPRESSED COLLECTOR THEREFOR
Jack A. McCullough, Los Altos, Calif., assignor, by mesne assignments, to Varian Associates, a corporation of California
Filed Mar. 17, 1964, Ser. No. 352,457
2 Claims. (Cl. 315—5.38)

A collector for the spent beam of a beam tube the operation of which produces a wide distribution of axial velocities among the electrons in the spent beam, such collector comprising a plurality of segments the first segment to be encountered by the spent beam having a potential

with respect to the cathode which is greater than the potential of the interaction portion of the device the remaining segments being at lower potentials with respect to the cathode. Such first segment of the collector having a hollow frusto-conical shaped portion with its apex adjacent the interaction means and preferably having a tubular extension connected to such apex. In a preferred embodiment the collector comprises three sections, the first having a potential with respect to the cathode which exceeds that of the interaction section by an amount up to 25%, the intermediate section having a potential with respect to the cathode equal to that of the interaction section and the final section of the collector having a potential with respect to the cathode that is 50% or less of that of the interaction section.

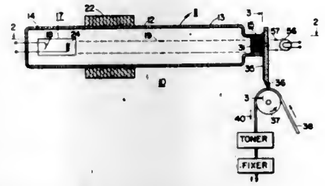


3,368,105
HIGH VOLTAGE POWER SUPPLY SYSTEM FOR CATHODE RAY TUBES EMPLOYING PROTECTIVE TIME DELAY MEANS
Satoshi Shimada, Ohta-ku, Tokyo, Japan, assignor to Sony Corporation, Shinagawa-ku, Tokyo, Japan, a corporation of Japan
Filed Aug. 5, 1963, Ser. No. 299,974
4 Claims. (Cl. 315—14)



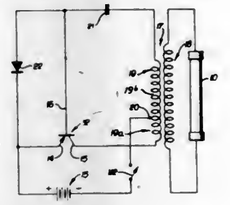
1. Apparatus for supplying a first potential and a higher second potential to a first and second electrode of a post-acceleration type cathode ray tube comprising first and second power supplies connected to a source of electrical energy of predetermined maximum potential for supplying the first and second potentials, respectively, said first and second power supplies having respectively associated therewith first and second time delay circuits, said two time delay circuits having time constants selected such that when said two power supplies are connected to said energy source the potential difference between said two electrodes is controlled and said apparatus may be operated without damage.

3,368,106
PRINTING CATHODE RAY TUBE APPARATUS ACHIEVING IMPROVED QUANTUM GAINS
Wolfgang K. Berthold, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Aug. 13, 1964, Ser. No. 389,281
8 Claims. (Cl. 315—21)



The faceplate of a printing cathode ray tube has a photoconductive layer on a fiber optic sheet with electrodes along opposite edges of the photoconductor causing current flow therethrough in a direction parallel to the surfaces of the layer to provide a long time constant path. An extension of one electrode on a supporting base contacts a dielectric recording medium to transfer charges thereto.

3,368,107
OSCILLATOR CIRCUIT
Clifford D. Skirvin, Pomona, Calif., assignor to Microdot, Inc., Pasadena, Calif., a corporation of California
Continuation-in-part of application Ser. No. 274,537, Apr. 22, 1963. This application May 17, 1965, Ser. No. 456,460
18 Claims. (Cl. 315—209)



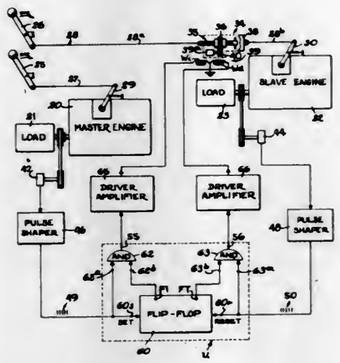
This invention relates to a system for using a direct voltage to illuminate a luminescent tube. The invention includes an electrical system for producing a voltage with a considerable amount of harmonics at high frequencies to illuminate the tube. The electrical circuitry includes a reactance such as a transformer which is connected to the source of direct voltage and to a first switching member such as a transistor to produce a state of conductivity in the transistor. During the state of conductivity in the transistor, a reactance such as a capacitor becomes charged. When the charge in the capacitor reaches a particular level, a second switching member such as a diode becomes conductive. The diode is connected to the transistor to bias the transistor to a state of non-conductivity when the diode becomes conductive. In this way, the transistor becomes alternately conductive and non-conductive.

During the time that the transistor is conductive, current flows through the primary of the transformer and through the secondary of the transformer. Since the luminescent tube is connected to the secondary of the transformer, current also flows through the luminescent tube during this period. The transformer accumulates energy during this period and releases this energy by a continued flow of current through the luminescent tube when the transistor subsequently becomes non-conductive.

3,368,108
DIGITAL SYNCHRONIZING AND PHASE MATCHING SYSTEM

Carl A. Helm, Rockford, Ill., assignor to Woodward Governor Company, Rockford, Ill., a corporation of Illinois

Filed Feb. 1, 1966, Ser. No. 524,260
11 Claims. (Cl. 317—6)

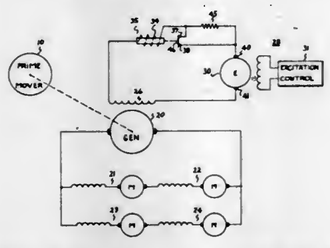


1. In a system for maintaining first and second recurring pulse trains of substantially identical frequency in substantially constant phase relation, the combination comprising means responsive to the pulses of the first train for creating a control signal which has first and second values during approximately the first and second halves of the time period between successive ones of such pulses, means for creating a first output pulse in response to one of said second train pulses occurring while said control signal has its first value, means for creating a second output pulse in response to one of said second train pulses occurring while said control signal has it second value, means for blocking any of said first or second output pulses which occur within a predetermined short deadband interval immediately following the appearance of each pulse in said first train, and means respectively responsive to said first or second output pulses for correctively changing the phase of one of said recurring pulse trains in one sense or the other.

3,368,109
GENERATOR FLASHOVER PROTECTION CIRCUIT ARRANGEMENTS

August V. Johansson, Erie, Pa., assignor to General Electric Company, a corporation of New York

Filed June 15, 1965, Ser. No. 464,062
6 Claims. (Cl. 317—13)

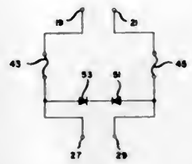


A flashover protection circuit arrangement for a D-C generator wherein resistance is inserted in series with the shunt field winding thereof to reduce the generator excitation only when the current in such shunt field winding exceeds a preselected level, which level is an amount above the normally expected operating level.

3,368,110
SAFETY ADAPTER

Robert A. Taylor, 6640 Hibiscus Ave. S., St. Petersburg, Fla. 33707

Filed July 12, 1965, Ser. No. 471,368
4 Claims. (Cl. 317—16)

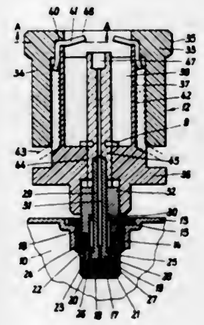


An electrical protective device having input and output terminals, fuses between the terminals and a pair of oppositely poled diodes connected in series across the output terminals.

3,368,111
GAS CIGARETTE LIGHTER

Peter Rabe, Muhlheim (Main), and Horst Dieterle, Frankfurt am Main, Germany, assignors to Heinrich Maltner GmbH, Offenbach am Main, Germany

Filed May 5, 1966, Ser. No. 547,921
Claims priority, application Germany, May 6, 1965, M 65,134
16 Claims. (Cl. 317—85)

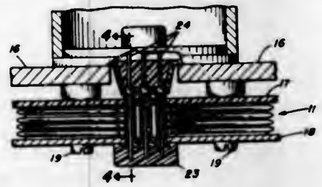


1. A lighter comprising, in combination, tank means adapted to contain a combustible gas under pressure; burner means having a longitudinal axis, an inlet and an outlet end; passage means providing communication between said tank means and said inlet end of said burner means so that gas under pressure may flow from said tank to said outlet end of said burner means; adjustable throttling means in said passage for throttling flow of gas through the latter, said throttling means having an operating portion substantially coaxial with said axis of said burner means and being adjustable by turning said operating portion about said axis; igniting means having active portions for igniting gas emanating from said outlet end of said burner means; and mounting means mounting said active portions of said igniting means upwardly spaced a fixed distance from said outlet end of said burner means, said mounting means having a lower coupling portion substantially coaxial with said axis and being connected to said operating portion of said throttling means so that the latter may be turned by means of said mounting means.

3,368,112
SHIELDING OF ELECTRICAL CIRCUITS BY METAL DEPOSITION

Leroy L. Hellgren, San Jose, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Dec. 18, 1964, Ser. No. 420,256
4 Claims. (Cl. 317—101)

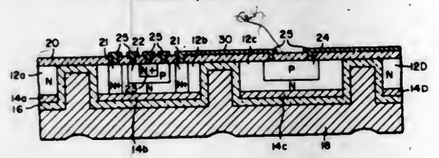


1. A stacked module type electrical circuit comprising:
- a plurality of matrix pages, each of said matrix pages consisting of a conductive metal trace circuit upon which may be mounted electrical components;
- insulation means completely surrounding said trace and said components mounted thereon;
- a conductive shield applied over said insulating material and completely surrounding said matrix page; and
- said matrix pages being adjacent to one another with the shield interconnected in a predetermined manner, said traces being interconnected and providing a predetermined circuit arrangement.

3,368,113
INTEGRATED CIRCUIT STRUCTURES, AND METHOD OF MAKING SAME, INCLUDING A DIELECTRIC MEDIUM FOR INTERNAL ISOLATION

Wallace N. Shaunfield, Richardson, Tex., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 28, 1965, Ser. No. 467,245
4 Claims. (Cl. 317—101)



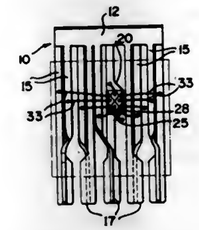
An integrated circuit with dielectric isolation, and method of forming the same, having a metal layer between the device portions and the isolation medium for providing low saturation resistance and fast switching in transistor elements.

3,368,114
MICROELECTRONIC CIRCUIT PACKAGES WITH IMPROVED CONNECTION STRUCTURE

Scott V. Campbell, Melbourne, and Hans Scharla-Nielsen, Indialantic, Fla., assignors to Radiation Incorporated, Melbourne, Fla., a corporation of Florida

Filed July 6, 1965, Ser. No. 469,806
8 Claims. (Cl. 317—101)

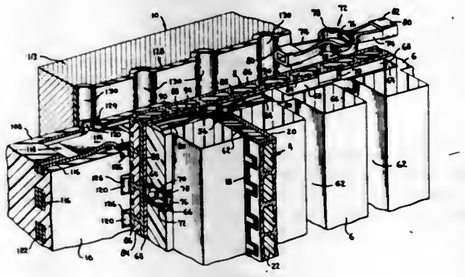
A microelectronic circuit package has a connector support structure for the circuit chips, the structure formed from electrically conductive material and including a common link from which a number of pins project as a keyed male connector array, one of the pins having an offset portion relative to the common plane in which portions of all of the pins lie, the displacement of the offset from the common plane being substantially equal to the thickness of the circuit chip to be bonded to the offset surface, the chip having conductive lands on an exposed face lying in the common plane, which lands are connected to selected points within the common plane on the pins, so that the chip, leads, and pin connection points may be encapsulated in a block of insulative material with the pin tips projecting from a surface of the block, after which the common link may be severed from the pins flush with opposite surface of the block.



3,368,115
MODULAR HOUSING FOR INTEGRATED CIRCUIT STRUCTURE WITH IMPROVED INTERCONNECTION MEANS

Norman Edwin Hoffman, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Filed Oct. 19, 1965, Ser. No. 497,758
10 Claims. (Cl. 317—101)



Interconnection system for electrical components comprises spaced-apart component card connectors. A plurality of component cards extend between the card connectors and are received in the card connectors so that the conductors on the component cards engage contacts in the card connectors. Means are provided for making connections between contacts in the two card connectors thereby to interconnect the components mounted on the cards.

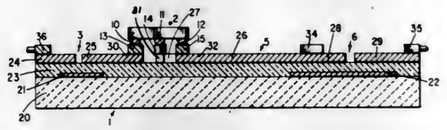
3,368,116
THIN FILM CIRCUITRY WITH IMPROVED CAPACITOR STRUCTURE

Robert W. Spaude, Milwaukee, Wis., assignor to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Jan. 18, 1966, Ser. No. 521,365
4 Claims. (Cl. 317—101)

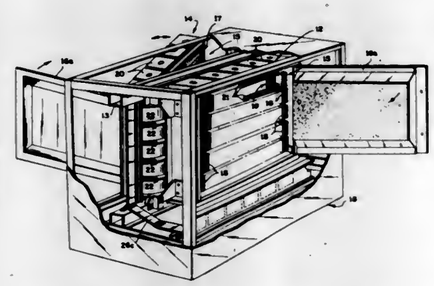
A thin film electrical circuit including a capacitive component comprising superimposed film layers deposited upon a non-conductive supporting substrate, the first layer being of an electrically conductive material to serve as a common electrode, the second film layer being of a non-conducting dielectric material, and the third film layer

comprising a pair of spaced apart, electrically conducting electrode areas, each being in capacitive relationship with



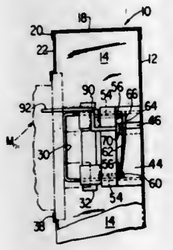
the common electrode defined by the first film layer. Terminal means are respectively connected to each of the spaced apart electrode areas.

3,368,117
VOLTAGE DISTRIBUTION CIRCUIT ARRANGEMENTS FOR HIGH-DENSITY PACKAGING OF ELECTRONIC SYSTEMS
Warren G. Pond, Los Angeles, Frank E. Cooney, Manhattan Beach, and Charles M. Meznarich, Torrance, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed June 13, 1966, Ser. No. 556,988
10 Claims. (Cl. 317—101)



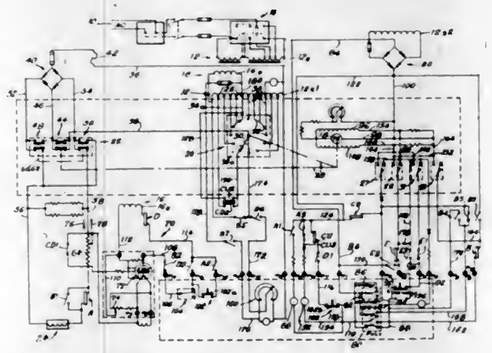
A high-density packaging electronic system structure with improved voltage distribution circuit arrangements utilizing voltage planes which provide a large distributed capacitance for supply voltages.

3,368,118
MANUAL BYPASS FOR METER SOCKETS
Harley J. Orr, Bedford, N.H., assignor to Sola Basic Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 25, 1966, Ser. No. 544,982
6 Claims. (Cl. 317—108)



1. An electric meter socket of the ringless types comprising the combination of a housing, a cover member for closing said housing, an insulating base member, a plurality of spring jaw contacts mounted on said base member, movable leaf spring contact means cooperating with stationary contacts for electrically bridging at least two pairs of said jaw contacts mounted on said base member, an elongated operating member mounted on said base member adjacent said contact means, means supporting said operating member for arcuate angular movement about an axis extending longitudinally of the member, means on said operating member cooperating with said contact means for effecting opening and closing movement of said contact means upon movement of the operating member from one angular position to another, and a manually operable lever means connected to said operating member for actuating said operating member to effect opening and closing of said contact means to a non-bridging and bridging position, respectively, said lever means extending into the closing path of said cover upon operation of the lever to close said contact means, whereby the cover member cannot be closed unless the lever is operated into said non-bridging position.

3,368,119
APPARATUS FOR DEMAGNETIZING
Arthur K. Littwin, Lincolnwood, Ill., assignor to Arthur K. Littwin, Robert L. Littwin, Donald F. Littwin, and Horace A. Young, all of Chicago, Ill., as trustees under trust dated Jan. 2, 1951, known as Littwin Family Trust No. 1
Filed May 1, 1963, Ser. No. 277,253
20 Claims. (Cl. 317—157.5)

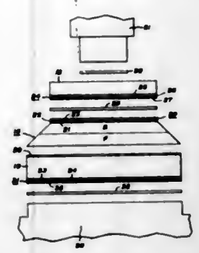


8. Apparatus of the character disclosed for magnetizing and demagnetizing a permanent magnet chuck comprising in combination, A.C. circuit means, rectifier means for converting the A.C. to D.C., circuit means for transmitting the D.C. to the chuck, cycling means operating through a pre-determined cycle for controlling said A.C. and D.C. circuit means and operative for closing the circuit means to the chuck and thereby energizing the chuck, and thereafter in the same cycle opening the circuit means to the chuck, and demagnetizing means controlled by said cycling means for demagnetizing the chuck in a series of steps to a level of saturation near zero.

3,368,120
MULTILAYER CONTACT SYSTEM FOR SEMICONDUCTOR DEVICES
Kenneth E. Rankins, Skaneateles, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 22, 1965, Ser. No. 441,709
5 Claims. (Cl. 317—234)

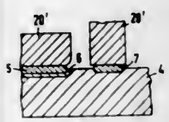
In a PN junction semiconductor device the semiconductor body is secured to one or more support plates by a solder, the adhesion of the bodies is improved by using

a multilayer deposit preferably on both the contact member and the semiconductor body. The multilayers comprise a layer of nickel bonded directly to the bodies, a



layer of iron bonded directly to the nickel and a layer of gold bonded to the layer of iron and the solder is applied between the layers of gold.

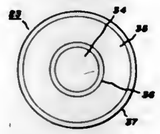
3,368,121
SEMICONDUCTOR THYRISTOR OF PNPN TYPE
Adolf Herlet, Pretzfeld, and Hubert Patalong, Ebermannstadt, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Sept. 1, 1965, Ser. No. 484,228
Claims priority, application Germany, Sept. 12, 1964, S 93,127
5 Claims. (Cl. 317—234)



A semiconductor thyristor includes a monocrystalline flat semiconductor body. The semiconductor body has a substantially planar surface and four zones of alternately different conductivity type forming a PN junction between adjacent ones of the zones. The zones include a pair of outer zones and a pair of inner zones. A first contact electrode is in electrical contact with the planar surface of the semiconductor body in one of the outer zones. A second contact electrode is in electrical contact with the planar surface of the semiconductor body in one of the inner zones adjacent to the one of the outer zones. Each of the contact electrodes has a surface. A pair of electrode leads each has a contact surface positioned in electrical contact with the surface of a corresponding one of the contact electrodes. The contact surface of the corresponding one of the electrode leads extends over the peripheral edge of the first contact electrode toward the second contact electrode.

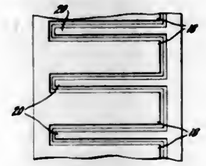
3,368,122
SEMICONDUCTOR DEVICES
Herbert Fishman, Syracuse, and John N. Frank, Auburn, N.Y., assignors to General Electric Company, a corporation of New York
Filed Oct. 14, 1965, Ser. No. 496,069
13 Claims. (Cl. 317—234)

In a semiconductor junction type rectifying device wherein a semiconductor pellet is mounted on or between electrically conductive supporting members or plates, the difference in thermal coefficient of expansion between the semiconductor material and supporting plates is compensated by making at least one supporting plate a relatively thin disk-like member with two major opposed surfaces composed of a composite body having at least one highly conductive (thermally and electrically) disk-shaped member with a relatively high thermal co-



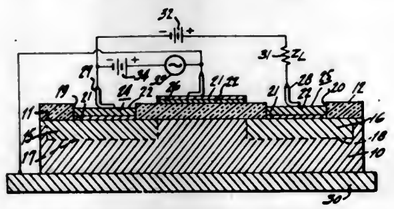
efficient of expansion surrounded and confined by a conductive material which has a much lower thermal coefficient of expansion so that the surrounding material constrains expansion of the more highly expansive material.

3,368,123
SEMICONDUCTOR DEVICE HAVING UNIFORM CURRENT DENSITY ON EMITTER PERIPHERY
Albert D. Rittmann, Kokomo, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 4, 1965, Ser. No. 430,344
10 Claims. (Cl. 317—235)



This disclosure concerns an improved interdigitated electrode design for contiguous regions of alternate conductivity type in which potential drops in the respective regions are matched to provide a uniform current density along a p-n junction between the two regions.

3,368,124
SEMICONDUCTOR DEVICES
Norman H. Ditrick, Somerville, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 9, 1965, Ser. No. 512,656
10 Claims. (Cl. 317—235)

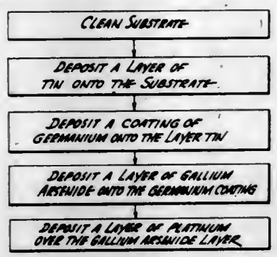


1. A semiconductor device comprising a crystalline semiconductive body, a chromium film on a portion of a surface of said body, an aluminum coating on said chromium film, and an electrical lead wire attached to said aluminum coating.

3,368,125
SEMICONDUCTOR GALLIUM ARSENIDE WITH GERMANIUM CONNECTING LAYER
Edward F. Pasierb, Trenton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 25, 1965, Ser. No. 482,571
3 Claims. (Cl. 317—237)

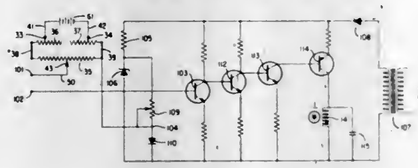
1. A device comprising:
a molybdenum substrate;

a layer of tin on said substrate forming a low resistance contact therewith;
a layer of germanium on said tin layer;



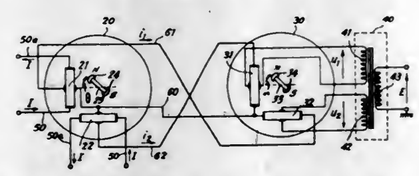
a layer of polycrystalline N-type gallium arsenide on said germanium layer; and
a layer of conducting material on said gallium arsenide layer making a rectifying contact therewith.

3,368,126
RECORDER DRIVE INCLUDING A SINGLE-PHASE, SHADED-POLE, SPRING-BIASED, A.C. MOTOR CONTROLLED BY A POTENTIOMETER CIRCUIT
Jean C. Lejon, Paris, France, assignor to Control Bailey (Societe Anonyme), a company of France
Filed May 20, 1964, Ser. No. 368,909
Claims priority, application France, Nov. 13, 1963, 953,642
4 Claims. (Cl. 318—18)



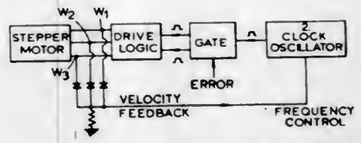
An electric recorder including a single-phase, shaded-pole motor and an indicating member driven in either of two directions depending on the level of an electric control signal applied to the motor. A restoring spring counters the unidirectional indicator movement produced by the motor and establishes counter movement of the indicator when the motor torque developed by the control signal is less than that developed by the spring. Indicator equilibrium is established when the torques respectively developed by the motor and the spring are of equal magnitude and opposite directions.

3,368,127
SYNCHRONIZATION CHAINS
Bernard Grancoin, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed July 1, 1964, Ser. No. 379,636
Claims priority, application France, July 5, 1963, 940,535
5 Claims. (Cl. 318—18)



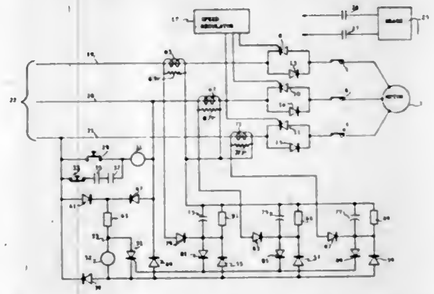
A Hall effect system for various transformations of coordinates comprises a Hall effect apparatus with a rotor and a stator having four Hall probes, arranged in two pairs. The Hall probes of each pair are in perpendicular relationship and respectively parallel to the probes of the other pair and the rotor comprises a permanent magnet with two polar pieces. The probes of each pair are fed in series with currents respectively analogous to the x and y coordinates of a point in a first system of axis. An adding and a subtracting device, having each two inputs and an output, have their inputs respectively connected to the outputs of one Hall probe of each pair.

3,368,128
STEP MOTOR CONTROL CIRCUIT INCLUDING A VOLTAGE CONTROLLED OSCILLATOR
Joseph Reginald Parrish, Richmond, England, assignor to Parrish Instruments Limited, Richmond, England, a British company
Filed Apr. 29, 1965, Ser. No. 451,729
Claims priority, application Great Britain, May 1, 1964, 18,244/64
3 Claims. (Cl. 318—138)



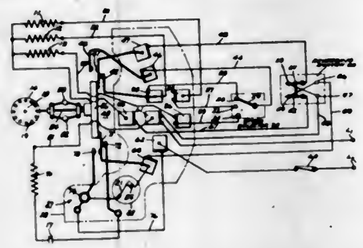
Control of stepping motors and the like in which a feedback or induced voltage through an oscillator controls the speed of the motor in accordance with its speed and/or load.

3,368,129
MOTOR CONTROL CIRCUIT EMPLOYING BRAKE MEANS FOR PROTECTION AGAINST UNBALANCE OF SOURCE CURRENT
Burnette P. Chausse and Charles E. Konrad, Roanoke, Va., assignors to General Electric Company, a corporation of New York
Filed Dec. 15, 1965, Ser. No. 513,944
5 Claims. (Cl. 318—204)



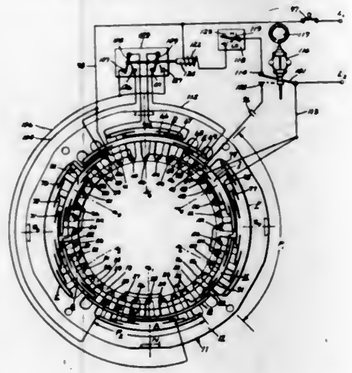
1. A crane control comprising a three phase motor, a three phase power supply, means connecting each phase of said three phase motor to said three phase power supply, three silicon controlled rectifiers, three rectifier diodes, means connecting a silicon controlled rectifier and a diode in parallel in each phase between said motor and said power supply, a speed regulator connected to the gate electrode of each of said silicon controlled rectifier to control the triggering of said silicon controlled rectifier, means for sensing the current in each phase between said motor and said power supply, a brake for stopping said motor, and means responsive to an unbalance between the current in the three phases to apply said brake to said crane motor to stop said crane motor.

3,368,130
ELECTRIC MOTOR WINDING CONTROL AND PROTECTION ARRANGEMENT
Joseph V. Bussone, Sycamore, Ill., assignor to General Electric Company, a corporation of New York
Filed Sept. 13, 1965, Ser. No. 486,963
6 Claims. (Cl. 318—221)



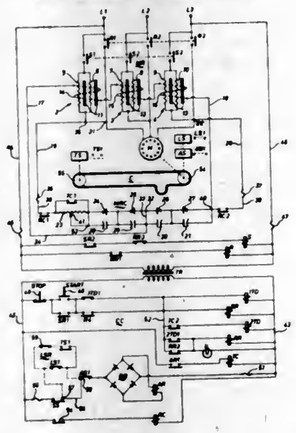
In order to connect main on auxiliary windings to a power source and to protect motor windings below a predetermined speed, a circuit interrupting device responsive to adverse motor conditions is connected in circuit below the predetermined speed with a switching arrangement having at least one switch capable of disconnecting at least auxiliary windings from the source of power. Below the predetermined speed the switching arrangement renders the circuit interrupting device effective to control the energization of the windings including the auxiliary windings. This circuit interrupting device, however, is bypassed at the predetermined speed and is thereby rendered ineffective to control the energization of the windings. Thus, the windings are protected by the device below the predetermined speed against possible damage from adverse motor conditions, and nuisance tripping or recycling of the circuit interrupting device is prevented.

3,368,131
MULTISPEED INDUCTION TYPE ELECTRIC MOTOR SELECTIVELY OPERATIVE WITH AT LEAST TWO PRIMARY MAGNETIC POLES WHICH DIFFER IN NUMBER FOR DIFFERENT RUNNING SPEEDS
Irvine E. Ross, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed Sept. 13, 1965, Ser. No. 487,000
10 Claims. (Cl. 318—224)



To furnish a multispeed induction motor with selective operation at a number of speeds, a stator has at least one preselected primary pole of primary poles P_1 formed by two or more coil groups. These poles produce one speed of operation for the motor, with the two coil groups being in additive magnetic polar relation. To establish primary poles P_2 which differ in number from P_1, the polarity of one of the two coil groups is reversed, the coil groups being excited along with additional coil groups to form poles P_2. Some of these additional coil groups may be connected either in cumulative or differential magnetic polar relation with coils in the one preselected primary pole. The stator also has auxiliary coils which are energized for all conditions of starting. With this arrangement, the attainment of a desired effective ampere-turn pattern for the primary poles and the efficient utilization of the stator slots are permitted.

3,368,132
INDUCTION MOTOR CONTROL FOR STARTING CONVEYOR BELT
Peter de H. Eastcott and Robert N. Rollwagen, Peterborough, Ontario, Canada, assignors to Canadian General Electric Company, Limited, a corporation of Canada
Filed Sept. 18, 1964, Ser. No. 397,576
6 Claims. (Cl. 318—229)



A reduced voltage motor control for controlling the starting of a squirrel cage induction motor coupled to the head and of a conveyor belt, an acceleration sensitive switch connected in cooperation with the motor control so that during starting of the drive motor the power supplied from a power source through a reduced voltage portion of the control to the motor is interrupted whenever acceleration of the head end of the conveyor belt exceeds a predetermined level and is restored when the acceleration has returned to acceptable limits.

The intermittence of application of power supplied decreases with an increase of speed of the conveyor belt until such time when the duration between interruptions is great enough for a timing relay to cause the motor to be directly connected to the power source.

3,368,133
CLOSED LOOP MOTOR CONTROL
Raymond E. Zenner, Glenview, Ill., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 21, 1965, Ser. No. 457,883
12 Claims. (Cl. 318—231)

1. A speed control system for a frequency responsive motor, said motor being a three phase induction motor, the speed of which varies with the frequency of the applied power, said system comprising:
means generating a signal having a frequency which is dependent on the rotational speed of said motor

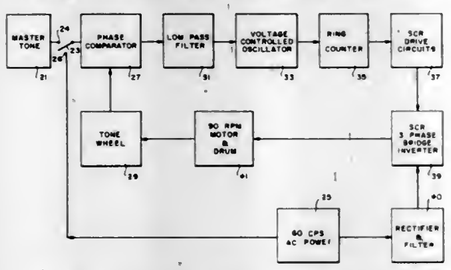
coupled to said motor, said signal generating means having an output;

a standard frequency source having an output;

comparator means for comparing the signal produced by the standard frequency source with the signal generated by said signal generating means, said comparator means having a pair of inputs and an output, and said comparator means producing a direct current voltage signal which is indicative of the change of the speed of said three phase motor, said output of said standard frequency source being connected to one of said comparator inputs, said output of said signal generating means connected to the other one of said inputs;

filter means for eliminating the unwanted alternating current components which may be present in the output of said comparator means, said filter means having an output and an input connected to said comparator output;

voltage controlled oscillator means for generating a three phase alternating current voltage whose frequency is dependent on the value of a direct current voltage said three phase generating means having an output and an input connected to the output of said filter means, said output of said three phase generating means connected to said motor;



means for converting direct current power into three phase alternating current power having a pair of inputs and an output, one of said inputs of said power converting means coupled to said voltage controlled oscillator means;

a source of direct current power connected to the other one of said inputs of said power converting means;

said filter means comprising:

a first, second and third transistor, each having a base electrode, an emitter electrode and a collector electrode, the input to said filter means being connected to said base electrode of said first transistor said emitter electrode of said first transistor being connected to said collector electrode of said second transistor electrode of said third transistor being connected to said collector electrode of said first transistor, said collector electrode of said third transistor being connected to said base electrode of said second transistor;

fourth, fifth and sixth transistors each having a base electrode, emitter electrode and collector electrode;

resistance/capacitance filter means connected between said emitter electrode of said first transistor and the said base electrode of said fourth transistor, said emitter electrode of said fourth transistor being connected to said collector electrode of said fifth transistor, said emitter electrode of said sixth transistor being connected to said collector electrode of said fourth transistor, said collector electrode of said sixth transistor being connected to said base electrode of said fifth transistor;

seventh, eighth and ninth transistors each having a base electrode, emitter electrode and collector electrode; and

T-notch filter means having an input and an output being connected to the base electrode of said seventh transistor, the input of said T-notch filter means being connected to the emitter electrode of said fourth transistor, said emitter electrode of said ninth transistor being connected to said collector electrode of said seventh transistor, said collector electrode of said eighth transistor being connected to said emitter electrode of said seventh transistor and said collector electrode of said ninth transistor being connected to said base electrode of said eighth transistor;

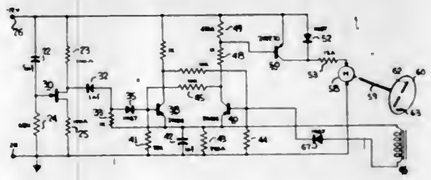
whereby the speed of the motor is accurately controlled.

3,368,134

ROTATABLE MEMBER SPEED CONTROL SYSTEM HAVING ROTATIONAL FREQUENCY AMBIGUITY RESOLVER

Hansel B. Mead, Jr., 1975 Coolidge Ave., and Richard E. Leatherman, 2028 Maid Marion, both of Eau Gallie, Fla. 32935

Filed Oct. 16, 1964, Ser. No. 404,466
10 Claims. (Cl. 318—318)



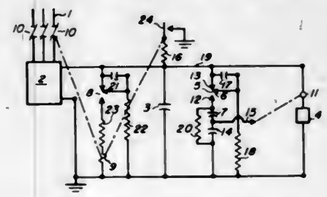
In a speed control system a bistable multivibrator is triggered to a first stable state at the frequency of pulses derived from and proportional to the output frequency of a fixed reference frequency source and to the second stable state at the frequency of pulses derived from and proportional the rotational frequency of a motor shaft. Power is supplied to the motor over the interval of time the multivibrator is in the first stable state and is removed during the time interval associated with operation of the multivibrator in the second stable state, such that the shaft assumes a rotational frequency and phase dictated by the frequency and phase of the reference source. Any tendency for the motor to lock on a harmonic of the reference frequency, i.e., ambiguity, is resolved by viscous loading or damping of the shaft in proportion to angular velocity to an extent sufficient to prevent sustained rotation at other than the reference frequency.

3,368,135

OVERVOLTAGE PROTECTION CIRCUIT FOR CONDENSER DISCHARGE SYSTEM

Aldred E. Schofield and Robert O. Holm, Los Alamos, N. Mex., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Dec. 30, 1964, Ser. No. 422,469
2 Claims. (Cl. 320—1)



A condenser discharge system employing an overvoltage safety circuit wherein a capacitor is discharged through a load or the overvoltage safety circuit by the

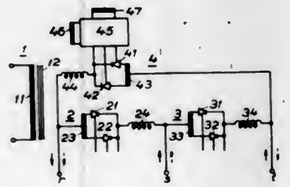
action of a spark gap which employs a third electrode, a resistor and capacitor in such a manner that the third electrode continually arcs in the spark gap and the gap is always ionized.

3,368,136

PHASE AND FREQUENCY CONVERTER INCLUDING A PLURALITY OF POLYGON CONNECTED PHASE BRANCHES

Ulrik Krabbe, Helsingor, Denmark, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation.

Filed June 30, 1965, Ser. No. 468,384
Claims priority, application Sweden, July 27, 1964, 9,071/64
5 Claims. (Cl. 321—7)



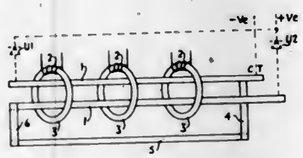
A device for converting a single-phase alternating voltage to a multi-phase alternating voltage of a lower frequency includes a plurality of phase branches connected in D-connection each including a pair of rectifiers connected in parallel with each other and in series between a secondary winding of a transformer (the primary winding of which is common to all the secondaries and is fed by the alternating voltage) and a reactor. The voltage is taken off at the points of connection between the branches.

3,368,137

HIGH CURRENT INTENSITY RECTIFIERS USING BAR-TYPE CONDUCTORS

Irving Graham Kennard, Colerne, and Sydney Arthur Stevens, London, England, assignors to Westinghouse Brake and Signal Company, Limited, London, England

Filed May 11, 1964, Ser. No. 366,245
Claims priority, application Great Britain, May 17, 1963, 19,708/63
10 Claims. (Cl. 321—8)



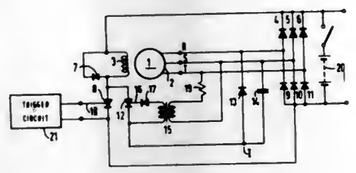
High current intensity rectifying apparatus including bar type conductors that pass through inductive cores having coils thereon. In a first embodiment of the invention, the bar conductors are connected in series in the branch arms of a rectifier network energized by the center-tapped secondary winding of a supply transformer. In this case, the core-mounted coils comprise D-C control windings. In a second embodiment, the bar conductors comprise secondary windings inductively energized by A-C primary coils on the cores, said secondary windings being connected in the branch arms of the rectifier network, respectively.

3,368,138

THYRISTOR CONTROL SYSTEM FOR SUPPLYING RECTIFIED VOLTAGE FROM A THREE-PHASE ALTERNATING-CURRENT SUPPLY

Werner Volkmann, Munich, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt and Erlangen, Germany, a corporation of Germany

Filed Oct. 30, 1964, Ser. No. 407,655
Claims priority, application Germany, Oct. 31, 1963, S 88,112
6 Claims. (Cl. 322—72)



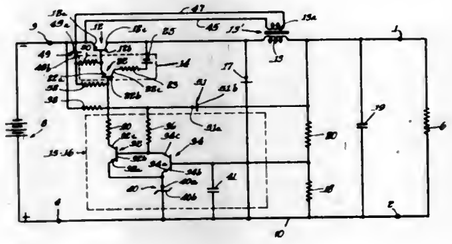
A main thyristor having a main path in series connection in the load circuit of a three-phase alternating voltage feeder is intermittently fired by a trigger circuit. A commutating capacitor and an auxiliary thyristor are connected in series with each other between the load side of the main thyristor and one phase of the alternating voltage feeder for extinguishing the main thyristor. The auxiliary thyristor is fired by a trigger circuit in order to extinguish the main thyristor. A diode connects the capacitor with another one of the feeder phases whereby the capacitor is charged by the phase voltage between the feeder phases.

3,368,139

SWITCHING MODE SERIES VOLTAGE REGULATOR

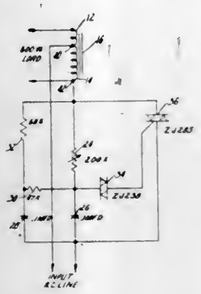
Don E. Wuerflein, Gardena, Calif., assignor to Gulton Industries, Inc., Metuchen, N.J., a corporation of New Jersey

Filed Aug. 4, 1964, Ser. No. 387,457
6 Claims. (Cl. 323—22)



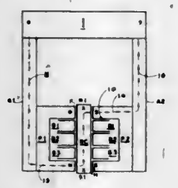
A power transistor connected in series between an input and an output terminal of a series direct current voltage regulator circuit is controlled by a driver transistor having its emitter and collector electrodes connected between the base and collector electrodes of the power transistor, a forward biasing direct current voltage source is connected in series with the emitter and collector electrodes of the driver transistor to oppose the voltage drop across the emitter and collector electrodes of the driver transistor and the base and collector electrodes of the power transistor.

3,368,140
VARIABLE AUTOTRANSFORMER
Frederic S. Tobey, Walpole, Mass., assignor to W. H. Brady Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 12, 1964, Ser. No. 410,528
6 Claims. (Cl. 323—22)



A variable autotransformer system with semiconductor switch elements to control the point in each half cycle at which current may flow through the input winding.

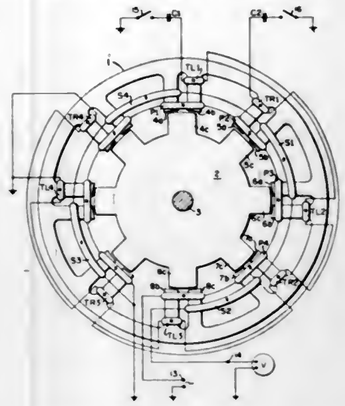
3,368,141
TRANSFORMER IN COMBINATION WITH PERMANENT MAGNET
Carlos Subieta-Garron, Ave. Libertador Bolivar 309, Calacala, Cochabamba, Bolivia
Filed Sept. 23, 1964, Ser. No. 398,604
6 Claims. (Cl. 323—44)



A permanent magnet in combination with a transformer having first and second windings about a core, there being two paths for magnetic flux leading from each pole of the permanent magnet to either end of the core so that when an alternating current induces magnetic flux direction changes in the core the magnetic flux from the permanent magnet is automatically directed through the path which corresponds with the direction taken by the magnetic flux through the core due to the current, whereby the magnetic flux in the core is intensified.

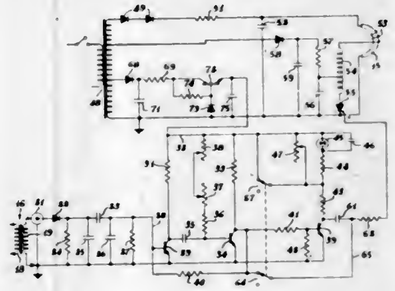
3,368,142
SELF-TESTING VARIABLE TRANSFORMER
John R. Bouchard, Canton, and Henry Packard, Norwood, Mass., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed Nov. 15, 1965, Ser. No. 507,949
12 Claims. (Cl. 323—51)

4. In a variable transformer, first and second ferromagnetic pole pieces, means connecting said pole pieces together in spaced relationship, a third pole piece movably mounted adjacent to and confronting said first and second pole pieces, a primary winding linking said first and second pole pieces, a secondary winding linking said first pole piece, a tertiary winding linking said second pole piece, means for energizing said primary winding with alternating current at a predetermined frequency, a



capacitor resonant with said tertiary coil at said frequency; and switching means operable to connect said capacitor across said tertiary coil.

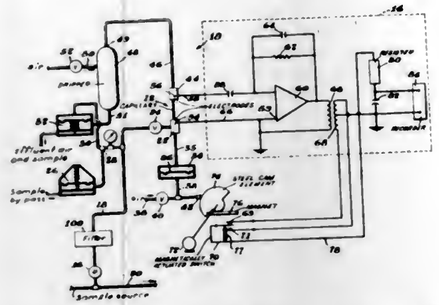
3,368,143
TIMING ADVANCE MEASURING APPARATUS
Roy H. Roberts, Glenview, and Ivan D. Bucik, Chicago, Ill., assignors to Sun Electric Corporation, a corporation of Delaware
Filed Apr. 29, 1965, Ser. No. 451,752
2 Claims. (Cl. 324—16)



Timing advance measuring apparatus for an engine having a spark plug comprising a flashing lamp to illuminate a reference mark on the engine, a control circuit for energizing the lamp, including a flip-flop circuit and an amplifier circuit, and test means including a by-pass switch connected so as to shunt the flip-flop and amplifier circuits for supplying a signal from the spark plug to the lamp switching device.

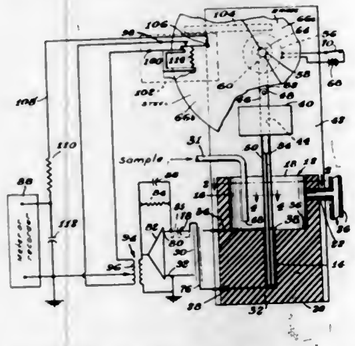
3,368,144
APPARATUS FOR MEASURING CHARGE CONDITION WITHIN A SOLUTION
Walter F. Gerdes, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 315,538, Oct. 11, 1963. This application Mar. 4, 1966, Ser. No. 536,544
22 Claims. (Cl. 324—32)

1. Apparatus for determining a function of the charge condition which is present in a system which includes liquid which contains charge influencing species, comprising tubular flow path means having a free flow path therethrough and having electrically insulating walls, length, and an input and output to and from said flow path means for entry and exit of said liquid, a pair of electrodes, said electrodes being so disposed as to contact liquid flowing through said flow path means, the electrodes being spaced apart from one another with one electrode



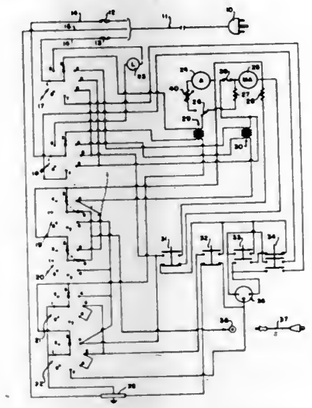
being upstream of the other, the space between said electrodes including at least part of the length of said flow path means, means for providing forward and reverse flow of said liquid in a cyclical manner along said flow path means between said electrodes, signal utilization means, and means for coupling alternating signal components developed across said electrodes to said signal utilization means.

3,368,145
APPARATUS FOR MEASURING CHARGE CONDITION WITHIN A SOLUTION
Walter F. Gerdes, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 315,537, Oct. 11, 1963. This application Mar. 4, 1966, Ser. No. 536,543
11 Claims. (Cl. 324—32)



1. An apparatus for determining a function of the charge condition which is present in a system which includes liquid which contains charge influencing species, comprising a tubular flow path member, said flow path member having electrically insulating walls an open end and a closed end, said flow path member being so disposed that it may be substantially filled with said liquid, a pair of electrodes, one of the electrodes being at least near to the closed end of said flow path member and the other electrode being at least near to the open end of said flow path member, both the electrodes being disposed so as to be contacted by said liquid entering or leaving said flow path member, means for flowing said liquid to and fro in said flow path member in a continuing repetitive manner, means coupled to said electrodes for amplifying any electrical signals induced across said electrodes, and means for utilizing said amplified signals.

3,368,146
ELECTRICAL SAFETY TESTER HAVING A PLURALITY OF SWITCHES FOR SETTING UP TESTS
John E. Regan, 10318 Aster Lane, Prince Georges County, Md. 20788, and Franklin L. Richardson, 5887 Four Mile Run Drive N., Arlington County, Va. 22205
Filed May 25, 1966, Ser. No. 552,989
1 Claim. (Cl. 324—51)



An electrical safety tester having a plurality of switches for setting up tests on electrical power outlets, cords and tools. Power applied to the tester is applied to an indicating lamp to test the power outlet, and, by metering, through a low voltage transformer to test the current carrying capacity of power cords and tools as well as ground circuit continuity and through a high voltage transformer to test the insulation resistance of tools. Power lines containing an isolation transformer are checked for continuity and leakage resistance by means of a meter.

3,368,147
BASIC SEDIMENT AND WATER MONITOR UTILIZING ONE PLATE OF A CONDENSER FOR MOUNTING A HOUSING FOR COMPONENTS OF A CAPACITANCE MEASURING CIRCUIT
Ollie W. Graham, Tulsa, Okla., assignor, by mesne assignments, to Combustion Engineering, Inc., a corporation of Delaware
Continuation of application Ser. No. 174,768, Feb. 21, 1962. This application Jan. 17, 1966, Ser. No. 532,030
2 Claims. (Cl. 324—61)

2. A monitor for the basic sediment and water content of oil well production including:

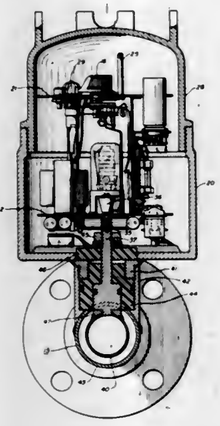
a capacitance probe arranged to directly contact oil well production and including,

a conduit fabricated to be included in a line through which is passed a mixture of the oil and basic sediment and water of an oil well production while functioning as one plate of the probe,

and a second plate of the probe mounted within the conduit in a position that the mixture of oil and basic sediment and water passes between the plates as an electrical condenser;

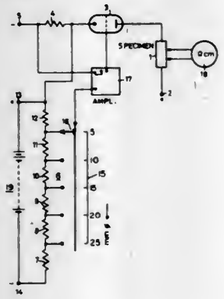
a housing mounted on the external surface of the conduit of the probe;

the first half of a male-female connection mechanically mounted to extend through the walls of the housing and conduit of the probe to make an electrical connection with the second plate of the probe;
a chassis which is manually movable and positionable;
components of a circuit responsive to the changes in capacitance output of the probe mounted on the chassis as a unit;



and the second half of a male-female connection mounted on the chassis at a position to electrically engage the first half of the connection when the chassis is manually positioned into the housing and thereby complete the electrical connection between the circuit components on the chassis and the probe with an electrical connection of such short length that the capacity of the probe and connection will not vary more than a predetermined amount.

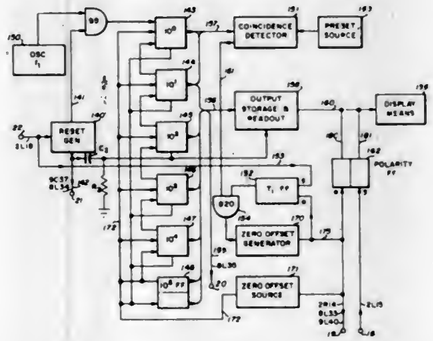
3,368,148
METHOD AND DEVICE FOR MEASURING THE SPECIFIC ELECTRIC RESISTANCE OF ELECTRONIC SEMICONDUCTORS
Hans Stut, Lochham, near Munich, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Oct. 1, 1962, Ser. No. 227,195
Claims priority, application Germany, Sept. 30, 1961, S 76,102
6 Claims. (Cl. 324—64)



1. The method of measuring the specific electric resistance of a solid semiconductor specimen, which comprises

passing a test current through a current control member and the semiconductor specimen;
supplying a reference voltage adjustable in accordance with the cross-sectional diameter of the semiconductor specimen, and presetting the reference voltage to the value correlated to the diameter of the particular specimen being tested;
combining a reference value representing the reference voltage with the test current;
varying the test current by controlling the current control member in dependence upon the departure of the test current from a reference value represented by said preset reference voltage and in the sense required to eliminate said departure; and
tapping a measuring voltage from the specimen along a fixed distance in the current flow direction and applying it to a single voltage responsive instrument calibrated in terms of ohm-cm. of specific resistance.

3,368,149
DIGITAL VOLTMETER HAVING A CAPACITOR CHARGED BY AN UNKNOWN VOLTAGE AND DISCHARGED BY A KNOWN VOLTAGE
Philip D. Wasserman, Atherton, Calif., assignor to Data Technology Corporation, Mountain View, Calif., a corporation of California
Filed June 4, 1965, Ser. No. 461,434
9 Claims. (Cl. 324—99)

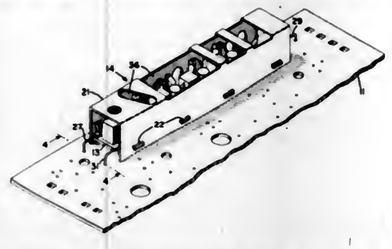


An analog to digital converter employs an integrating circuit which integrates the unknown potential for a fixed period of time. The integrator output is supplied to an amplifier having outputs of opposite polarity, and one of these outputs is used to control a reference potential which is supplied to the integrator circuit. The length of time required for the reference potential to bring the integrator circuit output to a predetermined value is a measure of the magnitude of the unknown voltage.

3,368,150
CONSTRUCTION FOR RADIOS AND THE LIKE
Joseph A. Worcester, Frankfort, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 4, 1965, Ser. No. 423,151
7 Claims. (Cl. 325—357)

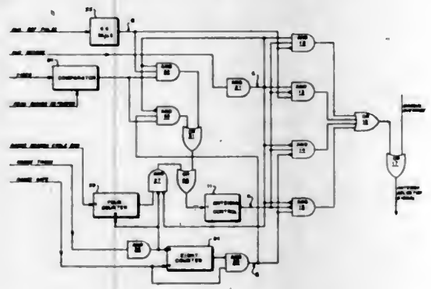
1. A construction for radios and the like having the circuits thereof mounted on a chassis, said circuits including a multi-stage intermediate-frequency amplifier mounted on a portion of said chassis, said construction comprising an elongated sequential arrangement of said stages of the amplifier, and an elongated channel of electrically conductive material positioned around said amplifier, said channel being narrower than the width of said chassis and being dimensioned to function as a waveguide operating below its cut-off frequency with respect

to the signal frequency of said intermediate-frequency amplifier so as to attenuate undesired feedback signals



of said amplifier to a magnitude less than would occur from feedback caused by said chassis.

3,368,151
CONTINUOUS ANTENNA SELECTION SYSTEM
James R. Verwey, Rochester, and Frederick J. Mimken, Fairport, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 27, 1965, Ser. No. 516,791
9 Claims. (Cl. 325—370)

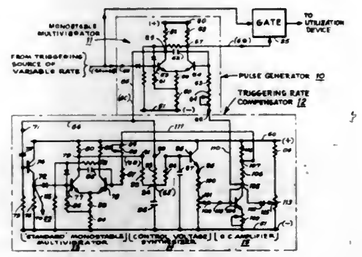


An antenna selection system in a multi-antenna system which maintains a substantially constant check on the strength of the signals received from each antenna and always selects the antenna which is receiving the strongest signal at any given point. Three modes of the system are described: in the first mode, the antennas are sequentially sampled at predetermined time intervals; in the second mode the system will stay with one antenna which first received signal information and remain with that antenna for a predetermined time interval after which another antenna is selected and the strength of the signals again compared. If the strength of the other signal is greater than the first, the system will switch over to the other antenna, otherwise it will remain with the first. The third mode of operation causes the system to switch antennas for small intervals of time during which the strength of one signal is compared with the strength of the previously received signal.

3,368,152
TRIGGERED TIMING GENERATOR COMPENSATED FOR VARIATIONS IN TRIGGERING RATE DUE TO INPUT REPETITION RATE VARIATIONS
Clinton O. Jorgensen, Los Angeles, Calif., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Jan. 29, 1965, Ser. No. 429,025
30 Claims. (Cl. 328—140)

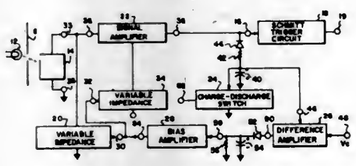
1. In combination, input signal channel means, output signal channel means and a gate controlling timing generator comprising:

pulse generating means responsive to a triggering signal of variable recurrency from the input signal channel means for supplying at least one output pulse during each input cycle and having a duration shorter than the cycle duration and having voltage responsive control means whereby at least one output pulse characteristic is deviated proportional to a control voltage;



compensating means operative in dependency on said pulse generating means for automatically supplying thereto a differential control voltage representing deviation of the triggering signal rate from a reference rate of recurrency, and
gating means connected between said input and said output channel means, said gating means being responsive during the output signal pulse of said pulse generating means to transmit said triggering signal from said input to said output signal channel means.

3,368,153
SHAPER FOR PRODUCING UNIFORM RECTANGULAR PULSES FROM VARIOUSLY SHAPED SIGNALS
Lawrence Garde, Minneapolis, Minn., assignor to General Electric Company, a corporation of New York
Filed May 26, 1965, Ser. No. 459,033
10 Claims. (Cl. 328—164)

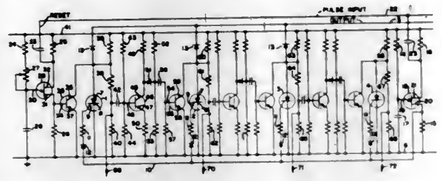


A pulse shaper employs a circuit which transforms signals of varying amplitudes into constant amplitude signals. These constant-amplitude signals are coupled to a trigger circuit which produces uniform rectangular pulses.

3,368,154
STAIRCASE WAVE GENERATOR
Thomas L. Huang, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 7, 1964, Ser. No. 388,223
3 Claims. (Cl. 328—186)

A staircase wave generator in which a plurality of resistances are connected across a source of unidirectional potential. Each resistance includes an intermediate point corresponding to a respective level of the staircase wave. Each of the intermediate points is connected to a ground reference by conduction of a respective voltage controlled

breakdown device connected between the point and the ground reference except when the device is periodically

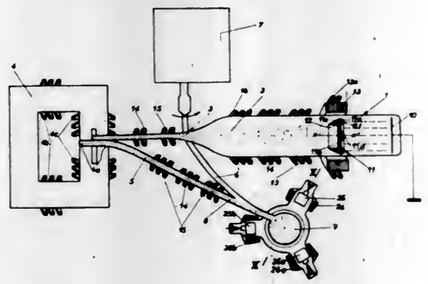


rendered nonconductive. The devices are rendered nonconductive in sequence.

3,368,155
APPARATUS FOR PRODUCING RADIATIONS PENETRATING LIVING CELLS

Antoine Priore, 83 Cours Gambetta, Floirac, Gironde, France

Original application May 23, 1963, Ser. No. 282,604, now Patent No. 3,280,816, dated Oct. 25, 1966. Divided and this application July 11, 1966, Ser. No. 564,336
Claims priority, application France, June 1, 1962, 899,414, Patent 1,342,772
22 Claims. (Cl. 328—233)



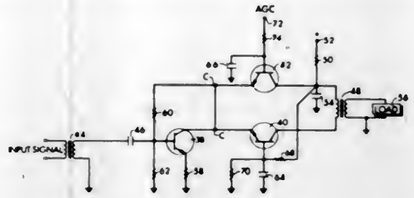
1. An apparatus for obtaining a combination of an electrically charged particle radiation and an electromagnetic radiation that is capable of penetrating matter and notably of ensuring intimate penetration into living tissue and of producing certain effects therein, and more particularly into human tissue for therapeutic purposes, comprising a particle emitter, means for ducting said particles into a cavity serving as a waveguide for an emitter of electromagnetic radiation the wavelength of which lies within the range of centimetric waves, means for generating, and concentrating magnetic fields in the cavity, and means for concentrating and accelerating the resultant radiation issuing from the cavity.

3,368,156
AUTOMATIC GAIN CONTROL CIRCUITS

George H. Kam, Tonawanda, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed June 2, 1965, Ser. No. 460,872
10 Claims. (Cl. 330—18)

An automatic gain control circuit in which the input to common terminal signal path of an amplifier is shunted with a control amplifier which operates in response to a direct current biasing signal to control the gain of the amplifier by a combination of signal shunting, negative feedback, and reverse biasing. In one embodiment, a single transistor common emitter amplifier is controlled by a second transistor, base biased in response to an automatic gain control voltage, having its base electrode coupled to the input terminal of the common emitter amplifier, its collector electrode coupled to RF ground, and its emitter electrode coupled directly to the emitter electrode of the amplifier transistor so as to share its emitter resistor. In another embodiment, a cascode amplifier, comprising a first transistor connected as a common emitter and a second transistor connected as a common base, is controlled by a third transistor, of common base configuration, which is connected so as to control the gain of the second transistor. The input signal is connected from the collector of the first transistor to the emitter electrodes

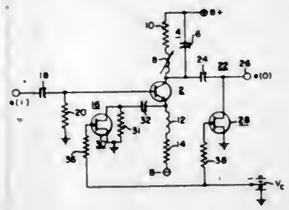


of the second and third transistors. The junction of the emitter electrodes of the second and third transistors is also connected to the base electrode of the first transistor thereby to increase the forward bias of the first transistor in the presence of strong input signals. The gain control signal is applied to the base of the third transistor, and a voltage divider is connected at the base of the second transistor to keep the bias voltage at that point relatively constant. The collector of the second transistor is coupled to an output load and the collector of the third transistor is coupled to RF ground.

3,368,157
CIRCUITRY FOR STATIC BANDWIDTH CONTROL OVER A WIDE DYNAMIC RANGE

Harry J. Fumea, Jr., and Robert L. Parks, Baltimore, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 20, 1965, Ser. No. 457,452
3 Claims. (Cl. 330—24)



A bandwidth control circuit utilizing voltage controlled impedance elements such as field effect transistors in the output and common impedance of a semi-conductor translating device, such as the transistor. A control signal simultaneously controls the magnitude of the output impedance and the magnitude of the common impedance to vary the bandwidth and maintain constant center frequency gain as the bandwidth is varied, respectively.

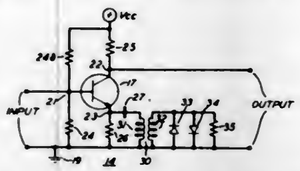
3,368,158
LOW-LEVEL AUTOMATIC GAIN CONTROL CIRCUITRY

William J. Brown, Brielle, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 14, 1965, Ser. No. 455,714
15 Claims. (Cl. 330—28)

1. An AC signal amplifier comprising, in combination, an active element having input and output electrodes,

means including said element responsive to an input signal to said amplifier for generating a control signal proportional to said input signal, coupling means including a first portion and a second portion for effecting a voltage step-up therebetween, a feedback loop including at least one resistive element connecting said input and output electrodes, first circuit means including a capacitive circuit element and said first coupling portion in series relation connected in shunt relation to said feedback loop, and

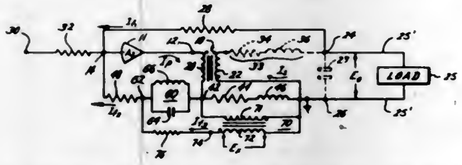


second circuit means including said second coupling portion responsive to said control signal for inducing a non-constant impedance in said first coupling portion, said impedance varying from substantially zero for magnitudes of input signals above a preselected level to relatively high impedance values for said input signals below said preselected level, whereby feedback signals are generated to attenuate only those input signals below said preselected level.

3,368,159
FEEDBACK SYSTEMS WITH OUTPUT INDUCTIVE DEVICES

Peter L. Richman, Lexington, Mass., assignor, by mesne assignments, to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware

Filed Oct. 29, 1964, Ser. No. 407,449
10 Claims. (Cl. 330—103)



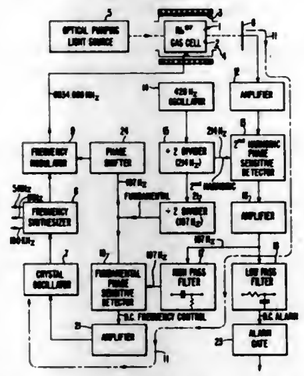
A feedback system includes an amplifier having two negative feedback circuits commonly coupled to the amplifier input. The output of the amplifier is A.C. coupled, for instance by a transformer, to one end of both feedback circuits and to a system output terminal that is coupled to the output winding of the transformer. One of the negative feedback circuits provides a first feedback current from the system output terminal to the amplifier input whereas the other negative feedback circuit provides a feedback current from the transformer input winding to the amplifier input. A third circuit is coupled to said other negative feedback circuit and includes at least one impedance that is scaled to at least one of the impedances which causes the A.C. coupling to exhibit less than ideal coupling characteristics. In those instances when a transformer is utilized as the A.C. coupling device, the additional circuit comprises a series resistance and inductance having values scaled to the lumped series resistance and inductance of the transformer so that the feedback current from said other negative feedback circuit exactly nullifies those components of feedback current that are generated by the lumped series resistance, inductance and capacitance of the transformer at resonant frequency.

In accordance with another embodiment of this invention, a high-pass or band reject filter is utilized in the second negative feedback circuit to nullify said additional network at frequencies over which amplifier regulation is to be maintained as high as possible.

3,368,160
ATOMIC FREQUENCY STANDARD EMPLOYING TANDEM SECOND HARMONIC AND FUNDAMENTAL PHASE SENSITIVE DETECTION FOR FREQUENCY LOCK

Alan L. Helgesson, Los Altos Hills, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Dec. 9, 1966, Ser. No. 600,502
9 Claims. (Cl. 331—3)

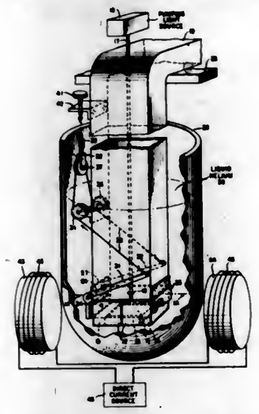


The present invention relates in general to atomic frequency standards or clocks and, more particularly, to an improved frequency lock feedback control network for such standards which employs two stage phase sensitive detection and simple resistance-capacitance filters, whereby the frequency control loop is rendered insensitive to frequency shifts in the control loop and whereby relatively heavy and bulky tuned filters are eliminated. Such improved atomic frequency standards are especially useful for, but not limited in use to, providing synchronized time standards for a worldwide manned space control and tracking network.

3,368,161
CYCLOTRON RESONANCE MASER AND LASER USING A MULTIPLE-VALLEY SEMICONDUCTOR AND THE INTERVALLEY PHOTON

John C. Hensel, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

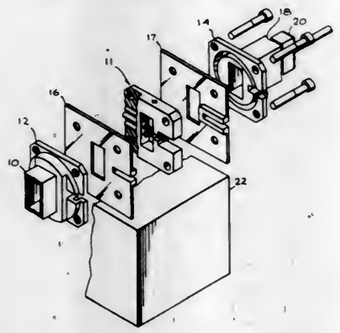
Filed Sept. 20, 1966, Ser. No. 580,807
6 Claims. (Cl. 331—94)



A cyclotron resonance laser is disclosed which employs a multiple-valley semiconductive material. Typically, uniaxial stress is applied to perturb the cyclotron

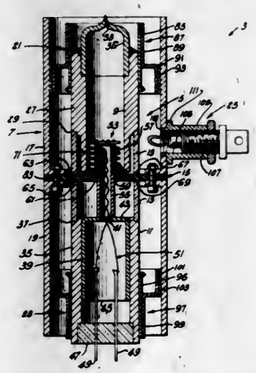
energy levels in the multiple valleys so that the reabsorption of the stimulated radiation by electrons in the upper laser level is inhibited, apparently by the intervalley phonon. Establishment of a population inversion is thereby facilitated. Far infrared and microwave embodiments are disclosed.

3,368,162
MICROWAVE GENERATOR HAVING PULSED FERRITE BODY
Herbert J. Shaw, Stanford, and Arthur Karp, Los Altos, Calif., assignors to Research Corporation, New York, N.Y., a non-profit corporation of New York
Filed May 17, 1966, Ser. No. 550,858
11 Claims. (Cl. 331—96)



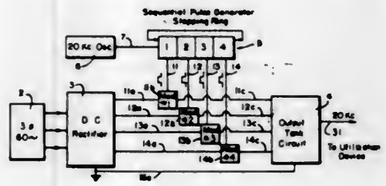
1. In a microwave generator of the type in which a coil is excited to provide a magnetic field for causing a ferrite body disposed centrally therein to oscillate, an improved structure for said coil comprising a substantially elongated rectangular block of conductive material having an opening extending along an axis through said block near one end thereof, a first slot extending through said one end of said block in a plane substantially perpendicular to the axis of said opening, and to a depth terminating beyond said opening, and a second slot extending from the other end of said block to said opening in a plane substantially perpendicular to the plane of said first slot.

3,368,163
RUGGEDIZED HIGH FREQUENCY APPARATUS
Charles F. Douglass, Emporium, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed May 28, 1964, Ser. No. 371,025
7 Claims. (Cl. 331—98)



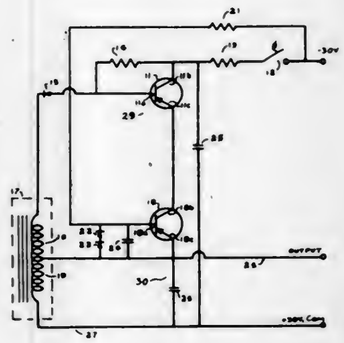
Ultra-high frequency apparatus includes an electron discharge device having a disc-shaped lead-in normal to and passing through an envelope with a plurality of spaced apertures in the lead-in external to the envelope. Also, a resonator includes a pair of cylinders each having a ring-like end with circumferentially spaced holes therein. The apertures of the lead-in are aligned with the holes of the cylinders to provide means for affixing the cylinders to opposite surfaces of the lead-in and a feedback path intermediate the cylinders of the resonator.

3,368,164
HIGH FREQUENCY, HIGH POWER SOLID STATE GENERATOR
Jack Shapiro, 5 Lynn Drive, Englewood Cliffs, N.J. 07632
Filed May 21, 1965, Ser. No. 457,669
4 Claims. (Cl. 331—117)



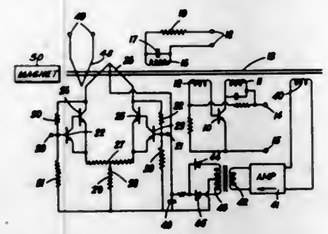
A system for generating high power (up to megawatts) at frequencies in excess of ten kilocycles, by successively triggering a sequence of semiconductors such as silicon controlled rectifiers, which are, individually, low frequency devices, and combining all of their outputs into a single output circuit.

3,368,165
LOW DISTORTION AUDIO OSCILLATOR
Ralph E. Allison, 451 Awa St., Hilo, Hawaii 96720, and Vernon Cannon, 6033 McNees Ave., Whittier, Calif. 90606
Filed Jan. 21, 1966, Ser. No. 524,652
4 Claims. (Cl. 331—117)



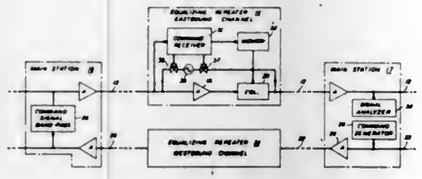
A common base transistor is used to isolate the emitter follower oscillator transistor from the LC resonant circuit and improve the resonant Q and reduce distortion in an audio oscillator. Compatible diodes are used to control the bias voltage on the common base transistor to give temperature stability.

3,368,166
VARIABLE FREQUENCY VOLTAGE-CONTROLLED OSCILLATOR WITH CONTROL CIRCUIT ISOLATED FROM FIXED POTENTIALS
Willie Fletcher, Chertsey, England, assignor to Dynatel Limited, Feltham, England, a British company
Filed Apr. 15, 1966, Ser. No. 542,857
Claims priority, application Great Britain, June 16, 1965, 25,528/65
6 Claims. (Cl. 331—117)



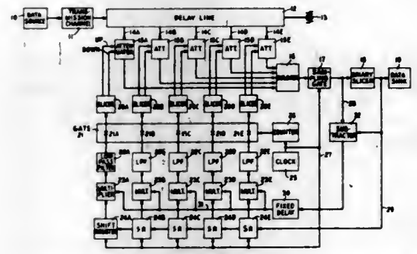
A voltage-controlled oscillator having a frequency dependent on an input control voltage comprising a transistor with output and feedback windings on a ferromagnetic core, control means for magnetically biasing the core, a voltage responsive transistor circuit for feeding a further winding on the core in accordance with an input control voltage so as thereby to alter the reluctance of the core and hence the frequency of oscillation, an amplifier for amplifying part of the oscillator output, and a transformer coupling the amplifier output to rectifying means for rectifying the amplified oscillations to provide DC power for said voltage responsive circuit. The voltage responsive circuit is thus completely isolated from any outside source of power and hence is isolated from ground potential.

3,368,167
APPARATUS FOR EQUALIZING A TRANSMISSION SYSTEM
Robert S. Graham, Boxford, Mass., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 7, 1965, Ser. No. 454,097
9 Claims. (Cl. 333—18)



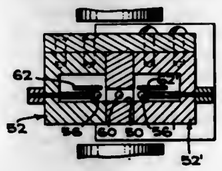
1. In combination, a transmission channel including a main station and a remote station, an equalizer connected with said channel at said remote location, a digital memory circuit at said remote location, a digital to analog converter at said remote location, means at said remote station to connect said digital memory circuit to said digital to analog converter, means at said main station for generating a command signal and for applying said command signal to said channel, receiving means at said remote location for changing the state of said digital memory circuit in response to said command signal, means for varying the output of said digital to analog converter as said digital memory circuit changes state, a control element interconnected with said equalizer for adjusting the frequency response of said equalizer, and means for periodically varying the impedance of said control element in response to changes in the output of said digital to analog converter.

3,368,168
ADAPTIVE EQUALIZER FOR DIGITAL TRANSMISSION SYSTEMS HAVING MEANS TO CORRELATE PRESENT ERROR COMPONENT WITH PAST, PRESENT AND FUTURE RECEIVED DATA BITS
Robert W. Lucky, Red Bank, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 2, 1965, Ser. No. 460,794
6 Claims. (Cl. 333—18)



1. Apparatus for adaptively and continuously adjusting the attenuators in a transversal equalizer connected to a distorting transmission channel comprising
a digital data source applying signals to said channel,
means sampling at signaling intervals the output amplitude of said equalizer after said signals have traversed said channel and equalizer,
means slicing the output of said equalizer to a standard amplitude at the correct polarity to represent each estimated data signal,
means taking the difference between the outputs of said sampling and slicing means to obtain an overall distortion component,
means multiplying the present distortion component by successive outputs of said slicing means,
means separately integrating the successive products from said multiplying means over a plurality of data intervals, and
means incrementally adjusting said attenuators in inverse relation to the polarity of the separate outputs of said integrating means.

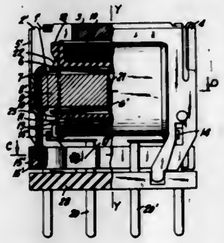
3,368,169
TUNABLE BANDPASS FILTER
Philip S. Carter, Palo Alto, and Arvia L. Pierce, Fremont, Calif., assignors to Stanford Research Institute, Menlo Park, Calif., a non-profit corporation of California
Filed May 8, 1964, Ser. No. 365,990
5 Claims. (Cl. 333—73)



1. A bandpass filter which comprises an input strip-transmission line for electro-magnetic energy, a first ferrite resonator exposed to the electro-magnetic fields in said input strip-transmission line, means for immersing said first resonator in a direct-current magnetic field to

establish a predetermined gyromagnetic resonant frequency therein, an output strip-transmission line adjacent said input strip-transmission line, a second ferrite resonator in said output strip-transmission line, means for immersing said second resonator in a direct-current magnetic field to establish substantially the same gyromagnetic resonant frequency therein, and means for coupling the magnetic fields of said resonators to effect transmission of energy from said input strip-transmission line to said output strip-transmission line in the frequency band including the resonant frequencies of said resonators, said coupling means including a coupling aperture whose longitudinal dimension is parallel to the longitudinal dimension of the adjacent strip transmission line so that substantially no direct coupling of the radio frequency fields exists.

3,368,170
POLARIZED ELECTROMAGNETIC RELAY
Hans Sauer, Munich, Germany, assignor to Matsushita Electric Works, Ltd., Osaka, Japan
Filed Mar. 3, 1966, Ser. No. 531,570
Claims priority, application Germany, Mar. 4, 1965, S 95,770
20 Claims. (Cl. 335—86)

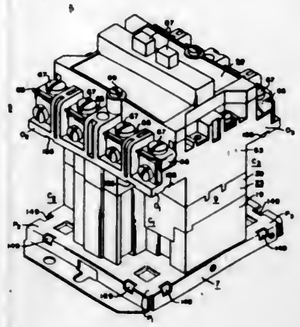


A polarized electromagnetic relay is disclosed as including a permanent magnet structure including at least one permanent magnet and providing a polarized permanent flux path extending between a pair of opposite magnetic poles. The magnetizing winding is wound on a generally tubular spool or diamagnetic material, and a pair of relatively elongated bearing plates of diamagnetic material extend in laterally spaced parallel relation through the spool and have their ends supported in the permanent magnet structure. The armature extends through the spool, between these plates, and is swingably mounted on a bearing pin extending between the plates at substantially the center of gravity of the armature.

The opposite ends of the armature carry contact operators extending toward the base of the relay, and the lower ends of these operators are operatively associated with the free ends of contact springs carrying movable contacts selectively engageable with stationary contacts on the base. Adjusting springs are associated with each operator, and extend upwardly from the oposite ends of the armature. These springs, in one embodiment of the relay are so disposed that they serve as separators between the respective end of the armature and the associated magnetic poles. The springs may either be diamagnetic material or may be ferromagnetic material.

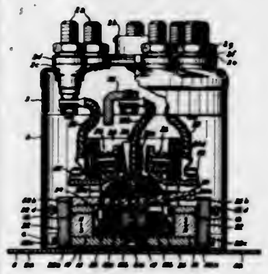
In another embodiment of the invention, pivotal bridges of paramagnetic iron are provided, and are spring biased, to short out a part of the permanent magnetic flux whereby to provide a stable position for the armature. In this latter embodiment of the invention, novel movable contacts are mounted on the contact springs. A further feature of the disclosure is the connection of the ends of the winding to spring metal strips which bear on pins mounted in the base, these pins serving as the connections of the magnetizing winding.

3,368,171
ELECTRIC CONTROL DEVICES WITH MECHANICAL INTERLOCK
John P. Conner and Kurt A. Grunert, Beaver, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Application Aug. 10, 1966, Ser. No. 571,582, now Patent No. 3,339,161, dated Aug. 29, 1967, which is a division of application Ser. No. 369,715, May 25, 1964, now Patent No. 3,296,567, dated Jan. 3, 1967. Divided and this application May 25, 1967, Ser. No. 641,230
9 Claims. (Cl. 335—120)



An improved contactor combination is provided comprising two similar contactors mounted in a side-by-side relationship with a mechanical interlock disposed in a common pocket formed by two adjacent cavities in the contactors, which interlock serves to limit the contactors to alternate operation.

3,368,172
HERMETICALLY SEALED POWER CONTACTOR COMPLETELY ADJUSTED BEFORE ENCLOSED IN A PLURAL PART HOUSING
James H. Bigelow and Joseph M. Hart, Milwaukee, Roy Hyink and John A. Quaal, Wauwatosa, Albert C. Snowdon, Milwaukee, and Merle R. Swinehart, Brookfield, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Mar. 30, 1965, Ser. No. 443,966
10 Claims. (Cl. 335—124)



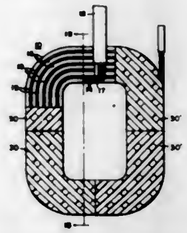
Hermetically sealed power contactor provided with a three part housing enabling complete assembly and adjustment of the electromagnetic contactor mechanism before it is sealed in the housing. The terminals are mounted in the top part, the contactor is mounted to the intermediate part and the lower part closes the open bottom. The electromagnetic contactor mechanism is provided with upstanding movable contacts on a rocking armature for engaging double-throw stationary contacts mounted on a surrounding insulating base. Auxiliary switches are mounted on opposite sides of the armature and control contacts are mounted below the armature.

3,368,173
HERMETICALLY SEALED, PRESSURE RESPONSIVE, MAGNETICALLY ACTUATED SWITCH DEVICE
Byron F. Wolford, Rte. 1, Lakewood Addition, Fergus Falls, Minn. 56537
Continuation of application Ser. No. 284,566, May 31, 1963. This application Apr. 27, 1967, Ser. No. 634,392
4 Claims. (Cl. 335—207)



A hermetically seealed pressure responsive switch wherein pressure forces an arm with a first magnet on the end thereof toward a second magnet which is mounted on a microswitch actuator arm. The magnets are oriented with like pole faces facing each other such that the first magnet repels the second to actuate the microswitch.

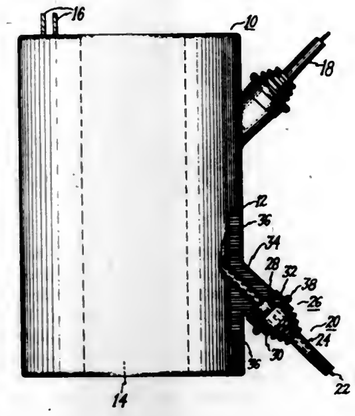
3,368,174
SPACER FOR PANCAKE COILS
Heinz G. Fischer, Muncie, Ind., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Original application May 21, 1962, Ser. No. 196,089, now Patent No. 3,252,117, dated May 17, 1966. Divided and this application Oct. 11, 1965, Ser. No. 494,506
3 Claims. (Cl. 336—60)



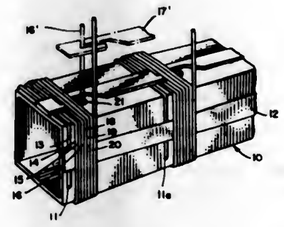
An insulating and spacer member for axially separating pancake type coils in an electrical transformer. The insulating and spacer member is formed of a sheet of electrical insulating material having spaced ridges and furrows, which form first and second wavy opposed surfaces, the extremities of which lie on spaced parallel planes and define the axial dimension of the member. The insulating and spacer member has a plurality of transverse openings therein which extend completely through the member, and which co-operate with the ridges and furrows to direct cooling fluid in the transformer both longitudinally and transversely to said member.

3,368,175
VOLTAGE LEAD ENTRANCE FOR ENCAPSULATED ELECTRICAL DEVICES
Bertrand V. Giegerich, Charles H. Bliss, and Frank S. Nichols, Pittsfield, Mass., assignors to General Electric Company, a corporation of New York
Filed Apr. 8, 1966, Ser. No. 541,332
2 Claims. (Cl. 336—84)

A sealed lead entrance for the electrical conductors of an encapsulated electrical apparatus. The lead entrance is an epoxy bushing molded to the insulation of the electrical conductor and provided with a key in the form of a truncated cone which is imbedded in the encapsulating material with the largest diameter of the cone farthest into the material. A high voltage shield termination is provided about the bushing in the form of a metal sleeve having a rounded outer edge. The metal sleeve is bonded to a grounded conductive coating on the surface of the encapsulated material.

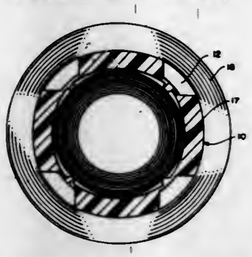


3,368,176
COIL ANCHOR STRIP AND METHOD OF USING
Edwin C. Rechel, 85 Lancaster Road, Shirley, Mass. 01464
Continuation-in-part of application Ser. No. 519,288, Jan. 7, 1966, which is a continuation-in-part of application Ser. No. 353,774, Mar. 23, 1964. This application Nov. 25, 1966, Ser. No. 596,958
5 Claims. (Cl. 336—192)



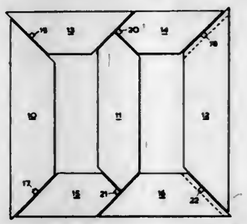
1. A coil lead anchor strip comprising a uniform width elongated ribbon having a plurality of longitudinally spaced, generally L-shaped openings, each opening having a throat portion extending transversely inwardly from one longitudinal edge of said ribbon and a slot portion connection with said throat portion and forming in effect a right angled extension thereof and extending thereby longitudinally of said ribbon, said throat and slot portions defining an integral tongue for each L-shaped opening, one end of said tongue defining one edge of said throat, said tongue end being beveled and defined by angularly inclined sides having an included angle of between 120° and 160°, the other edge of said throat portion extending at an angle of about 60° to 80° relative to said one longitudinal edge.

3,368,177
WOUND INDUCTOR COIL FORM
Raymond H. Hilgers, Roselle, Ill., assignor to Resinite Corporation, Wheeling, Ill., a corporation of Illinois
Filed June 7, 1966, Ser. No. 555,776
6 Claims. (Cl. 336—208)



A coil form for supporting an electrical winding. The coil form comprises an elongated tubular body provided with a plurality of circumferentially spaced longitudinally extending recesses in the outer wall thereof. The recesses define thin web portions which connect relatively thick portions adjacent each recess, and each web portion is provided with an interiorly projecting web for engagement with a core. The outer surface of the web portions are spaced from the outer surfaces of the thick portions to permit outward flexure of the web portions.

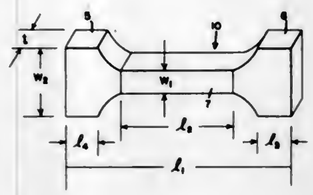
3,368,178
LAMINATED MAGNETIC CORE STRUCTURES
Donald Anthony Bennett and Ephriam Armishaw, Stafford, England, assignors to The English Electric Company Limited, Strand, London, England, a company of Great Britain
Continuation of application Ser. No. 322,575, Nov. 7, 1963. This application Aug. 11, 1966, Ser. No. 571,947
Claims priority, application Great Britain, Nov. 14, 1962, 43,027/62; July 5, 1963, 26,724/63
6 Claims. (Cl. 336—217)



This invention is concerned with a laminated magnetic core structure having interleaved butt joints between adjacent portions thereof with passages through the interleaved parts of the joints. The invention provides the passages by the joinder of the end of one lamination having a portion cut out from the end thereof, with the plain straight end of one or more adjacent laminations. Improved and consistently good butt joints between laminations are obtained and the risk of the inadvertent closing of a passage by one or more displaced laminations is eliminated.

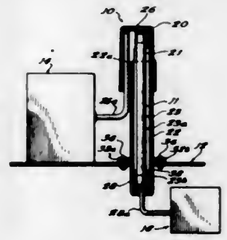
3,368,179
TEMPERATURE COMPENSATED SEMICONDUCTOR STRAIN GAGE
James F. Elliott, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 30, 1966, Ser. No. 538,687
5 Claims. (Cl. 338—3)

A compensated element for a semiconductor strain gage is provided wherein the gage element includes the semiconductor material connected mechanically in series with a compensating material which has a relatively high coefficient of linear thermal expansion compared to that of the semiconductor material and preferably the compensating material is composed of two equal lengths positioned at opposite ends of the segment of semi-



conductor material. Sensitivity is improved in a preferred arrangement by providing the compensating material with a cross-sectional area which is relatively large as compared to the cross-sectional area of the semiconductor segment.

3,368,180
MOUNTING CAPSULE FOR ELECTRICAL COMPONENT
Robert E. Wayland, Niles, and George B. Lazarow, Park Ridge, Ill., assignors to Warwick Electronics Inc., a corporation of Delaware
Filed Apr. 15, 1965, Ser. No. 448,406
4 Claims. (Cl. 338—315)

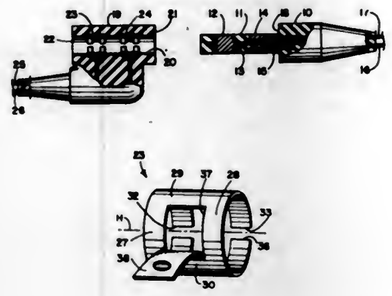


An insulating capsule for mounting a resistor to the chassis of a wave signal receiver comprising two hollow telescopically related capsules having spring clips at opposite closed ends to mount a resistor between them, one of the capsules having a separate insulated lead wire channel for connecting a lead wire to a mounting clip and both capsules having stepped interiors to facilitate registration and assembly of the capsules and the resistor.

3,368,181
ELECTRICAL CONTACT FOR USE IN FLUID-PROOF CONNECTORS
Donald J. Gimpel, Santa Monica, Calif., assignor to Winsco Instruments & Controls Company, Inc., a corporation of California
Filed Apr. 15, 1966, Ser. No. 542,850
1 Claim. (Cl. 339—61)

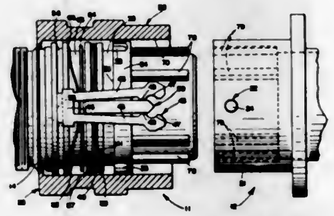
This disclosure relates to an electrical contact for use in a fluid-proof connector socket such as shown in United States Patent No. 3,277,424. The socket in question is of cylindrical configuration and the electrical contact is in the form of parallel longitudinal strips of metal integrally connected by two transversely extending strips intermediate the ends of the longitudinal strips, the configuration being rolled in a cylindrical shape with the opposite ends

of the longitudinal strips in opposing relationship. This cylindrical shape or sleeve structure provides multiple



contact points with a cylindrical plug member contact dimensioned to be received within the cylindrical socket.

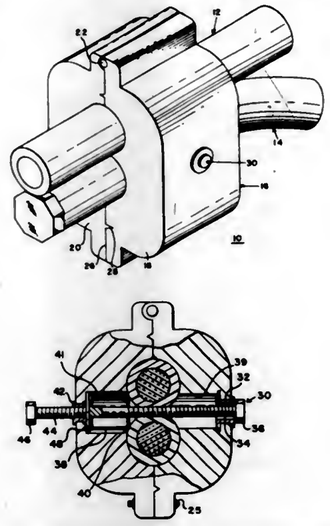
3,368,182
AXIALLY OPERATED COUPLING DEVICE
Perrin C. Culver, Banning, Calif., assignor to The Deutsch Company Electronic Components Division, Banning, Calif., a corporation of California
Filed Oct. 11, 1965, Ser. No. 494,607
9 Claims. (Cl. 339—91)



A coupling device including a locking member having a flange received in a recess in a first member and having a bifurcated portion extending from the flange and movable between open and closed positions and, when in said closed position, engaging a projecting element on a second member for joining the first and second members, the device including a spring-biased tongue movable to open the bifurcated portion of said locking member to allow separation of the first and second members, the tongue being movable between the sections of the locking member to prevent closing thereof when the first and second members are separated.

3,368,183
CONNECTOR MEANS AND METHODS FOR RELATIVELY SOFT CONDUCTORS
William Sewell Watts, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed June 29, 1966, Ser. No. 561,470
16 Claims. (Cl. 339—98)

1. In a connector device for mechanically and electrically joining electrical cables which include a conductive material having the general characteristics of sodium, a body member for housing a first and at least a second cable, said body member having means to mechanically join said cables and to seal the housed surfaces of said cables, means to cut through portions of each cable to define a common void therebetween exposing the conductive material of each cable, means to extrude the conductive material of at least one of said cables to fill said void



and form a body of conductive material extending between the conductive materials of the two cables whereby to effect an electrical connection thereof.

3,368,184
SOCKET FOR ELECTRIC BULBS, ESPECIALLY FOR VEHICLE LAMPS
Helmut Braun, Frondenberg (Ruhr), Germany, assignor to Unlon Sils, van de Loo & Co., Frondenberg (Ruhr), Germany
Filed May 31, 1966, Ser. No. 553,997
Claims priority, application Germany, June 4, 1965, U 11,782
7 Claims. (Cl. 339—103)

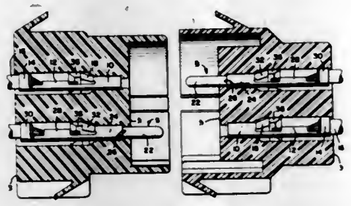


1. A socket for electric bulbs, especially for vehicle lamps, which includes: a bushing having a top surface and a bottom surface and also having a bore therethrough extending from said bottom surface to said top surface and being provided with thread winding means for engaging the threaded portion of a bulb inserted into said bore, said bushing additionally being provided with a cranked passage arranged laterally of said bore and extending from said bottom surface to said top surface, said passage having a first section open along its length toward said bore for receiving an insulation covered electric current conducting wire, said passage also comprising a second section communicating with said first section and extending to said top surface while being offset to said first section in the direction toward the outer periphery of said bushing for receiving an exposed wire portion of an insulation covered wire introduced into said first section and permitting bending of said exposed wire portion into said bore against that wall portion thereof which is adjacent said second section.

3,368,185
ELECTRICAL CONNECTOR ASSEMBLY

Harry J. Dell, Mechanicsburg, and William J. Garver, Harrisburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed Nov. 8, 1966, Ser. No. 592,931
6 Claims. (Cl. 339—217)

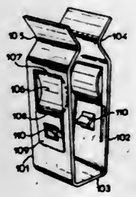


1. An electrical connector housing comprising a one-piece molding of insulating material, said housing having a contact receiving cavity extending therethrough from its rearward side to its mating side, said cavity having a plurality of bosses extending radially inwardly intermediate its ends, said bosses being equally spaced apart and being separated by gaps of a given width, said bosses defining first shoulders facing said mating face, said cavity having a plurality of axial ribs extending from said mating end towards said bosses, said ribs having a width equal to said given widths of said gaps and being in alignment with said gaps, said ribs each having an inwardly projecting tooth adjacent to said mating end, said teeth defining rearwardly facing second shoulders opposed to said first shoulders, said cavity being adapted to receive either a pin contact or a socket contact, either type of contact having means cooperable with said first and second shoulders for retaining said contacts against rearward and forward movement respectively, and said teeth being adapted to support the reduced diameter contact tip portion of a pin contact.

3,368,186
ELECTRICAL CONNECTOR

Gerard Benoit, 6 Rue du Cirque, Paris, France; Ferdy Mayer, 22 Rue Ampere, Grenoble, France; Franz Mayer, 6 Rue du Cirque, Paris, France; and Pierre Thomas, 2 Rue Charles Goumod, Grenoble, France

Original application June 2, 1964, Ser. No. 371,905, now Patent No. 3,300,752, dated Jan. 24, 1967. Divided and this application Jan. 17, 1967, Ser. No. 617,748
Claims priority, application France, June 24, 1963, 939,143
7 Claims. (Cl. 339—253)

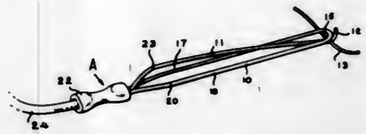


An elastically deformable socket for receiving an electrical connector plug, a portion of the socket being laterally deformable between a normally open position in which it offers little resistance to the movement of the plug and a closed position in which it tightly grips the plug, the socket including a control member disposed in the path of movement of the plug and operatively associated with the deformable plug portion for causing this portion to move abruptly into its closed position when the plug comes to bear against the control member, the deformable plug portion abruptly returning to its open position when the plug moves out of contact with the control member.

3,368,187
CONTACT CLIP FOR CIRCUIT TESTING

Walter J. Faul, 827 Pear, Sunnyvale, Calif. 94087, and Rex L. Evatt, 3571 Shafer, Santa Clara, Calif. 95051

Filed May 21, 1965, Ser. No. 457,654
1 Claim. (Cl. 339—261)

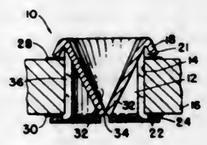


An elongated test clip for reaching deeply into electrical or electronic wired circuits is made by bending a single length of springy, electrically conductive wire so that a long, narrow loop of the wire has a single length of the wire disposed between the two sides of the loop and the free end of this single length formed into a hook which extends beyond, and engages the transverse end portion of the loop to grip a conductor wire therebetween when the clip is in its normal condition. A hump is provided on the single length of wire at a point remote from the hook end thereof, and projects upwardly beyond the loop, so that when the end of the clip thereon is inserted into wired circuitry, the hook may be separated from the transverse end of the loop by pressing the hump and the loop toward each other, thereby opening the clip to either grip or release a wire deep within the wired circuit. Insulating means are provided to cover the wires except at their gripping ends, and means are provided for connecting a test conductor to the other end of the clip.

3,368,188
WIRE GRIP CIRCUIT BOARD EYELET

Billy E. Olsson, New Cumberland, Pa., assignor to Berg Electronics, Inc., New Cumberland, Pa., a corporation of Pennsylvania

Filed Nov. 14, 1966, Ser. No. 593,884
7 Claims. (Cl. 339—275)

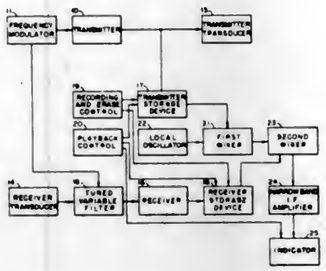


This invention relates to a wire grip eyelet and has particular reference to an electric connector type eyelet for insertion in a hole formed in a circuit board whereby lead wires inserted into the eyelet are positively held in position on the circuit board during solder dipping of the circuit board. The invention is especially useful for securing lead wires to the miniaturized circuit board assembly as used in today's electronic industry. By using an eyelet according to the invention a compact and reliable solder connection is established between the printed circuitry on the circuit board and the lead wires held by the eyelets.

3,368,189
OBSTACLE LOCATOR SYSTEM

Robert M. Page, Camp Springs, Md., assignor to the United States of America as represented by the Chief of Naval Research

Filed June 12, 1951, Ser. No. 231,244
5 Claims. (Cl. 340—3)

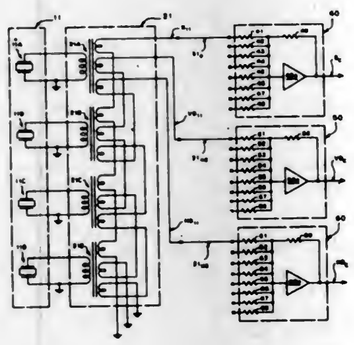


1. In a system for detecting objects disposed in an energy propagational medium, transmission means for delivering frequency modulated signals into the medium, reception means for intercepting signals in the medium reflected from objects located in the medium, storage means retaining for a period of time first signals characteristic of the delivered signals and second signals characteristic of the intercepted return signals, playback control means connected to the storage means operative to control the playback of the first and second signals in variable time relationship to secure a selected frequency difference between the played back first signals and the played back second signals for selected range, and a narrow bandwidth intermediate frequency amplifier responsive to the selected frequency difference to amplify signals at that frequency.

3,368,190
SHADED ARRAYS OF TRANSDUCER ELEMENTS

Geoffrey L. Wilson and Louis J. Kush, Jr., State College, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed July 22, 1966, Ser. No. 567,159
9 Claims. (Cl. 340—6)



1. A shaded array of transducer elements comprising: a plurality of transducer elements arranged in an array, each element producing a respective electrical output signal in response to sensing acoustic energy;

summing amplifier means including amplifying means having input and output terminals, feedback resistor means operatively coupling the output terminal of said amplifying means with its input terminal, and a plurality of input resistor means with one terminal of each connected to said input terminal of said amplifying means, electrical signals received by each said input resistor means at its other terminal being amplitude shaded in accordance with the selected ratio of the resistances of said feedback resistor means to said input resistor means; and

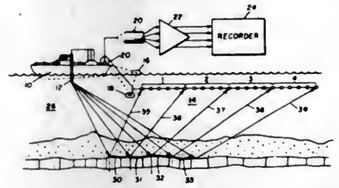
connecting means operatively connecting selected ones of said elements with the other terminals of corresponding ones of said input resistor means;

whereby said summing amplifier means produces a composite transducer array directivity pattern output corresponding to the sum of the respectively amplitude shaded electrical signals which were received by said input resistor means from said connecting means.

3,368,191
CONTINUOUS MARINE SEISMIC EXPLORATION WITH MULTIPLE SUBSURFACE COVERAGE

Frank J. McDonal, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York

Filed Dec. 29, 1965, Ser. No. 517,319
1 Claim. (Cl. 340—7)



1. The method of obtaining M-fold subsurface coverage with a continuously moving marine seismic exploration system including a repetitive seismic source and a plurality of hydrophone stations arranged in a spread, each of said hydrophone stations being connected in a separate recording channel, comprising the steps of:

(a) firing said seismic source at repetitive time intervals T for travel of seismic energy downwardly to a plurality of subsurface reflecting elements on various subsurface horizons,

(b) detecting at N of said plurality of hydrophone stations, each being of length X, the energy reflected from said subsurface elements (where M/N is an integer),

(c) recording separately signals representative of the energy received at each of said N hydrophone stations during the time intervals between the firing of said seismic source, and

(d) moving said seismic source at a uniform velocity V such that

$$\frac{X}{2}=VT\left(\frac{M}{N}\right)$$

3,368,192
VIBRATION SUPPRESSION APPARATUS AND METHOD

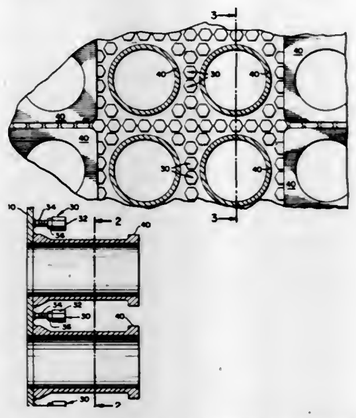
Walton Graham, Roslyn, N.Y., and Bruce Bingham, Oxon Hill, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Nov. 18, 1964, Ser. No. 412,601
4 Claims. (Cl. 340—8)

1. For use in a sonar system of the type wherein an array of transducers is mounted along a hull area of a ship to detect signals arriving thereat from a remote

sonic radiation source, a system to eliminate interference caused by vibration of said hull area, induced therein by the arrival of said detected signals, comprising

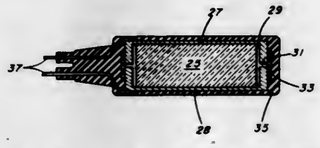
a plurality of mechanical resonators;



each of said resonators comprising a resilient strut and a weight adapted to be positioned along the length thereof, said struts being secured to the inside wall of said hull area around the individual transducers of said array;

said resonators being free to be vibrated whereby said hull area vibrations are damped by asynchronous vibrations of said resonators.

3,368,193
DEEP SUBMERGENCE HYDROPHONE
Jim B. McQuitty, Adelphi, and Arnat W. Martin, Spencerville, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Dec. 5, 1966, Ser. No. 599,684
5 Claims. (Cl. 340—10)



A hydrophone which has its leads and electrical connections fused into an integral encapsulation with a thermoplastic or rubber compound. A piezoelectric ceramic disk is enclosed in an electrical conductive housing and spacers which allows the ceramic disk to vibrate within the encapsulating material.

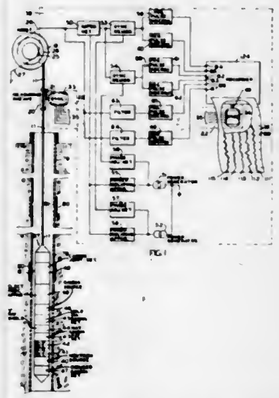
3,368,194
MEANS FOR GENERATING ELECTRICAL DISCHARGES UNDER WATER FOR CONTINUOUS SEISMIC SOUNDINGS
Jacques Cholet, Rueil Malmaison, Jean Claude Dubois, Royan, and Gérard Grau, Paris, France, assignors to Institut Francais du Petrole, des Carburants et Lubrifiants, Rueil-Malmaison, France
Filed Dec. 13, 1966, Ser. No. 601,372
Claims priority, application France, Dec. 18, 1965, 42,901
1 Claim. (Cl. 340—12)

The means used comprises a cylindrical sleeve of insulating material enclosing and spaced from a central electrode connected to a source of electrical pulses of high tension. The sleeve is provided with orifices and also at the exterior thereof is provided with a plurality of peripheral electrodes connected to the other terminal of the source of electrical pulses. The discharge takes place between the



central electrode and the peripheral electrodes to set up pressure waves whereby underwater prospecting may be carried out in a continuous way.

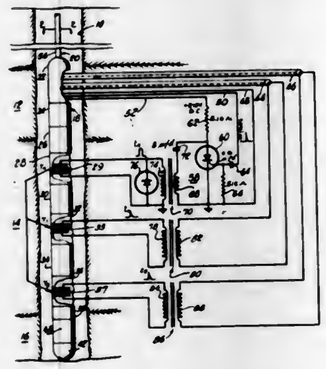
3,368,195
METHOD OF AND APPARATUS FOR PRODUCING AND TRANSMITTING BOREHOLE SIGNALS
Glen Peterson, 540 S. 83rd East Ave., Tulsa, Okla. 74112
Substituted for abandoned application Ser. No. 623,855, Nov. 23, 1956. This application Jan. 28, 1963, Ser. No. 254,296
8 Claims. (Cl. 340—18)



1. Apparatus for producing electrical signals in boreholes and for transmitting said signals therefrom comprising a surface instrument, a subsurface instrument and a hoisting and current-conducting cable interconnecting said surface and subsurface instruments, said subsurface instrument contained in an external housing mechanically and electrically connected to said cable and comprised internally of at least a transducer and an electronic apparatus, said transducer having a transmission path responsive to the materials found in and around said borehole and producing electrical currents which are manifestations thereof, said electronic apparatus requiring electrical power for its operation and having a signal handling path of transmission and a power handling path of transmission, said cable comprised of at least an inner insulated conductor and an outer conducting and mechanically supporting sheath, said transducer and said electronic apparatus connected to said insulated conductor and said external sheath of said cable, said transducer transmission and transducing path and said electronic apparatus power consuming path being series connected and in shunt connection with said electronic apparatus signal handling path, and this combination in series connection with said cable, said surface apparatus comprised of at least an alternating current power generator, means for amplifying and recording said transducer signals, electrical means for separating the signals produced by said transducer from the currents of said

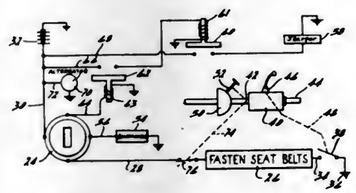
alternating current power generator, comprised of a balanced bridge network, having input and output terminal pairs, in combination with a synchronous demodulator, having input, output and phase reference terminal pairs, and at least one voltage discriminator having input and output terminal pairs, said input terminal pair of said bridge network connected to said cable, said output terminal pair of said bridge network connected to said input terminal pair of said synchronous detector, said output terminal pair of said synchronous detector connected to said input terminal pair of said voltage discriminator, said output terminal pair of said voltage discriminator connected to said recorder, said phase reference terminal pair of said synchronous demodulator connected to a phase adjusting network and said phase adjusting network connected to said alternating current generator, said alternating current generator and said cable being connected in series.

3,368,196
ACOUSTICAL VELOCITY WELL LOGGING SYSTEM FEATURING SIMPLIFIED EXPLORING UNIT
Roy P. Mazzagatti, Bellaire, and Donald J. Dowling and Cloy N. Causey, Houston, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 842,922, Sept. 28, 1959. This application Apr. 12, 1966, Ser. No. 552,996
17 Claims. (Cl. 340—18)



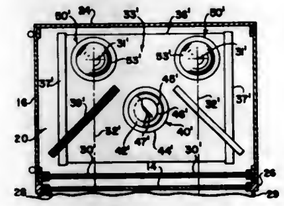
The present invention relates to an acoustical velocity well logging system having a relatively simple exploring unit or logging tool adapted to be passed through a well bore and which includes an acoustical transmitting transducer for transmitting an acoustic pulse through earth formations adjacent the logging tool and which further comprises an acoustic pulse generating circuit including an acoustical transmitter transducer comprising a transformer and energy storing means and a silicon controlled rectifier, wherein trigger pulse means are disposed at the earth's surface adjacent the bore hole and where means are provided for applying the output of a trigger pulse producing means to the control element of said silicon controlled rectifier for periodically discharging the energy in said storing means to said transformer to activate the transmitting transducer and wherein means are further provided for detecting acoustic pulses transmitted through earth formations from said transmitting transducer comprising first and second acoustic pulse receiving transducers spaced from one another and from the transmitting transducer and wherein a transformer means is provided for coupling the signals detected by the receiving transducers to a signal transmission system for transmitting same to the surface where time interval measuring means are coupled to the other end of said transmission system for providing an indication of the time interval between the occurrence of given acoustic pulses detected by said first and second acoustic pulse receiving transducers.

3,368,197
SEAT BELT REMINDER SIGNAL
Joseph R. Lemon, Detroit, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Mar. 5, 1965, Ser. No. 437,437
6 Claims. (Cl. 340—52)



A device for reminding vehicle occupants to fasten their seat belts having a signal unit and a control circuit which is provided with two switches, either of which being effective to preclude the completion of the circuit notwithstanding the operation of the other switch. The signal is actuated when the ignition switch is turned on and the vehicle transmission selector is in a Neutral or Park position. A second switch reponsive to movement of the transmission selector opens the control circuit thereby deenergizing the signal unit when the selector is placed in other than a Neutral or Park position.

3,368,198
TRAFFIC SIGNAL HAVING PLURAL LENS PROJECTION APPARATUS
Willis M. Elkenberry, Bettendorf, Iowa, and Charles E. Leberknight, Pittsburgh, Pa., assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Jan. 22, 1965, Ser. No. 427,355
3 Claims. (Cl. 340—103)



1. A traffic signal unit having an externally visible signal area of substantial area and adapted for housing an optical system comprising

a light diffusing lens member having dual lens portions with parallel optical axes arranged to project light on the signal area,

a first light source of localized emission energizable during a particular signal period and spaced behind said lens member equidistant from the optical axes of each dual lens portion so that the right angle distance from said light source to each lens portion perpendicularly from the light source and then along each optical axis is within the range of the focal length of each lens portion,

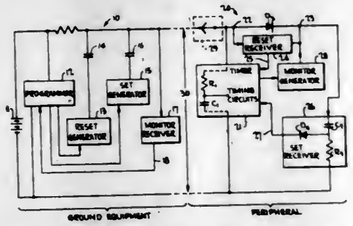
a second light source of localized emission energizable during another signal period for transmitting light from a location behind said first light source along the optical axis of each lens portion for equal parallel distances within the range of the focal length of each lens portion, and

a pair of partial reflecting panes capable of reflecting and transmitting substantially equal portions of light, each extending on an angle of about 45° with the optical axis of each lens portion and reflecting approximately half the light from said first light source during the first signal period and permitting passage of substantially half the light emanating from said second light source during the second signal period whereby said signal area is uniformly illuminated during each signal period with light of equal intensity projected upon each lens portion.

3,368,199
TWO-WIRE SETTING SYSTEM FOR ELECTRIC TIMERS

Ira R. Marcus, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Army

Filed Jan. 22, 1964, Ser. No. 339,560
2 Claims. (Cl. 340—147)



A means for resetting, setting and monitoring a timer using only a two-wire communication line. Each phase of the operating cycle is controlled by a programmer. A reset generator transmits a pulse via the two wire line to a reset receiver which communicates the pulse to the timer. A set generator transmits a series of pulses of a predetermined number via the two wire line to a set pulse receiver which communicates these pulses to the timer for setting purposes. After the timer has received a predetermined number of set pulses a monitor generator is activated and a pulse emanating therefrom is transmitted to a monitor receiver via the two-wire communication line.

3,368,200
SIGNAL SWITCHING APPARATUS WITH INTERLOCK CIRCUITRY

Floyd R. McNicol, Moorestown, N.J., assignor to Radio Corporation of America, a corporation of Delaware

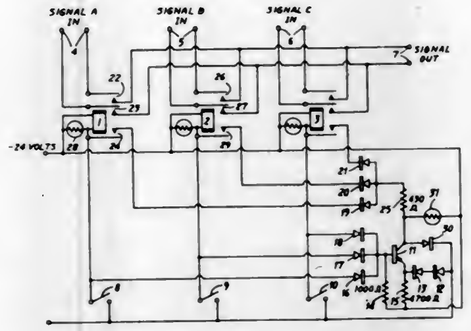
Filed Feb. 26, 1964, Ser. No. 347,487
9 Claims. (Cl. 340—147)

1. In an apparatus for selectively switching between a plurality of signal sources and a common utilization circuit, said apparatus comprising a plurality of relays associated respectively with said sources and each having switching contacts closable to connect the associated signal source to said utilization circuit and each also having locking contacts closable to a source of locking voltage to maintain energization of the winding of an operated relay whereby to maintain closure of that operated relay's swtching contacts, and a plurality of selector switches associated respectively with said relays and operable to selectively connect a source of operating voltage to energize the windings of the associated relays; relay holding and releasing apparatus comprising:

a transistor having output and control electrodes;

means to apply a forward biasing voltage to a circuit including said control electrode so as to render said transistor normally conductive of current in a circuit including said output electrode;

means to apply a reverse biasing voltage to said circuit including said control electrode upon the operation of any one of said selector switches to render said transistor non-conductive of current in said circuit including said output electrode; and

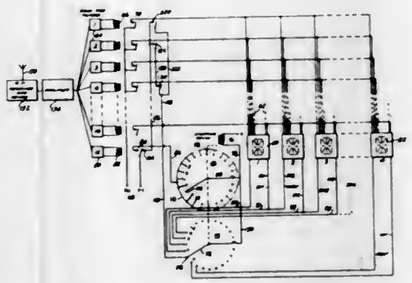


means connnected between the locking contacts of each of said relays and the output electrode of said transistor constituting said source of locking voltage to maintain energization of the winding of an operated one of said relays during conducting periods of said transistor and to release a previously locked one of said relays during non-conducting periods of said transistor.

3,368,201
PLURAL FREQUENCY DATA TRANSMISSION SYSTEM WITH SEGMENTED EXHIBITOR READOUT

Alfred Skrobisch, 69 Wyoming Drive, Huntington Station, N.Y. 11746

Filed Aug. 23, 1963, Ser. No. 304,097
13 Claims. (Cl. 340—154)

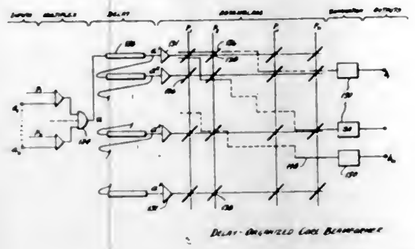


The system has widely spaced signs controlled from a remote transmitting station. Each sign has a plurality of segmented exhibitors controlled by a local receiver having filters for different audio frequencies for the different segments of the exhibitors. By the addition of only one more frequency, the same segment frequencies and filters may be used also as identification frequencies to select any one or more or all of the receivers and signs on which a desired array of characters is to be exhibited.

3,368,202
CORE MEMORY MATRIX IN MULTIBEAM RECEIVING SYSTEM

Luc E. Crousel, Scarsdale, N.Y., assignor to the United States of America

Filed July 15, 1963, Ser. No. 295,257
12 Claims. (Cl. 340—172.5)



3. A system for electrically forming differently directed beams for an array of receiving tranducers comprising, in combination:

a plurality of receiving tranducers arranged in an array;

means for quantizing the output signals of said transducers into positive and negative components of equal amplitude;

means for successively time-sampling the quantized outputs of said transducers;

means for producing a signal train from said successive time samples;

means for adding fixed amounts of delay to said signal train in successive steps and for deriving a delayed signal train at each step;

a plurality of driving means for producing an activating signal from each positive time sample in the signal trains, successive means being connected in respective order to the output of successive delay means;

a delay-organized core memory matrix having memory cores, and delay wires, timing wires, beam sense wires and a reset wire properly threading said cores as described herein, successive driving means being connected to successive rows of said matrix;

means for applying timing signals in succession to said timing wires, the timing signals consisting of a series of signals synchronized in time with the time-sampling of the quantized outputs of said transducers, the concurrence of a timing signal and an activating signal in a core being required to switch the magnetic state of the core and such core switching acting to induce a switching signal in the beam sense wire threading the switched core;

a plurality of sense amplifier means, each connected to a different one of said beam wires, and each producing an output signal when a core-switching signal is applied to its input; and

a plurality of summing means, each connected to a different one of said sense amplifier means for receiving and adding the components of the output of said sense amplifier means.

3,368,203
CHECKING SYSTEM

Edward Loizides, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 23, 1963, Ser. No. 332,777
7 Claims. (Cl. 340—172.5)

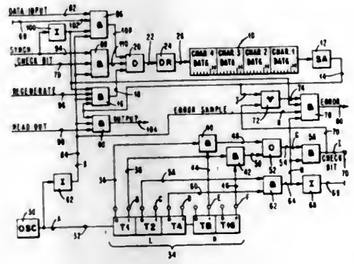
1. In a recirculating storage medium having a plurality of data bit positions therein,

a reading station for reading data stored in said medium;

a timing means for generating timing pulses corresponding to bit positions in said storage medium, said timing means comprising L lower order stages and H higher order stages of a counter;

means for decoding the outputs of said lower order stages;

means responsive to the decoded outputs for inserting the value of said higher order stages into bit positions of said storage medium corresponding to decoded times indicated by the lower order stages of said counter;



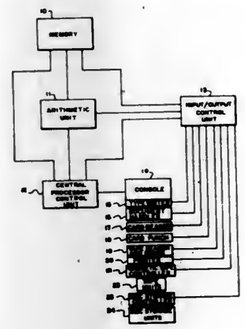
comparing means for comparing the value of recirculated bits read from said storage medium with the actual value of said higher order stages of said counter at times indicated by the lower order stages; and

means responsive to an unequal comparison for indicating a lack of synchronism between said storage means and said timing means.

3,368,204
ADDRESS DEVELOPMENT APPARATUS FOR MULTI-ADDRESS INSTRUCTIONS

Thomas J. Beatson, Phoenix, David E. Keefer, Scottsdale, and Richard M. Rojko and John E. Wilhite, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York

Filed Apr. 6, 1965, Ser. No. 446,067
8 Claims. (Cl. 340—172.5)

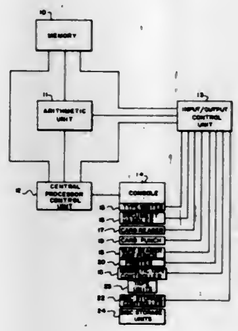


Apparatus is employed to develop the second address of a two-address instruction in a data processing system. A word is provided in the program sequence to initiate development of the second address of a two-address instruction and an auxiliary word is employed to more specifically develop the second address.

3,368,205
CONTROL APPARATUS IN A DATA PROCESSING SYSTEM

Robert D. Hunter, Wayland, Mass., and Robert A. Perrine and John E. Wilhite, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York

Filed Apr. 14, 1965, Ser. No. 448,196
4 Claims. (Cl. 340—172.5)

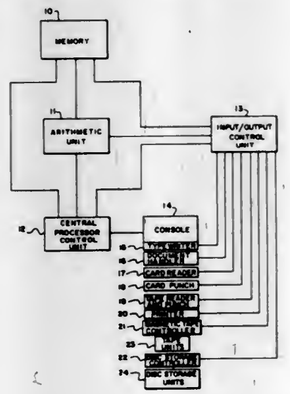


In order to provide increased efficiency in the operation of a data processor, the central control apparatus is provided with three sequencers. A first sequencer determines macro-operations for normal instruction execution; a second sequencer determines macro-operations for input/output data transfers; and a third sequencer is used in conjunction with the other two to determine the sequence of micro-operations for each macro-operation.

3,368,206
INFORMATION SHIFT APPARATUS IN A DATA PROCESSING SYSTEM

Edwin W. Herron, Scottsdale, Ariz., Robert D. Hunter, Wayland, Mass., and John E. Wilhite, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York

Filed Apr. 14, 1965, Ser. No. 448,197
9 Claims. (Cl. 340—172.5)

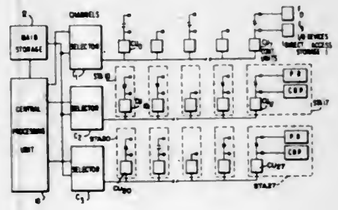


In order to reposition small or large amounts of information held in a stored multi-word, accumulator without the necessity for providing multi-word discrete registers or separate left shift logic, control circuitry is provided to manipulate data among: two single-word operating registers; the affected word or words of the multi-word, stored accumulator; and a reserved single-word storage location. The character of shift realized is effected by controlling the sequence of manipulations.

3,368,207
FILE PROTECTION TO I/O STORAGE

William F. Beausoleil, Le Cap d'Antibes, France, and William A. Clark 4th, Wappingers Falls, Peter R. Hill, Beacon, and Ronald M. Smith, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed May 12, 1965, Ser. No. 455,058
10 Claims. (Cl. 340—172.5)



File projection for a data processing system comprising a central processing unit having peripheral direct access storage means shared by more than one user station, characterized by selective masking means controlled by the central processing unit in response to problem programs presented to the central processing unit by user stations, for excluding individual user stations from access to all areas of the storage means except those respectively allocated to them by program means of the central processing unit, the masking means being effective for reading, as well as writing, access, and for specific portions of each record stored in the area assigned to a user.

3,368,208
INFORMATION CARRIERS FOR MAGNETIC DESTINATION RECORDING IN CONVEYING SYSTEMS

Hans Joachim Lippmann and Klemens Wiehl, Nuremberg, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed Jan. 30, 1964, Ser. No. 341,360
Claims priority, application Germany, Jan. 30, 1963, S 83,492
1 Claim. (Cl. 340—174.1)

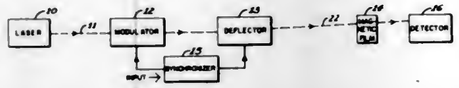


A magnetizable destination marker on each unit in a system for the selective distribution of travelling conveying units comprises a rigid non-magnetic support and a foil of magnetizable material on the non-magnetic support for recording information indicating the destination of the corresponding conveying unit. The foil has a thickness of about 0.5 mm. and a coercive force of 25 to 35 oersteds and a remanence induction of at least 10,000 gauss.

3,368,209
LASER ACTUATED CURIE POINT RECORDING AND READOUT SYSTEM

Laurence D. McGlauchlin, Edina, and John F. Ready, Minneapolis, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Oct. 22, 1964, Ser. No. 405,806
6 Claims. (Cl. 340—174.1)

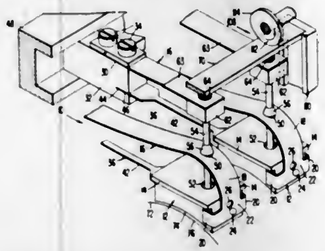


An information storage and retrieval system utilizing a selectively modulated and deflected laser beam to heat discrete portions of a thin magnetic material above the Curie temperature for altering magnetization direction therein and permitting storage of information. The system retrieves stored information by attenuating the laser beam to permit non-destructive read-out using the Faraday or Kerr effect.

3,368,210
MOUNTING DEVICE FOR MAGNETIC TRANSDUCING HEAD

Karl J. Zimmer, Malvern, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Dec. 2, 1964, Ser. No. 415,340
12 Claims. (Cl. 340—174.1)



The present invention relates to a novel suspension system for aerodynamically supporting an electromagnetic transducer for air bearing "flying" movement adjacent a movable record medium. The suspension system includes a pair of thin, elongated, flexible members demountably fixed at one end to an adjustable support member and demountably attached at their opposite remote ends to the transducer in a manner permitting limited and constrained rock and roll gimbal-like movement of the transducer about two mutual perpendicular axes adjacent the record medium.

3,368,211
VERIFICATION OF NRZI RECORDING

Charles M. Taris, Cranford, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed July 26, 1965, Ser. No. 474,637
26 Claims. (Cl. 340—174.1)

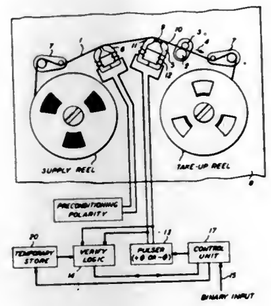
1. Magnetic tape recording apparatus comprising, in combination:

(a) a magnetic gap having a selected length defined by a leading edge and a trailing edge;

(b) a magnetic tape advanceable lengthwise across said gap;

(c) means responsive to receipt of each successive binary bit for placing a magnetic flux on said tape between said leading and trailing edges; and

(d) means responsive to placing of each successive said flux for advancing said tape across said gap in equal steps, the length of each said step being fractionally less than said magnetic gap length and each said step advancing the flux last created beneath

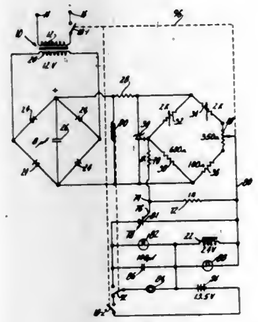


said leading edge across said gap to a point adjacent said trailing edge, said last-named flux being replaced by the flux next created beneath said trailing edge; whereby each said bit received is represented by a tape flux separated from the last-created tape flux by the length of one said step.

3,368,212
GAS FLOW MONITOR

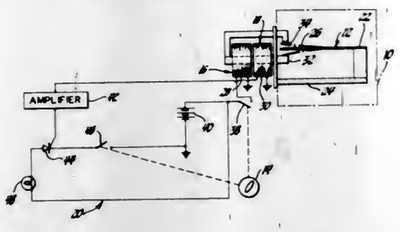
Stephen D. Klyce, Harvard, Mass.; Stephen D. Klyce, Jr., executor of said Stephen D. Klyce, deceased, assignor to J. H. Emerson Company, Cambridge, Mass., a corporation of Massachusetts

Filed Dec. 8, 1964, Ser. No. 416,777
7 Claims. (Cl. 340—239)



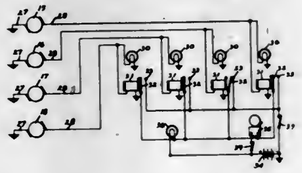
A system for supervising the respiration of a patient includes a brass block having a main threaded bore for connection to a respiration sensing device and two transverse channels which intersect the main bore. A 0.053 inch I.D. nylon tube in each channel supports a thermistor. One tube is blocked and the other tube is exposed to gas flow through the main bore. The two thermistors are connected in a bridge circuit which controls, via a silicon controlled rectifier, an audible alarm oscillator and a pilot light to operate the alarm and light whenever gas flow due to the patient's breathing falls below a preestablished value. A power failure alarm operates the oscillator only should system power fail.

3,368,213
LIQUID LEVEL INDICATOR
Clark E. Quinn, Rochester, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 10, 1964, Ser. No. 417,438
15 Claims. (Cl. 340—244)



A liquid level indicator having a flexible reed positioned within a liquid reservoir at the level to be monitored. A driving electromagnet is selectively and instantaneously energized to produce a single deflection of the reed so that the reed will vibrate freely at its natural frequency when the liquid is below the level to be monitored. Thereafter, the driving electromagnet is deenergized and a sensing electromagnet responds to these vibrations of the reed and develops an AC output which is utilized to illuminate an indicator lamp.

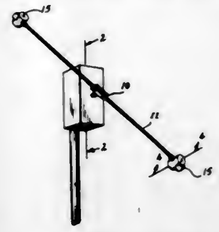
3,368,214
OPERATING SHAFT INDICATORS FOR CROP HARVESTING MACHINES
Morton C. Swanson, % Swanson Spray & Manufacturing Inc., Palouse, Wash. 99161
Filed Mar. 10, 1965, Ser. No. 438,551
10 Claims. (Cl. 340—271)



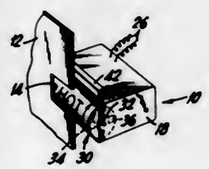
A monitoring system is mounted on a portable harvesting machine such as a combine for monitoring whether the various operating elements are functioning properly by sensing whether specific shafts of the elements are rotating. The monitoring system includes generators positioned adjacent respective shafts and driven through separate friction drive drums. The voltages generated from the generators are amplified to relays having normally closed contacts that are opened when the relays are energized. A buzzer and a warning light is wired to the contacts and operated when the contacts are closed to warn the operator that one or more of the shafts have stopped rotating.

3,368,215
SIGNAL DEVICE HAVING SIGNAL LIGHT MEANS AT EACH END OF A ROTATING ROD
Clyde H. Clement, Phoenix, Ariz., assignor of one-sixth each to Raymond C. Binkley, William J. Binkley, and William A. Uhlig
Filed Mar. 8, 1965, Ser. No. 437,987
1 Claim. (Cl. 340—366)

1. An attention arrestor comprising a plurality of support arms mounted on an axle, hearing supports rotatably engaging said axle, a plurality of electrically powered light-transmitting means positioned near the outer ends of said support arms, said light-transmitting means comprising a cylindrical housing mounted at right angles to its support arm and having a second integral cylindrical portion extending parallel to said support arm, said housing and said second cylindrical portion holding sealed beam units in their respective open circular ends, said sealed beam units communicating with a source of electrical power through a pair of slip rings on said axle, and power means co-operating with said axle whereby said light-transmitting means are caused to travel in at least one closed arcuate path, said power means comprising an electric motor.

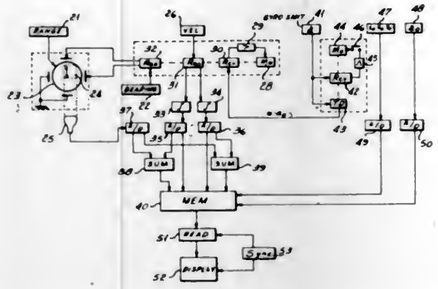


3,368,216
ROTATABLE DRUM INDICATOR WITH ELECTROMAGNETIC DRUM CONTROL
Leonard Rose, Wantagh, N.Y., assignor to Consolidated Airborne Systems, Inc., New Hyde Park, N.Y.
Filed Oct. 23, 1965, Ser. No. 502,942
4 Claims. (Cl. 340—373)



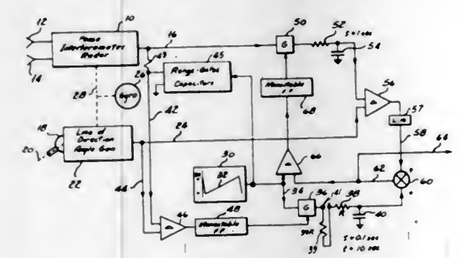
1. An electromagnetic condition responsive indicator for use with an externally powered electrical circuit to be monitored, said indicator comprising:
(a) a non-magnetizable housing;
(b) electromagnetic means including an elongated ferrous core of low retentivity disposed within said housing and a winding surrounding said core and adapted for connection to the circuit to be monitored;
(c) rotor means rotatably supported for rotation within said housing about an axis spaced from and parallel to the longitudinal axis of said core;
(d) first and second elongated permanent magnets each having a north-seeking pole and south-seeking pole on diametrically opposed faces of the rotor parallel to the rotor axis, said magnets being oppositely oriented relative to the other;
(e) a pair of pole pieces disposed in close proximity to the transverse ends of said core and in a plane perpendicular to the longitudinal axis of said first and second magnets and said core, said pole pieces terminating at one end proximate to the locus of the fields extending from the transverse end faces of said first and second magnets, and arranged to be in the influence of the field of no more than one of said magnets at a given time; and
(f) a third elongated permanent magnet fixed in position with respect to said core, said third magnet having a north-seeking pole and a south-seeking pole, said third magnet being positioned in closed, spaced, parallel relation to said first and second magnets.

3,368,217
COURSE TRACING DEVICE
Marcel Musso, Montrouge, France, assignor to Precilec, Paris, France, a company of France
Filed July 7, 1966, Ser. No. 563,605
Claims priority, application France, July 13, 1965, 24,447
4 Claims. (Cl. 343—5)



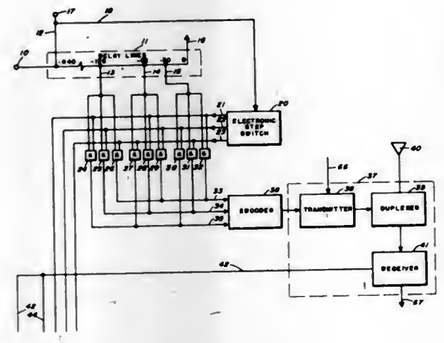
A course tracing device which contemplates the resolution of range and relative bearing information from a standard shipboard radar into cartesian distance components parallel to and orthogonal to some given reference direction such as the heading of the ship at some past instant of time. The ship velocity along its heading axis is resolved into cartesian velocity components parallel to and orthogonal to the reference direction. These velocity components are integrated to obtain the components of distance traversed by the ship from some initial origin. Corresponding distance components are added to give the cartesian distance components of a target from the initial origin. The distance components corresponding to the position of the ship relative to the origin and the combined distance components corresponding to the position of the target relative to the origin are stored at periodic intervals and then coupled to a display device. Upon the display device will be seen tracks representing the true motion of the ship and the true motion of the target.

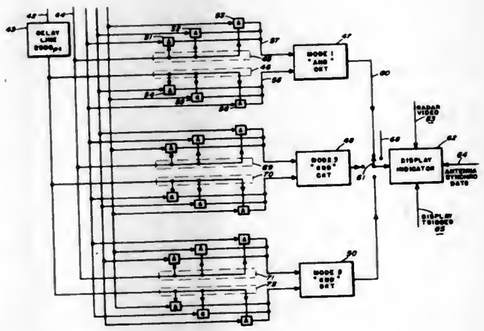
3,368,218
RANGE MEASURING PHASE INTERFEROMETER RADAR SYSTEM
William W. Fenn, Old Greenwich, and Lester H. Kosowsky, Norwalk, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 31, 1966, Ser. No. 553,794
8 Claims. (Cl. 343—6)



A range measuring phase interferometer radar system in which a signal representing elevation angle of terrain along an azimuth line is sequentially coupled to a series of storage capacitors respectively to store the mean elevation angle of terrain within successive range increments. In response to the capacitors and to means providing an output in accordance with the elevation angle of an object along the azimuth line, there is produced an indication of range to the object.

3,368,219
MULTI-MODE IFF SYSTEM
Joseph C. Gardner, Valley Lee, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 28, 1966, Ser. No. 597,495
9 Claims. (Cl. 343—6.5)



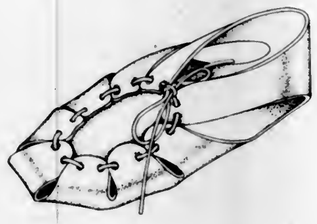


1. A multimode IFF interrogating system comprising
input means for receiving a triggering pulse;
first time delay means connected to the input means;
means connected to the input means for sequentially energizing a plurality of enabling means;
a plurality of AND circuits connected to the enabling means;
encoder means energized by the AND circuits;
an interrogator driven by the encoder to emit interrogating signals and receive replies;
decoding means for receiving and processing the replies; and
display means for indicating coincidence of the energizing of the enabling means and the receipt of replies.

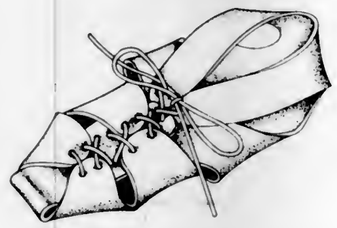
DESIGNS

FEBRUARY 6, 1968

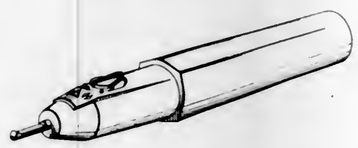
210,064
SLIPPER
Basil D. Huff, Wilkes-Barre, Pa. (% Charles Sonnenreich, 1501 Broadway, New York, N.Y. 10036)
Filed Dec. 6, 1966, Ser. No. 4,932
Term of patent 7 years
(Cl. D2—287)



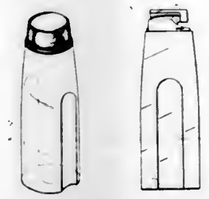
210,065
SLIPPER
Basil D. Huff, Wilkes-Barre, Pa. (% Charles Sonnenreich, 1501 Broadway, New York, N.Y. 10036)
Filed Dec. 6, 1966, Ser. No. 4,941
Term of patent 7 years
(Cl. D2—287)



210,066
TOOTHBRUSH POWER HANDLE OR SIMILAR ARTICLE
Carl N. Johnson, Stratford, Conn., assignor to General Electric Company, a corporation of New York
Filed Aug. 11, 1967, Ser. No. 8,238
Term of patent 14 years
(Cl. D4—15)



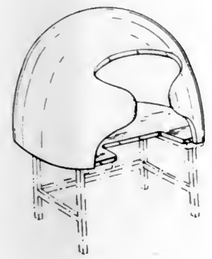
210,067
BOTTLE FOR DISPENSING LIQUID MATERIAL
Yoshio Abe, Tokyo, Japan, assignor to Kikkoman Shoyu Co., Ltd., Noda City, Japan, a corporation of Japan
Filed Apr. 18, 1966, Ser. No. 1,921
Term of patent 14 years
(Cl. D9—97)



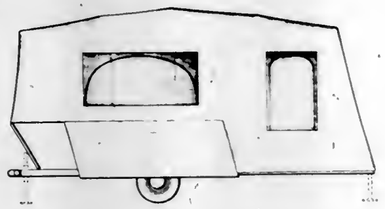
210,068
DISPLAY BOX
Michael King, Pleasure Ridge Park, Ky., assignor to Mother's Cookie Company, Louisville, Ky., a corporation of Kentucky
Filed Jan. 3, 1967, Ser. No. 5,295
Term of patent 14 years
(Cl. D9—224)



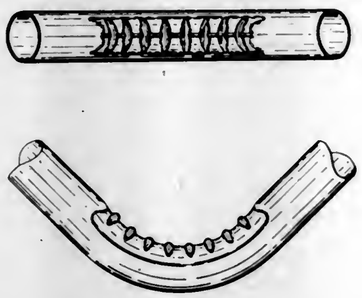
210,069
BOOTH FOR ACOUSTICAL DEVICES
Edwin T. Cornelius, Jr., 9601 Accord Drive, Potomac, Md. 20854
Filed Aug. 19, 1966, Ser. No. 3,543
Term of patent 14 years
(Cl. D13—1)



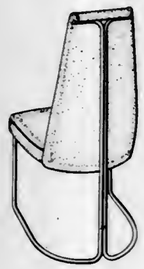
210,070
CAMPER
Sidney P. Pair, 1511 Oliver St., and Jerry W. Pair, 1307 Oliver St., both of Weatherford, Tex. 76086, and R. W. Beck, Jr., 2123 NW. 23rd St., Fort Worth, Tex. 76106
Filed Aug. 26, 1966, Ser. No. 3,604
Term of patent 14 years
(Cl. D14—3)



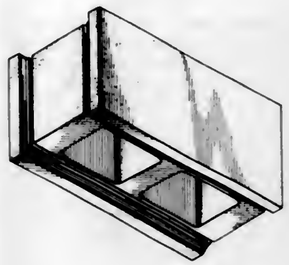
210,071
BEND OF PIPE FOR EXHAUST SYSTEMS
Paul V. Gregg, Racine, Wis., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Nov. 25, 1966, Ser. No. 4,812
Term of patent 14 years
(Cl. D14—6)



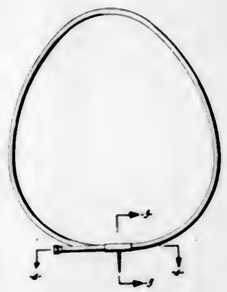
210,072
CHAIR
Robert E. Kjer Jakobsen, Los Angeles, Calif., assignor to Schlumberger Limited (Schlumberger N.V.), Houston, Tex., a corporation of the Netherlands Antilles
Continuation of design applications Ser. No. 974 and Ser. No. 987, Feb. 9, 1966. This application May 10, 1967, Ser. No. 7,337
Term of patent 14 years
(Cl. D15—1)



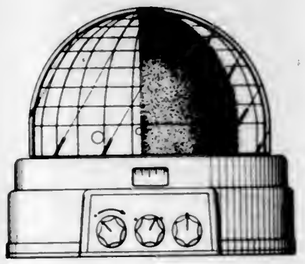
210,073
BLOCK
Lyle E. Wright, Lanham, Md., assignor to Universal Building Products Corporation, Washington, D.C.
Filed Oct. 3, 1966, Ser. No. 4,121
Term of patent 14 years
(Cl. D18—2)



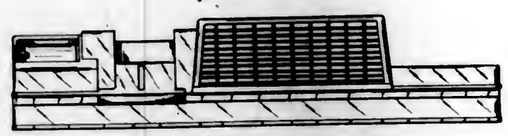
210,074
WATER SPRINKLER HOOP
Clement J. Da Prato, 6661 9th Ave. 95820, and Eddie Da Prato, Jr., 4923 H Parkway 95823, both of Sacramento, Calif.
Filed Jan. 3, 1967, Ser. No. 5,281
Term of patent 14 years
(Cl. D23—10)



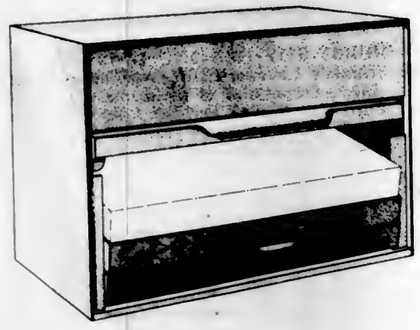
210,075
PLANETARIUM
Clair Omar Musser, 12997 Blairwood Drive, Studio City, Calif. 91604
Filed Nov. 9, 1966, Ser. No. 4,593
Term of patent 14 years
(Cl. D25—1)



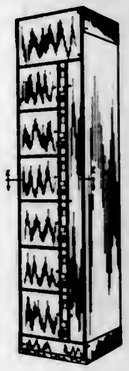
210,076
TEACHING MACHINE TOY HAVING PHONOGRAPH MEANS
John W. Ryan, Los Angeles, and Eugene J. Echterling, Manhattan Beach, Calif., assignors to Mattel, Inc., a corporation of California
Filed Jan. 25, 1967, Ser. No. 5,557
Term of patent 14 years
(Cl. D25—1)



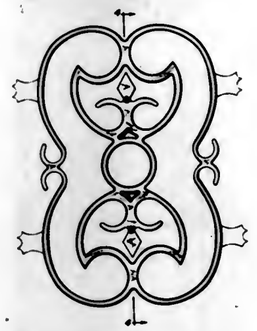
210,077
CARD SORTER FOR A DATA RETRIEVAL DEVICE
Robert J. Kalthoff, Cincinnati, Ohio, assignor to O. K. Partnership, Cincinnati, Ohio, a limited-partnership of Ohio
Filed Apr. 4, 1966, Ser. No. 1,776
Term of patent 14 years
(Cl. D26—5)



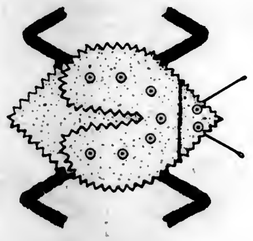
210,078
ELECTRICAL CONTROL CABINET
Robert N. Eck, Milwaukee, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed May 25, 1966, Ser. No. 2,434
Term of patent 14 years
(Cl. D26—5)



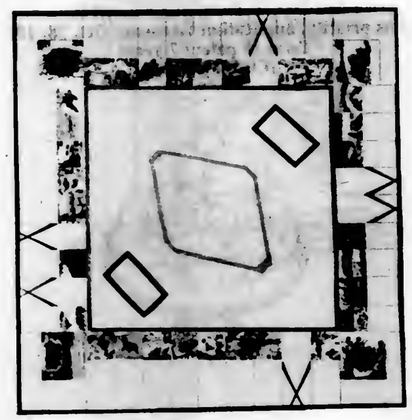
210,079
APPLIQUE FOR A FURNITURE PANEL OR SIMILAR ARTICLE
Stanley K. Ogg, Rte. 2, Littlestown, Pa. 17340
Filed Nov. 4, 1966, Ser. No. 4,551
Term of patent 14 years
(Cl. D33—1)



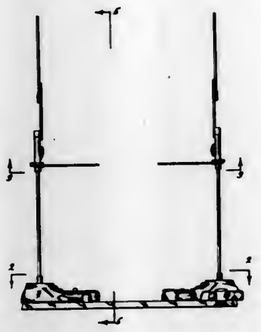
210,080
TOY ANIMAL FIGURE
Diane L. Thurston, 3435 S. Cherokee Circle, Englewood, Colo. 80110
Filed Dec. 16, 1966, Ser. No. 5,066
Term of patent 14 years
(Cl. D34—2)



210,081
GAME BOARD
Charles C. Makin, P.O. Box 1346, Delray Beach, Fla. 33444
Filed Jan. 20, 1967, Ser. No. 5,498
Term of patent 14 years
(Cl. D34—5)



210,082
SWINGABLE WAND SKILL GAME DEVICE
John W. Ryan, Los Angeles, Phyllis Frederick, Manhattan Beach, and Charles R. Zimmerman, Los Angeles, Calif., assignors to Mattel, Inc., a corporation of California
Filed Jan. 25, 1967, Ser. No. 5,560
Term of patent 14 years
(Cl. D34—5)



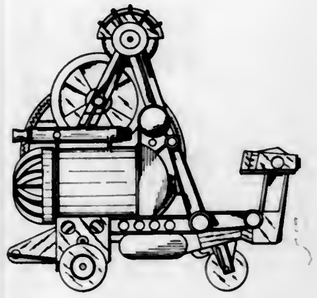
210,083
FOLDING EXERCISE BOARD
George E. Werner, South Orange, N.J. (% Deeco, Inc., 225 Belleville Ave., Bloomfield, N.J. 07003)
Filed May 23, 1967, Ser. No. 7,231
Term of patent 14 years
(Cl. D34—5)



210,084
TOY SPINNING TOP
Peter Balleis, 55 Hermann-Lons-Strasse, Zirndorf, near Nuremberg, Germany
Filed Dec. 5, 1966, Ser. No. 4,916
Claims priority, application Germany Oct. 28, 1966
Term of patent 7 years
(Cl. D34—15)



210,085
OUTER SPACE VEHICLE TOY
John W. Ryan, Los Angeles, and Gerald W. Schmidt, Tarzana, Calif., assignors to Mattel, Inc., a corporation of California
Filed Jan. 19, 1967, Ser. No. 5,483
Term of patent 14 years
(Cl. D34—15)



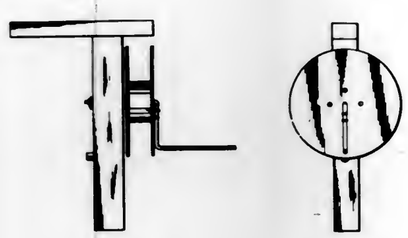
210,086
HOBBY TOY HEATING UNIT
Gerald W. Schmidt, Tarzana, Calif., assignor to Mattel, Inc., a corporation of California
Filed Mar. 6, 1967, Ser. No. 6,088
Term of patent 14 years
(Cl. D34—15)



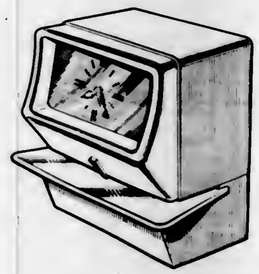
210,087
SCOOTER BODY
Charles T. Higgins, 6499 Morris Park Road, and Wellington D. Kreb, 6499½ Morris Park Road, both of Overbrook, Pa. 19151
Filed May 1, 1967, Ser. No. 6,901
Term of patent 14 years
(Cl. D34—15)



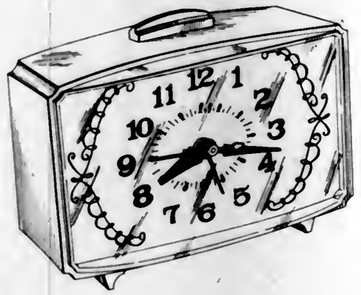
210,088
KITE STRING WINDER
John G. Kircher, Woodford Road and Ridge Ave., Cincinnati, Ohio 45213
Filed Apr. 15, 1966, Ser. No. 1,905
Term of patent 14 years
(Cl. D41—1)



210,089
TIME RECORDER OR SIMILAR ARTICLE
Dana L. Vickery, Gardner, Mass., assignor to Simplex Time Recorder Company, Gardner, Mass., a corporation of Massachusetts
Filed Feb. 11, 1966, Ser. No. 1,015
Term of patent 14 years
(Cl. D42—7)



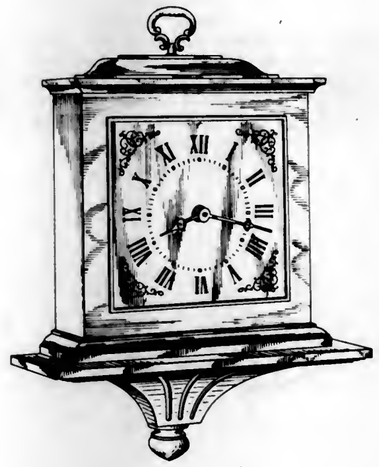
210,090
CLOCK OR SIMILAR ARTICLE
Carl N. Johnson, Stratford, Conn., assignor to General Electric Company, a corporation of New York
Filed Mar. 28, 1967, Ser. No. 6,405
Term of patent 7 years
(Cl. D42—7)



210,091
CLOCK OR SIMILAR ARTICLE
Harry L. Laylon, Syracuse, N.Y., and William V. Judson, Westport, Conn., assignors to General Electric Company, a corporation of New York
Filed Apr. 17, 1967, Ser. No. 6,735
Term of patent 14 years
(Cl. D42—7)



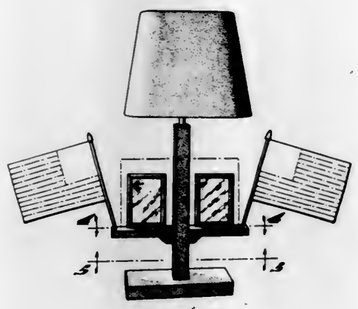
210,092
CLOCK OR SIMILAR ARTICLE
Harry L. Laylon, Syracuse, N.Y., and William V. Judson, Westport, Conn., assignors to General Electric Company, a corporation of New York
Filed May 11, 1967, Ser. No. 7,072
Term of patent 7 years
(Cl. D42—7)



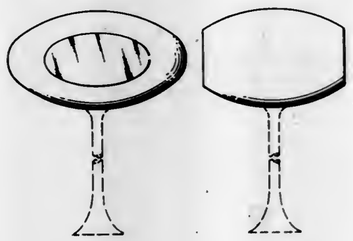
210,093
COMBINED BOTTLE OPENER AND SCREWDRIVER
Harvey N. Bliss, Windsor, Conn., assignor to The Britton Corporation, Newington, Conn., a corporation of Connecticut
Filed Dec. 15, 1966, Ser. No. 5,057
Term of patent 14 years
(Cl. D44—29)



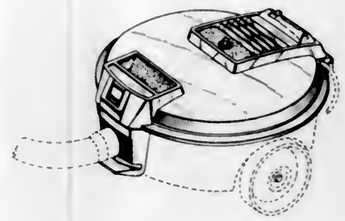
210,094
COMBINATION LAMP, PICTURE FRAME AND FLAG HOLDER
Frank L. Poinsett, Box 370, Richwood Road, R.R. 2, Walton, Ky. 41094
Filed Mar. 24, 1967, Ser. No. 6,719
Term of patent 14 years
(Cl. D48—20)



210,095
LUMINAIRE
William T. Eppard, Arcadia, Calif., assignor to Kim Lighting & Manufacturing Company, Inc., El Monte, Calif., a corporation of California
Continuation-in-part of design application Ser. No. 2,950, July 6, 1966. This application June 28, 1967, Ser. No. 7,632
Term of patent 14 years
(Cl. (D48—31)



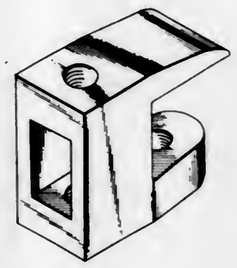
210,096
VACUUM CLEANER
Meyric K. Rogers, La Grange Park, and Gene Schugart, Chicago, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 21, 1967, Ser. No. 5,894
Term of patent 14 years
(Cl. D49—14.1)



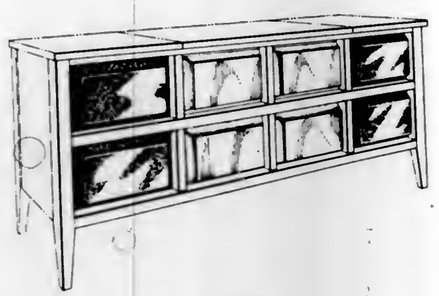
210,097
MEASURING TAPE AND THE LIKE
Laird Covey, Easton, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Aug. 19, 1966, Ser. No. 3,538
Term of patent 14 years
(Cl. D52—6)



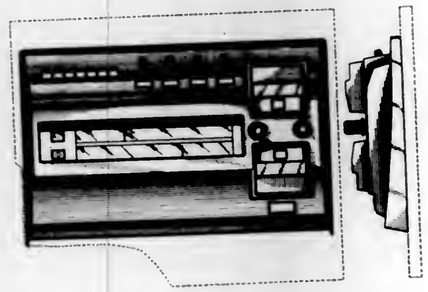
210,098
BODY FOR A PIPE HANGER CLAMP
Henry J. Marik, Youngstown, Ohio, assignor to Metelco, Inc., Struthers, Ohio
Filed Feb. 2, 1967, Ser. No. 5,667
Term of patent 14 years
(Cl. D54—1)



210,099
RADIO CABINET OR SIMILAR ARTICLE
Gordon L. Duern, Elmira, Ontario, Canada, assignor to Dominion Electrohome Industries Limited, Kitchener, Ontario, Canada
Filed Aug. 5, 1966, Ser. No. 3,359
Term of patent 14 years
(Cl. D56—4)



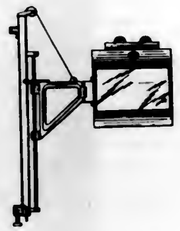
210,100
CONTROL PANEL FOR A COMBINED RADIO AND PHONOGRAPH, OR SIMILAR ARTICLE
Herbert J. Zeller, Dundee, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Nov. 1, 1965, Ser. No. 87,970
Term of patent 14 years
(Cl. D56—4)



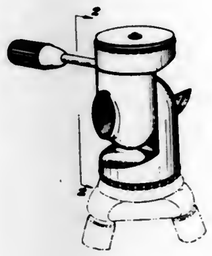
210,101
PAIR OF SPECTACLES
Robert H. Ramp, Pittsford, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Dec. 23, 1966, Ser. No. 5,168
Term of patent 14 years
(Cl. D57—1)



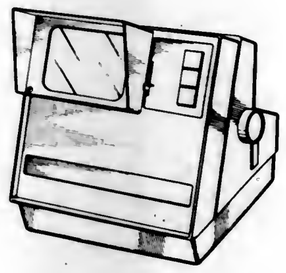
210,102
PHOTO-OFFSET PLATE MAKING MACHINE
Albert Gerson, Baldwin Road, Yorktown Heights, N.Y. 10598
Filed Mar. 10, 1966, Ser. No. 1,401
Term of patent 14 years
(Cl. D61—1)



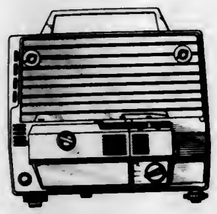
210,103
TILT HEAD FOR A CAMERA TRIPOD OR THE LIKE
Adolph R. Schnase, Norco, Calif., assignor to Davidson Optronics, Inc., West Covina, Calif., a corporation of California
Filed Mar. 16, 1966, Ser. No. 1,494
Term of patent 14 years
(Cl. D61—1)



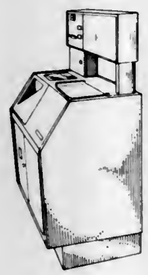
210,104
MACHINE FOR MOUNTING FILM ON CARDS
Robert G. Plantholt, Rochester, Mich., assignor to The Scionics Corporation, Northridge, Calif., a corporation of California
Filed Aug. 2, 1966, Ser. No. 3,310
Term of patent 14 years
(Cl. D61—1)



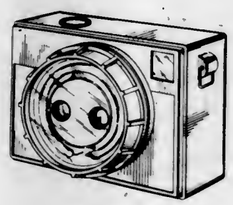
210,105
COMBINED MOTION PICTURE PROJECTOR AND CARRYING CASE OR SIMILAR ARTICLE
Otto R. Nemeth, Los Angeles, Calif., assignor to Sawyer's Inc., a corporation of Oregon
Filed May 5, 1966, Ser. No. 2,172
Term of patent 14 years
(Cl. D61—1)



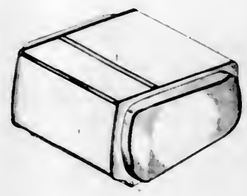
210,106
PHOTOCOPIER OR SIMILAR ARTICLE
Charles Jerabek, Bayshore, N.Y., assignor to Copia Manufacturing Corporation, Garden City, N.Y., a corporation
Filed Oct. 24, 1966, Ser. No. 4,409
Term of patent 14 years
(Cl. D61—1)



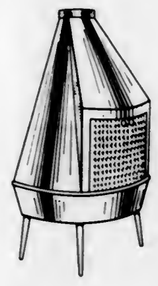
210,107
PHOTOGRAPHIC CAMERA
Tsunezo Shimoda, Ohiko Yagi, Kinya Sawada, Takehiko Nakanishi, Sadao Okada, Hideki Ishii, and Masayuki Sakuma, Tokyo, Japan, assignors to Kabushiki Kaisha Ricoh, Tokyo, Japan
Filed Apr. 19, 1967, Ser. No. 6,755
Claims priority, application Japan Nov. 1, 1966
Term of patent 14 years
(Cl. D61—1)



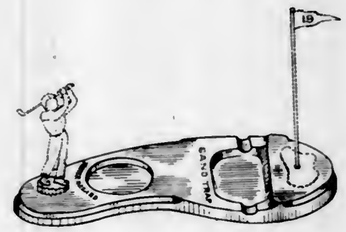
210,108
DUPLICATING MACHINE
George Kooch, Philadelphia, Pa., assignor to Scriptomatic, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Apr. 25, 1966, Ser. No. 2,009
Term of patent 14 years
(Cl. D64—11)



210,109
FIREPLACE STOVE
Ovide A. Bjorgan, 740 Lockwood Lane, Santa Cruz, Calif. 95060
Filed Sept. 7, 1966, Ser. No. 3,756
Term of patent 14 years
(Cl. D81—7)



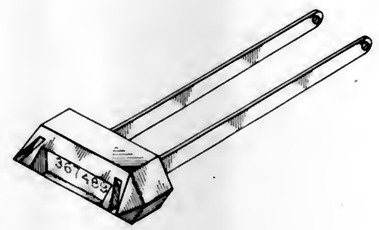
210,110
COMBINED COASTER AND ASH TRAY
John A. Hornyak, Hammond, Ind. (P.O. Box 728, Whiting, Ind. 46394)
Filed Feb. 16, 1967, Ser. No. 5,835
Term of patent 14 years
(Cl. D85—2)



210,111
PLASTIC COATED SHEET MATERIAL
Richard A. Mazur, McFarland, Wis., assignor to Uniroyal, Inc., a corporation of New Jersey
Filed Feb. 21, 1967, Ser. No. 5,893
Term of patent 14 years
(Cl. D87—3)



210,112
COMBINATION IDENTIFICATION AND TURN SIGNAL UNIT FOR BICYCLES
George E. Granger, 611 S. Courtney, Fullerton, Calif. 92633
Filed Mar. 8, 1967, Ser. No. 6,127
Term of patent 14 years
(Cl. D90—1)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 6TH DAY OF FEBRUARY, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Dassler, Adolf. Sport shoes, especially for runners. Re. 26,340, 2-6-68, Cl. 36—2.5.

Fisher, Denys, to Kenner Products Co. Instruments or apparatus. Re. 26,341, 2-6-68, Cl. 33—27.

Kenner Products Co. : *See*—
Fisher, Denys. Re. 26,341.

LIST OF PLANT PATENTEES

Anderson, Frederic W., to Reedley Nursery, Inc. Nectarine tree. 2,794, 2-6-68, Cl. 41.

Flemer, John W. : *See*—
Flemer, William, III. 2,795.

Flemer, William, III, to Treesearch, a partnership composed of W. Flemer III, J. W. Flemer, and R. J. Henkel. Hackberry tree. 2,795, 2-6-68, Cl. 51.

Henkel, Richard J. : *See*—
Flemer, William, III. 2,795.

Reedley Nursery, Inc. : *See*—
Anderson, Frederic W. 2,794.

Treesearch : *See*—
Flemer, William, III. 2,795.

LIST OF DESIGN PATENTEES

Abe, Yoshio, to Kikkoman Shoyu Co., Ltd. Bottle for dispensing liquid material. 210,067, 2-6-68, Cl. D9—97.

Ballels, Peter. Toy spinning top. 210,084, 2-6-68, Cl. D34—15.

Bausch & Lomb Inc. : *See*—
Ramp, Robert H. 210,101.

Beck, R. W., Jr. : *See*—
Pair, Sidney P. and J. W., and Beck. 210,070.

Bjorgan, Ovide A. Fireplace stove. 210,109, 2-6-68, Cl. D81—7.

Bliss, Harvey N., to The Britton Corp. Combined bottle opener and screwdriver. 210,093, 2-6-68, Cl. D44—29.

Britton Corp., The : *See*—
Bliss, Harvey N. 210,093.

Cornelius, Edwin T., Jr. Booth for acoustical devices. 210,069, 2-6-68, Cl. D13—1.

Covey, Laird, to The Stanley Works. Measuring tape and the like. 210,097, 2-6-68, Cl. D52—6.

Cutler-Hammer, Inc. : *See*—
Eck, Robert N. 210,078.

Copia Mfg. Corp. : *See*—
Jerabek, Charles. 210,106.

DaPrato, Clement J., and E. DaPrato, Jr. Water sprinkler hoop. 210,074, 2-6-68, Cl. D23—10.

Dal'rato, Eddie, Jr. : *See*—
Dal'rato, Clement J., and E. Daprato, Jr. 210,074.

Davidson Optronics, Inc. : *See*—
Schnase, Adolph R. 210,103.

Dominion Electrohome Industries Ltd. : *See*—
Duern, Gordon L. 210,099.

Duern, Gordon L., to Dominion Electrohome Industries Ltd. Radio cabinet or similar article. 210,099, 2-6-68, Cl. D56—4.

Echterling, Eugene J. : *See*—
Ryan, John W., and Echterling. 210,076.

Eck, Robert N., to Cutler-Hammer, Inc. Electrical control cabinet control. 210,078, 2-6-68, Cl. D26—5.

Eppard, William T., to Kim Lighting & Mfg. Co., Inc. Luminaire. 210,095, 2-6-68, Cl. D48—31.

Frederick, Phyllis : *See*—
Ryan, John W., Frederick, and Zimmerman. 210,082.

General Electric Co. : *See*—
Johnson, Carl N. 210,066.
Johnson, Carl N. 210,090.
Laylon, Harry L., and Judson. 210,091.
Laylon, Harry L., and Judson. 210,092.

Gerson, Albert. Photo-offset plate making machine. 210,102, 2-6-68, Cl. D61—1.

Granger, George E. Combination identification and turn signal unit for bicycles. 210,112, 2-6-68, Cl. D90—1.

Gregg, Paul V., to Walker Mfg. Co. Bend of pipe for exhaust systems. 210,071, 2-6-68, Cl. D14—6.

Higgins, Charles T., and W. D. Kreb. Scooter body. 210,087, 2-6-68, Cl. D34—15.

Hornyak, John A. Combined coaster and ash tray. 210,110, 2-6-68, Cl. D85—2.

Huff, Basil D. Slipper. 210,064, 2-6-68, Cl. D2—287.

Huff, Basil D. Slipper. 210,065, 2-6-68, Cl. D2—287.

Ishii, Hideki : *See*—
Shimoda, Tsunezo, Yagi, Sawada, Nakanishi, Okada, Ishii, and Sakuma. 210,107.

Jakobsen, Robert E. K., to Schlumberger Ltd. (Schlumberger N.V.). Chair. 210,072, 2-6-68, Cl. D15—1.

Jerabek, Charles, to Copia Mfg. Corp. Photocopier or similar article. 210,106, 2-6-68, Cl. D61—1.

Johnson, Carl N., to General Electric Co. Toothbrush power handle or similar article. 210,066, 2-6-68, Cl. D9—2.

Johnson, Carl N., to General Electric Co. Clock or similar article. 210,090, 2-6-68, Cl. D42—7.

Judson, William V. : *See*—
Laylon, Harry L., and Judson. 210,091.
Laylon, Harry L., and Judson. 210,092.

Kabushiki Kaisha Ricoh : *See*—
Shimoda, Tsunezo, Yagi, Sawada, Nakanishi, Okada, Ishii, and Sakuma. 210,107.

Kalthoff, Robert J., to O. K. Partnership. Card sorter for a data retrieval device. 210,077, 2-6-68, Cl. D26—5.

Kikkoman Shoyu Co., Ltd. : *See*—
Abe, Yoshio. 210,067.

Kim Lighting & Mfg. Co., Inc. : *See*—
Eppard, William T. 210,095.

King, Michael, to Mother's Cookie Co. Display box. 210,068, 2-6-68, Cl. D9—224.

Kircher, John G. Kite string winder, 210,088, 2-6-68, Cl. D41—1.

Kooch, George, to Scriptomatic, Inc. Duplicating machine. 210,108, 2-6-68, Cl. D64—11.

Kreb, Wellington D. : *See*—
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Laylon, Harry L., and W. V. Judson, to General Electric Co. Clock or similar article. 210,091, 2-6-68, Cl. D42—7.

Laylon, Harry L., and W. V. Judson, to General Electric Co. Clock or similar article. 210,092, 2-6-68, Cl. D42—7.

Makin, Charles C. Game board. 210,081, 2-6-68, Cl. D34—5.

Marik, Henry J., Metelco, Inc. Body for a pipe hanger clamp. 210,098, 2-6-68, Cl. D54—1.

Mattel, Inc. : *See*—
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Ryan, John W., Frederick, and Zimmerman. 210,082.
Ryan, John W., and Schmidt. 210,085.
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Mazur, Richard A., to Uniroyal, Inc. Plastic coated sheet material. 210,111, 2-6-68, Cl. D87—3.

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Musser, Clair O. Planetarium. 210,075, 2-6-68, Cl. D25—1.

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O. K. Partnership : *See*—
Kalthoff, Robert J. 210,077.

Ogg, Stanley K. Applique for a furniture panel or similar article. 210,079, 2-6-68, Cl. D33—1.

Okada, Sadao : *See*—
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Pair, Sidney P., Pair, and Beck. 210,070.

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Plantholt, Robert G., to The Scionics Corp. Machine for mounting film on cards. 210,104, 2-6-68, Cl. D61—1.

Poinsett, Frank L. Combination lamp, picture frame and flag holder. 210,094, 2-6-68, Cl. D48—20.

Ramp, Robert H., to Bausch & Lomb Inc. Pair of spectacles. 210,101, 2-6-68, Cl. D37—1.

Rogers, Meyric K., and G. Schugart, to Sunbeam Corp. Vacuum cleaner. 210,096, 2-6-68, Cl. D49—14.1.

Ryan, John W., and E. J. Echterling, to Mattel, Inc. Teaching machine toy having phonograph means. 210,076, 2–6–68, Cl. D25—1.
Ryan, John W., P. Frederick, and C. R. Zimmerman, to Mattel, Inc. Swingable wand skill game device. 210,082, 2–6–68, Cl. D34—5.
Ryan, John W., and G. W. Schmidt, to Mattel, Inc. Outer space vehicle toy. 210,085, 2–6–68, Cl. D34—15.
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Ryan, John W., and Schmidt. 210,085.
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Schnase, Adolph R., to Davidson Optronics, Inc. Tilt head for a camera tripod or the like. 210,103, 2–6–68, Cl. D61—1.
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Werner, George E. Folding exercise board. 210,083, 2–6–68, Cl. D34—5.
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TO WHOM

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Berill, Carroll H. Typewriter with multiple ribbons. 3,367,471, 2–6–68, Cl. 197—153.
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Charles, Alan, and D. Charles. Game board apparatus. 3,367,662, 2–6–68, Cl. 273—134.

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Rowley, David S. 3,367,430.

Christensen, Lars N. Gravity return mechanism for mail boxes, gates or the like. 3,367,613, 2–6–68, Cl. 248—145.

Chrysler Corp.: *See*—
Lemon, Joseph R. 3,368,197.

Church, Herman S., and D. C. Price, to The Monarch Rubber Co. Plate metal structure with integral threaded stud. 3,367,685, 2–6–68, Cl. 287—20.3.

Church, Peter K. Fire kindling device. 3,367,757, 2–6–68. Cl. 44—38.

Cimaglia, John A.: *See*—
Haertel, Mildred E., and Cimaglia. 3,367,695.

Citizen Watch Co., Ltd.: *See*—
Nakagiri, Tadahiko, and Shimisu. 3,368,080.

Claar, Paul W., to Mack Trucks, Inc. Automatically aligning ball stud coupling. 3,367,691, 2–6–68, Cl. 287—90.

Clapper, Genung L., to International Business Machines Corp. Speech analyser for speech recognition system. 3,368,039, 2–6–68, Cl. 179—1.

Clare, John, to General Motors Corp. Wheel cover with central medallion. 3,367,721, 2–6–68, Cl. 301—37.

Claren, Rodolfo, and D. Riviere, to A. Salvi and Co. S.p.A., and Societa Sediver. Insulating device for supporting a bundle of conductors in high voltage electric lines. 3,368,027, 2–6–68, Cl. 174—140.

Clark, Edgar L., to Commercial Solvents Corp. Vinyl-polyester-oxazoline resin reaction product. 3,367,895, 2–6–68, Cl. 260—22.

Clark Equipment Co.: *See*—
Erdman, William C., Howard and Hybarger. 3,367,356.
Ratliff, Richard L. 3,367,205.

Clark, J. R., Co., The: *See*—
Munson, Donald J. 3,367,611.

Clark, William A., IV: *See*—
Beausoleil, William F., Clark, Hill and Smith. 3,368,207.

Clarkson, Robert J., to Uniroyal Inc. Apparatus for crimping and texturising yarn. 3,367,006, 2–6–68, Cl. 28—1.

Clausen, Victor H., and A. Zweig, to Simpson Timber Co. Automatic plywood layup apparatus and method. 3,367,823, 2–6–68, Cl. 156—281.

Clay, Robert B., L. L. Udy, and D. T. Bailey, to Intermountain Research and Engineering Co. Thickened inorganic nitrate aqueous slurry containing finely divided aluminum having a lyophobic surface of high surface area. 3,367,805, 2–6–68, Cl. 149—6.

Clejan, Deodat, and T. C. Gray, to Cushion Coupler Corp. Cushion couplers for railway cars. 3,367,515, 2–6–68, Cl. 213—22.

Clement, Clyde H. ½ each to R. C. and W. J. Binkley, and W. A. Uhlig. Signal device having signal light means at each end of a rotating rod. 3,368,215, 2–6–68, Cl. 340—366.

Clifford, Richard P., to TRW Inc. Conical receiver for thermal radiation. 3,368,076, 2–6–68, Cl. 250—83.3.

Cline, Robert A.: *See*—
Tonjes, Burl D., and Cline. 3,367,498.

Clive, Peter, and C. N. Gattuso, to Aquador Plastics, Inc. Inflatable pear shaped solar still. 3,367,843, 2–6–68, Cl. 202—176.

Clough, Philip J.: *See*—
Baer, Charles A., Clough, and Steeves. 3,367,811.

Cluett, Peabody & Co., Inc.: *See*—
Troope, Walter S., and Cramer. 3,367,041.

Cobb, Everett N.: *See*—
Sheldon, Harry B., and Cobb. 3,367,788.

Cobbenhagen, Alphonsue: *See*—
Cobbenghagen, Jan M., A., and E. 3,367,657.

Cobbenhagen, Edmond: *See*—
Cobbenhagen, Jan M., A., and E. 3,367,657.

Cobbenhagen, Jan M., A. and E. Game having angular deviation detecting means for tracked object. 3,367,657, 2–6–68, Cl. 273—86.

Cober Fabbrica Articoli Sportivi: *See*—
Covini, Lorenzo. 3,367,673.

Cockle, Roy B., and G. D. Nelson. Grain saving device for combines. 3,367,496, 2–6–68, Cl. 209—261.

Cocquyt, Frans: *See*—
Osterrieth, Michel, and Cocquyt. 3,367,998.

Coen, Aldo L. Method for forming a field structure for magnetic loudspeaker. 3,367,165, 2–6–68, Cl. 72—348.

Coit, Roland L., and E. F. Stalcup, to Westinghouse Electric Corp. Flash evaporation apparatus and method. 3,367,845, 2–6–68, Cl. 202—173.

Collins, James P., to Exemplary Enterprises Ltd. Convertible skate. 3,367,669, 2–6–68, Cl. 280—11.3.

Collins Radio Co.: *See*—
Carter, Robert C., Cunningham, and Tollefson. 3,368,036.

Combourieux, André, to Industrial Holding Establishment. Non-gyrating projectile fuse. 3,367,267, 2–6–68, Cl. 102—78.

Combustion Engineering, Inc.: *See*—
Graham, Ollis W. 3,368,147.

Comer, Marvin H., and B. R. Fain, to Alamance Industries, Inc. Apparatus for false-twisting and plying yarns. 3,367,096, 2–6–68, Cl. 57—34.

Commercial Solvents Corp.: *See*—
Clark, Edgar L. 3,367,895.
Griffith, George L. 3,367,266.

Compact Products, Inc.: *See*—
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Compagnie Francaise Thomson Houston-Hotchkiss Brandt: *See*—
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Compagnie Generale D'Electricite: *See*—
Klein, Georges. 3,368,089.

Conch International Methane Ltd.: *See*—
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Conner, John P., and K. A. Grunert, to Westinghouse Electric Corp. Electric control devices with mechanical interlock. 3,368,171, 2–6–68, Cl. 335—120.

Conrad, Thomas W. Pneumatically actuated impact tool. 3,367,428, 2–6–68, Cl. 173—102.

Consolidated Airborne Systems, Inc.: *See*—
Rose, Leonard. 3,367,193.
Rose, Leonard. 3,368,216.

Consolidation Coal Co.: *See*—
Erickson, Arnold R. 3,368,012.

Consoli, Frank J., and D. J. Bobel, to Skil Corp. Lubricating system for power tools. 3,367,447, 2–6–68, Cl. 184—59.

Consortium fur Elektrochemische Industrie G.m.b.H.: *See*—
Röder, Manfred, Herrmann, and Dietz. 3,367,394.

Container Corp. of America, and Copeland Process Corp.: *See*—
Hanway, John E., Jr., and Smithson. 3,367,735.

Conte, Louis B., Jr.: *See*—
Apel, Francis N., and Conte. 3,367,974.

Continental Can Co., Inc.: *See*—
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Tijunelis, Donatas. 3,368,014.

Controle Bailey (Societe Anonyme): *See*—
Lejon, Jean C. 3,368,126.

Cook, George R., A. A. Manteuffel, and J. B. Stucker, to Union Oil Co. of California. Metal working lubricant. 3,367,866, 2–6–68, Cl. 252—33.3.

Cook, Ralph J., to Products Research & Chemical Corp. Gas-generating dispenser for viscous materials. 3,367,545, 2–6–68, Cl. 222—389.

Cook, Richard L.: *See*—
Woods, Billy L., and Cook. 3,367,083.

Cook, Walter E., and C. Harper, to United States Steel Corp. Dust distributor. 3,367,541, 2–6–68, Cl. 222—193.

Cooke, Robert R., to The Procter & Gamble Co. Culinary mixes containing alkali metal alkyl sulfates. 3,367,781, 2–6–68, Cl. 99—94.

Cooney, Frank E.: *See*—
Pond, Warren G., Cooney, and Mesnarich. 3,368,117.

Cooper, Frank H. Front carrier for motorcycle. 3,367,548, 2–6–68. Cl. 224—42.03.

Cooper, William J., and D. M. Kyllonen, to Callery Chemical Co. Fire extinguishing agent. 3,367,863, 2–6–68, Cl. 252—2.

Copeland, Charles W. Machine tool cutter head. 3,367,220, 2–6–68, Cl. 82—35.

Copeland, Lynn L.: *See*—
Bucsala, George S., Rosengar, and Copeland. 3,368,005.

Copeland, Walter C., Jr. Tobacco curing apparatus. 3,367,643, 2–6–68, Cl. 263—19.

Copolymer Rubber and Chemical Corp.: *See*—
Bishop, William A., Sr. 3,367,038.

Corella, Arthur P.: *See*—
Schneider, William S., and Corella. 3,367,485.
Schneider, William S., and Corella. 3,367,489.

Cornell Aeronautical Laboratory, Inc.: *See*—
Hertzberg, Abraham, Stoddard, and Weatherston. 3,367,563.

Cornforth, John W., to Shell Oil Co. Amidation of 2-haloacetates. 3,367,947, 2–6–68, Cl. 260—340.9.

Corporation Societe d'Etudes et de Recherches, Magnetiques Sermag: *See*—
De Bennetot, Michel C. 3,368,092.

Corry Jamestown Corp.: *See*—
Kafferlin, William H. 3,367,731.

Covini, Lorenzo, to Cober Fabbrica Articoli Sportivi. Grip for ski poles. 3,367,673, 2–6–68, Cl. 280—11.37.

Cowan, Arnold A., and H. T. Linde, to The Bobrick Corp. Waste receptacle having a semi-recessed container. 3,367,528, 2–6–68, Cl. 220—18.

Cox, Clyde D. Landscaping implement. 3,367,293, 2–6–68, Cl. 111—6.

Cox, Julian F., Jr., to Newport News Shipbuilding and Dry Dock Co. Rotary heat exchanger with ribbed inner liner of higher thermal conductivity than outer shell. 3,367,042, 2–6–68, Cl. 34—124.

Craddock, Carlton G.: *See*—
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Cramer, Robert S.: *See*—
Troope, Walter S., and Cramer. 3,367,041.

Crandall, Bee C. Surgical appliance. 3,367,338, 2–6–68, Cl. 128—350.

Cravens, Du Val, to Osmose Wood Preserving Co. of America, Inc. Tree treatment method. 3,367,065, 2–6–68, Cl. 47—57.5.

Cravens, Samuel V. Material-suspending air current differential density segregating apparatus. 3,367,502, 2–6–68, Cl. 209—467.

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Cronheim, Richard B. Illuminated mirror. 3,368,068, 2–6–68, Cl. 240—4.2.

Cross, Ronald A.: *See*—
Buckman, Kenneth E., and Cross. 3,367,508.

Cross, Willis J., Jr., and R. B. Morris, to Air Products and Chemicals, Inc. Quench system. 3,367,402, 2–6–68, Cl. 165—100.

Crousel, Luc E., to United States of America. Core memory matrix in multibeam receiving system. 3,368,202, 2–6–68, Cl. 340—172.5.

Crowe, Talmadge L., to Baker Oil Tools, Inc. Rod compensator for subsurface well pumps. 3,367,279, 2–6–68, Cl. 103—202.

Crown Zellerbach Corp.: *See*—
Parsons, Bruce V. 3,367,085.

Crowther, George N.: *See*—
Seckerson, Clifford A., Ferguson, and Crowther. 3,367,203.

Cruz, Anatolio B., Jr., and R. L. Kaster, to The Regents of the University of Minnesota. Prosthetic heart valve. 3,367,364, 2–6–68, Cl. 137—527.8.

Cullis, Roger, to International Standard Electric Corp. Method of etching a graded metallic film. 3,367,806, 2–6–68, Cl. 156—17.

Culver, Perrin C., to The Deutch Co. Electronic Components Division. Axially operated coupling device. 3,368,182, 2–6–68, Cl. 339—91.

Cummings, Clinton L., to Geartronics Corp. Rotary selection mechanism for changing gear ratios. 3,367,200, 2–6–68, Cl. 74—329.

Cummings, John L., Sr. Process for making hydration resistant refractory brick. 3,368,010, 2–6–68, Cl. 264—63.

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Carter, Robert C., Cunningham, and Tollefson. 3,368,036.

Curran, Michael G. Multiple-belt seat harness with common anchoring system for the belts. 3,367,715, 2–6–68, Cl. 297—385.

Curry, Robert P., and C. G. Craddock, to Geigy Chemical Corp. Process for the preparation of phosphoric acid esters. 3,367,935, 2–6–68, Cl. 260—251.

Curry, William J., Jr., to Hiram Swank's Sons. Apparatus for preparing metal test samples from molten metal baths. 3,367,189, 2–6–68, Cl. 73—425.4.

Curth, Fernando A., to Bunge Corp. Hatch cover. 3,367,300, 2–6–68, Cl. 114—201.

Curtis, Westley F., and H. A. David, to United States of America, Navy. Distillative hydroelectrolysis with alternatively applied pressure. 3,367,848, 2–6–68, Cl. 203—49.

Curtiss-Wright Corp.: *See*—
Tiedeman, Robert K. 3,367,138.

Cushion Coupler Corp.: *See*—
Clejan, Deodat, and Gray. 3,367,515.

Cutler-Hammer, Inc.: *See*—
Bigelow, James H., Hart, Hyink, Quaal, Snowdon, and Swinehart. 3,368,172.

Cvacho, Daniel S., and H. W. Lee, Jr., to Reynolds Metals Co. Apparatus for adhesively splicing consecutive strips to each other. 3,367,825. 2–6–68. Cl. 156—505.

Cyrol, Edmund A. Eraser. 3,366,990, 2–6–68, Cl. 15—425.

Czarnocka, Anna K.: *See*—
Salwa, Henryk S., Jaworska, Levenstein, Bury, Vaedtke, Jedrzejuk, and Czarnocka. 3,367,950.

Daimler-Benz Aktiengesellschaft: *See*—
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Barényi, Béla. 3,367,711.

Dain, Richard J., to Davy and United Engineering Co., Ltd. Trunnion ring for tiltable convertor. 3,367,647, 2–6–68, Cl. 266—36.

Dallape, Fred, and K. McKibben, to General Motors Corp. Material handling device. 3,367,517, 2–6–68, Cl. 214—1.

Dana Corp.: *See*—
Groves, Wilson T., and Lowry. 3,367,142.

Daniel, Leonard I., to Johns-Manville Corp. Method and apparatus for use in the manufacture of asbestos-cement articles. 3,368,011, 2–6–68, Cl. 264—72.

Dankowski, Gerhard. Pulley and bearing assembly. 3,367,199, 2–6–68, Cl. 74—230.3.

Darby, John R. Balloon holder and seal. 3,366,999, 2–6–68, Cl. 24—81.

Darlington, Harold T. Insulating structure. 3,367,527, 2–6–68, Cl. 220—9.

Daase, Lester F., to Lambert Brake Corp. Method of producing a composite friction member. 3,367,774, 2–6–68, Cl. 75—208.

Data Technology Corp.: *See*—
Wasserman, Philip D. 3,368,149.

Daum, Gerhard, P. Janssen, and H. Richtzenhain, to Scholven-Chemie Aktiengesellschaft. Hardened epoxide polymers. 3,367,911, 2–6–68, Cl. 260—47.

David, Harvey A.: *See*—
Curtis, Westley F., and David. 3,367,848.

David, Robert C., H. Grats, and R. H. Miller, said David, and said Grats, assors. to said Miller. Backing strip-stud component for flexible folders. 3,367,340, 2–6–68, Cl. 129—39.5.

David, Thomas H., Jr.: *See*—
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Davis, Alva R., Jr.: *See*—
Beck, Roland D., David, Davis, Doyle, and Geiger. 3,367,561.

Davis, Jerry B.: *See*—
Wals, Frank C., Jr., and Davis. 3,367,072.

Davis, Richard O., to Ranco Inc. Actuator. 3,367,575, 2–6–68, Cl. 236—100.

Davis, Walter M.: *See*—
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Dean, George J., Jr. Electrically indicating target system with adjustably tensioned target member. 3,367,661, 2–6–68, Cl. 273—102.2.

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De Bennetot, Michel C., to Corporation Societe d'Etudes et de Recherches, Magnetiques Sermag, a limited company. Magnetic power transmission device. 3,368,092, 2–6–68, Cl. 310—103.

De Bono, Edward F., to Airmed Ltd. Device for testing lung function. 3,367,324, 2–6–68, Cl. 128—2.08.

De Corso, Serafino M., and C. B. Wolf, to Westinghouse Electric Corp. Electrode and electrode tip for use therein. 3,368,018, 2–6–68, Cl. 13—18.

De Corso, Serafino M., and C. B. Wolf, to Westinghouse Electric Corp. Non-consumable electrode. 3,368,019, 2–6–68, Cl. 13—18.

De Corso, Serafino M., and C. B. Wolf, to Westinghouse Electric Corp. Contact ring and seal. 3,368,020, 2–6–68, Cl. 13—18.

De Corta, Hubert, to Firma Friedrich Kocks. Method and apparatus for heating cylindrical element. 3,368,060, 2–6–68. Cl. 219—155.

Deere & Co.: *See*—
Predmore, Richard F., Jones, and Shriver. 3,367,475.
Sanderson, Leon F., Parker, Head, and Meyer. 3,367,725.

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De la Cruz Carnicero, Bonifacio. System for closing of glass pane doors. 3,367,700, 2–6–68, Cl. 292—288.

Dell, Harry J., and W. J. Garver, to AMP Inc. Electrical connector assembly. 3,368,185, 2–6–68, Cl. 339—217.

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Wegmann, Ludwig, Reth, Weber, and Rebuschat. 3,367,037.

Demler, Walter R., to Allied Chemical Corp. Unsymmetrical bis-(anthroquinone-azole)-azobiphenyl yellow vat dyes. 3,367,928, 2–6–68, Cl. 260—157.

Demmy, Robert C., to Radio Corp. of America. Shadow mask welded to frame at twelve points. 3,368,098, 2–6–68, Cl. 313—85.

Dennison Mfg. Co.: *See*—
Rydman, Carl E. 3,367,264.

Dennison, Robert C., to Radio Corp. of America. Delay compensation circuit arrangement. 3,368,035. 2–6–68, Cl. 178—69.5.

Dennisson, Alan C.: *See*—
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De Penti, Kenneth L., to Midland-Ross Corp. Car coupler with reversible lock-set. 3,367,516, 2–6–68, Cl. 213—100.

Detro, Richard G., to General Electric Co. Vacuum pump having a radially segmented, annular anode. 3,368,100, 2–6–68, Cl. 313—157.

Dettloff, Berndt B.: *See*—
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Deutsch Co. Electronic Components Division, The: *See*—
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Development Consultants, Inc.: *See*—
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De Vries, Louis, to Chevron Research Co. Complex lewis acid catalyzed aromatic hydrocarbon polymerization. 3,367,986, 2–6–68, Cl. 260—670.

Dexter, Martin: *See*—
Peterson, Janet B., and Dexter. 3.367,908.

Dexter, Martin, J. V. Princiotto, and M. Rubin. Method and compositions for enhancing the utilisation of iron by mammals. 3,367,834, 2–6–68, Cl. 167—68.

Dexter, Theodore H.: *See*—
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Diamantides, Nick D. Rate gyroscope. 3,367,194, 2–6–68, Cl. 74—5.6.

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Diamond Shamrock Corp.: *See*—
Fetscher, Charles A., and Lipowski. 3,367,959.

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Dibellus, Norman R., to General Electric Co. Surgical bandage and method of fabrication. 3,367,329, 2–6–68, Cl. 128—156.

Dickey, John W., to Development Consultants, Inc. Collapsible container. 3,367,380, 2–6–68, Cl. 150—1.

Dieta, Wolfgang: *See*—
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Dijken, Reinder H., J. Jager, M. Krikke, and J. Kraus, to North American Philips Co., Inc. Apparatus for manufacturing rings or cylinders of ferromagnetic material. 3,366,995. 2–6–68, Cl. 18—36.

Di Maggio, Dominic P. Fibrous archery target with laminated reinforcing means. 3,367,660, 2–6–68, Cl. 273—102.

Dimock, Joseph M., Jr., to Jennings Radio Mfg. Corp. Hermetically sealed envelope structure for vacuum component. 3,368,023, 2–6–68, Cl. 174—50.5.

Dingus, George W., to Cabot Corp. Cyclonic apparatus. 3,367,090. 2–6–68, Cl. 55—293.

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Dischert, Robert A., and N. P. Kellaway, to Radio Corp. of America. Video signal processing system. 3,368,033, 2–6–68, Cl. 178—7.1.

Dischert, Robert A., and N. P. Kellaway, to Radio Corp. of America. Delay compensation circuit arrangement. 3,368,034. 2–6–68, Cl. 178—69.5.

Ditrick, Norman H., to Radio Corp. of America. Semiconductor devices. 3,368,124, 2–6–68, Cl. 317—235.

Dixie-Narco, Inc.: *See*—
Fleagle, Paul F. 3,367,536.

Djernas, Svend: *See*—
Sorensen, Leif E., and Djernas. 3,367,242.

Dodson, Walter. Rotary fluid pump. 3,367,273, 2–6–68, Cl. 103—88.

Dombrowski, Theodor: *See*—
Sperber, Hans, Dombrowski, and Kunze. 3,367,160.

Dominion Bridge Co. Ltd.: *See*—
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Dominique, Anthony C. Animated fishing lure with buoyancy changing means therein. 3,367,058, 2–6–68, Cl. 43—42.06.

Donaruma, Lorraine G., to Research Corp. Homopolymer of 2-methacryl-oxytropone. 3,367,915, 2–6–68, Cl. 260—63.

Donkers, Jacobus M., to Verschure & Co.'s Scheepswerf en Machinefabriek N.V. Ore separating apparatus. 3,367,500, 2–6–68, Cl. 209—456.

Dooley, Peter C., Jr., to The Carborundum Co. Grinding wheel mounting. 3,367,068, 2–6–68, Cl. 51—168.

Doughty, Richard E. Dredge fishing method and apparatus. 3,367,048, 2–6–68, Cl. 37—55.

Douglass, Charles F., to Sylvania Electric Products, Inc. Ruggedized high frequency apparatus. 3,368,163, 2–6–68, Cl. 331—98.

Dove, J. B., & Sons, Inc.: *See*—
Chant, Albert H., Jr., and Wilson. 3,367,589.

Dow Chemical Co.: *See*—
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Blair, Etcyl H., and Kauer. 3,368,003.
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Gerdes, Walter F. 3,368,145.
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Montgomery, Richard H. 3,367,555.
Nelson, Lee L., and Weyenberg. 3,367,856.
Robbins, William B. 3,367,304.

Dowdican, Franklin W. Waste lift pump with inlet clearing by-pass conduit. 3,367,539, 2–6–68, Cl. 222—148.

Dowding, Peter W., and C. Hardcastle, to Westinghouse Brake and Signal Co. Ltd. Silicon controlled rectifier shift register or ring counter. 3,368,083, 2–6–68, Cl. 307—88.5.

Dowling, Donald J.: *See*—
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Dowth Hydraulic Units Ltd.: *See*—
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Dowty, George H., to Dowty Technical Developments Ltd. Hydraulic apparatus. 3,367,105, 2–6–68, Cl. 60—19.

Dowty Technical Development Ltd.: *See*—
Andrews, Thomas D. H., and Eeles. 3,367,277.
Dowty, George H. 3,367,105.

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Fathauer, George H. 3,367,469.

Domtar Ltd.: *See*—
Tomlinson, George H. 3,367,035.

Doulton & Co. Ltd.: *See*—
Vince, Patrick M. 3,368,026.

Doyle, Donald A.: *See*—
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Doyle, George A., to Motorola, Inc. Method for fabricating and plastic encapsulating a semiconductor device. 3,367,025, 2–6–68, Cl. 29—588.

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Klein, Georges, to Compagnie Generale d'Electricite. Magnetohydrodynamic generators with segmented electrodes. 3,368,089, 2–6–68, Cl. 310—11.

Kleppin, Frank M. Shrub spade. 3,367,704, 2–6–68, Cl. 294—58.

Klinger Mfg. Co. Ltd., The: *See*—
Mattingly, Denis A. E. 3,367,006.

Klink, Jerome P., J. C. Belue, and J. H. Sears, to Owens-Corning Fiberglas Corp. Method for forming and packaging roving. 3,367,587, 2–6–68, Cl. 242—18.

Klockner-Humboldt-Deutz Aktiengesellschaft: *See*—
Oberlander, Georg. 3,368,082.

Klootwyk, Norman W.: *See*—
Kilbourn, Eugene L., Buckner, and Klootwyk. 3,367,278.

Klyce, Stephen D., deceased; S. D. Klyce, Jr., executor, to J. H. Emerson Co. Gas flow monitor. 3,368,212, 2–6–68, Cl. 340—239.

Klyce, Stephen D., Jr.: *See*—
Klyce, Stephen D. 3,368,212.

Knopf, Robert J., and L. F. Theiling, Jr., to Union Carbide Corp. Production of 1,3-glycol half esters. 3,367,966, 2–6–68, Cl. 260—494.

Kobayashi, Tomio. Melting point measuring device. 3,367,171, 2–6–68, Cl. 73—17.

Kobrehel, Peter M., to General Motors Corp. Lock cylinder assembly. 3,367,155, 2–6–68, Cl. 70—366.

Kocher, Ernst-Ulrich: *See*—
Von der Emden, Wolfgang, Kocher, Wagner, and Heller. 3,367,916.

Kock, Erhard: *See*—
Juvinall, James W., Kock, Smart, and Williams. 3,367,578.

Koda, Nobuo J.: *See*—
Sjoberg, Richard L., Koda, and Yaggy. 3,368,093.

Koehler, Carl A. Swimming pool cover. 3,366,977, 2–6–68, Cl. 4—172.

Koehler-Dayton, Inc.: *See*—
Smyers, William H., Jr. 3,367,351.

Koenig, Irene L. Device for heating wax base materials. 3,367,322, 2–6–68, Cl. 126—343.5.

Koerner, Ernest L., and E. Saunders, to Monsanto Co. Purifying phosphoric acid using an amine extractant. 3,367,749, 2–6–68, Cl. 23—312.

Kolvunen, Erkki A.: *See*—
Borman, August H., Kolvunen, Tipping, and Week. 3,367,211.

Komorowski, Alexander F. and H. A. Compensated ellipsograph. 3,367,030, 2–6–68, Cl. 33—30.

Komorowski, Henry A.: *See*—
Komorowski, Alexander F. and H. A. 3,367,030.

Konrad, Charles E.: *See*—
Chausse, Burnette P., and Konrad. 3,368,129.

Kopp, Hans W.: *See*—
Garver, Oscar W., Ullman, Stettler, and Kopp. 3,368,056.

Koppe, Volker, K. Schulte, and H. Muller-Calgan, to E. Merck A.G. 4-(piperazinoalkyl)-pyrazoles. 3,367,936, 2–6–68, Cl. 260—268.

Koppers Co., Inc.: *See*—
Cremer, Walter. 3,367,844.
Easton, Rufus. 3,367,399.
Ingram, Alvin R. 3,367,891.
Kurz, Charles B. 3,367,686.
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Medney, Jonas. 3,367,656.

Koppers-Wistra Ofenbau G.m.b.H.: *See*—
Molz, Josef. 3,367,641.

Kordyban, Eugene S., L. C. Matsch, and O. P. Roberts, Jr., to Union Carbide Corp. Thermal insulating structure. 3,367,530, 2–6–68, Cl. 220—9.

Korrenn, Heinz, and W. Kirchner, to Kugelfischer Georg Schafer & Co. Antifriction bearings provided with built-in feeler-means. 3,367,729, 2–6–68, Cl. 308—173.

Kosowsky, Lester H.: *See*—
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Kossler, Donald J.: *See*—
Pierce, Robert R., and Kossler. 3,367,075.

Koubele, Emil J. Wrench for turning flanged couplings. 3,367,218, 2–6–68, Cl. 81—90.

Kozu, Isao, to Matsushita Electric Industrial Co., Ltd. Phonograph. 3,367,664, 2–6–68, Cl. 274—14.

Krabbe, Ulrik, to Allmanna Svenska Elektriska Aktiebolaget. Phase and frequency converter including a plurality of polygon connected phase branches. 3,368,136, 2–6–68, Cl. 321—7.

Kratzer, Blair S., and N. L. Rosin, to The Garrett Corp. Antifouling device for cable hoist. 3,367,633, 2–6–68, Cl. 254—186.

Kraus, Johan: *See*—
Dijken, Reinder H., Jager, Krikke, and Kraus. 3,366,995.

Kreiselmaier, Kurt W., to Texas Instruments Inc. Fuel cell including electrode of silver, nickel, and zinc. 3,367,801, 2–6–68, Cl. 136—86.

Krikke, Minne: *See*—
Dijken, Reinder H., Jager, Krikke, and Kraus. 3,366,995.

Krikorian, George. Divider construction for wire shelving. 3,367,510, 2–6–68, Cl. 211—126.

Krueger, Allison F. Self-locking adjustable tablet arm. 3,367,713, 2–6–68, Cl. 297—162.

Kruse, George. Combination window, storm window. 3,367,389, 2–6–68, Cl. 160—91.

Krzyanowski, Robert A., to Milprint, Inc. Dispenser carton with swingable bottom. 3,367,552, 2–6–68, Cl. 229—17.

Krzyckl, Leroy J., and C. L. Spindler, to United States of America, Navy. Standing-detonation wave magnetohydrodynamic electrical generator. 3,368,088, 2–6–68, Cl. 310—11.

Kubový, Miloslav, J. Starý, and E. Jirásek, to Vyzkumny Ustav Bavinarsky. Sealing arrangement for a spinning apparatus. 3,367,099, 2–6–68, Cl. 57—58.89.

Kuchera, Gerald J., to A. O. Smith Corp. Method of forming an elongated channel member. 3,367,009, 2–6–68, Cl. 29—155.

Kugelfischer Georg Schafer & Co.: *See*—
Korrenn, Heinz, and Kirchner. 3,367,729.

Kuhn, James O., to Kenner Products Co. Toy oven. 3,368,063, 2–6–68, Cl. 219—411.

Kuhns, Roger J., and F. W. Macone, to Avant Inc. Multiple image flash camera. 3,367,253, 2–6–68, Cl. 95—18.

Kunze, Bernhard: *See*—
Sperber, Hans, Dombrowski, and Kunze. 3,367,160.

Künzle, Franz M.: *See*—
Schmutz, Jean, Hunziker, Schindler, and Künzle. 3,367,930.

Kurosaki, Mutsuo, to Yanagimoto Seisakusho Co., Ltd. Dropping mercury electrode with discharge control means. 3,367,858, 2–6–68, Cl. 204—195.

Kurz, Charles B., to Koppers Co., Inc. Attachment of an end fitting to a solid elongate member. 3,367,686, 2–6–68, Cl. 287—20.3.

Kush, Louis J., Jr.: *See*—
Wilson, Geoffrey L., and Kush. 3,368,190.

Kuwahara, Masayuki. Receptacle equipped with a device preventing its lid from falling off inadvertently. 3,367,532, 2–6–68, Cl. 220—55.1.

Kyllonen, David M.: *See*—
Cooper, William J., and Kyllonen. 3,367,863.

Kyoto Machinery Co. Ltd.: *See*—
Fujihashi, Seitaro. 3,367,151.

Kyowa Hakko Kogyo Co., Ltd.: *See*—
Matsui, Masanao, Yamamoto, Soeda, and Wakaki. 3,367,945.

Labbie, Henry R., to The Scott & Fetzer Co. Self-aligning bearing means. 3,367,728, 2–6–68, Cl. 308—26.

Laboratoires Albert Rolland: *See*—
Thuillier, Yvonne. 3,367,835.
Thuillier, Yvonne. 3,367,836.

Lace, Melvin A., to Oak Electro/Netics Corp. Timing device driven by a bidirectional motor. 3,368,042, 2–6–68, Cl. 200—38.

Lacoste-Tuzan, Henri: *See*—
Ladoues, Pierre, and Lacoste-Tuzan. 3,367,283.

Lacroix, Pierre: *See*—
Buissiere, Jean, and Lacroix. 3,367,841.

Ladoues, Pierre, and H. Lacoste-Tuzan. Railway axle positioning device. 3,367,283, 2–6–68, Cl. 104—32.

Lahti, Paul T. Electrically heated sauna bath stove. 3,368,061, 2–6–68, Cl. 219—366.

Laidig, Jonathan J.: *See*—
Ferris, Robert G., and Laidig. 3,367,519.

Lake, John A., to Aluminum Co. of America. Container opening device. 3,367,524, 2–6–68, Cl. 215—40.

Lambert, Arthur: *See*—
Harper, Donald, and Lambert. 3,367,979.

Lambert Brake Corp.: *See*—
Dasse, Lester F. 3,367,774.

Lampus, John R.: *See*—
Ziemendorf, Edwin F., and Lampus. 3,368,058.

Landis Machine Co.: *See*—
Youtz, Donald E. 3,367,159.

Lang, Ernest U., to National-Standard Co. Clutch bands with brazed and welded ends. 3,367,466, 2–6–68, Cl. 192—107.

Langley, Robert C., to Engelhard Industries, Inc. Metal to ceramic seal. 3,367,696, 2–6–68, Cl. 287—189.365.

Langmesser, Otto J., Jr.: *See*—
Packett, Marvin A., and Langmesser. 3,367,196.

La Plante, Jerry C., to Alloys Unlimited Inc. Gold tin alloy clad product. 3,367,756, 2–6–68, Cl. 29—199.

Larkin, Barrymore T., to Koppers Co., Inc. Substituted resorcinol compound and method of making same. 3,367,976, 2–6–68, Cl. 260—611.

Larson Industries, Inc.: *See*—
Woods, Michael K. 3,367,654.

Larson, Wesley S., and R. L. Panicci, to Pharmaseal Laboratories. Hypodermic syringe package. 3,367,486, 2–6–68, Cl. 206—56.

Latrobe Steel Co.: *See*—
Fletcher, Stewart G., and Haswell. 3,367,770.

Latter, Bruce B., to General Electric Co. Hermetic compressor unit and spring support means thereof. 3,367,609, 2–6–68, Cl. 248—18.

Laverty, Wayne H. Power stake driver. 3,367,426, 2–6–68, Cl. 173—21.

Lawes, Louis F. W., N. G. Shreeve, and N. Mihalik, to Arlside Ltd. Cascade developing apparatus. 3,367,306, 2–6–68, Cl. 118—637.

Lawes, Louis F. W., N. G. Shreeve, and N. Mihalik, to Arlside Ltd. Electrostatographic developing apparatus. 3,367,307, 2–6–68, Cl. 118—637.

Lawrence, Whitney E.: *See*—
Nielsen, William W., Friedman, and Lawrence. 3,367,951.

Layman, Buddy H., to Allis-Chalmers Mfg. Co. Rotating rectifier. 3,368,091, 2–6–68, Cl. 310—68.

Lazarow, George B.: *See*—
Wayland, Robert E., and Lazarow. 3,368,180.

Lea, Norman S., and J. S. Brawn, to Scott Paper Co. Floatation apparatus and recovery and utilization of wood fines from mill wastes. 3,367,495, 2–6–68, Cl. 209—163.

Leasure, John K., to The Dow Chemical Co. Method for logarithmic step spraying. 3,367,577, 2–6–68, Cl. 239—11.

Leatherman, Richard E.: *See*—
Mead, Hansel B., Jr., and Leatherman. 3,368,134.

Leberknight, Charles E.: *See*—
Elkenberry, Willis M., and Leberknight. 3,368,198.

Lectro Systems, Inc.: *See*—
Bryan, McNeil. 3,368,040.

Lee, Bob N. Grading tool devices, especially adaptable for use in the garment industry. 3,367,029, 2–6–68, Cl. 33—17.

Lee, Harry W., Jr.: *See*—
Cvacho, Daniel S., and Lee. 3,367,825.

Leebrick, John R., and N. L. Remes, to M & T Chemicals Inc. Process for preparing diorganoantimony compounds $R_2SbOOCR'$ and novel products so prepared. 3,367,954, 2–6–68, Cl. 260—414.

Leeson, James L., Jr., to Woodward Governor Co. Digital synchronizing and phase matching system. 3,367,110, 2–6–68, Cl. 60—97.

Leeuwerik, Jan: *See*—
Ragettli, Christian, and Leeuwerik. 3,367,815.

Leggitt, S. H., Co.: *See*—
Kilbourn, Eugene L., Buckner, and Klootwyk. 3,367,278.

Le Gros, Kenneth, and J. J. Zimmermann, to Automatic Electric Laboratories, Inc. Tape transport mechanism for announcement/recorder machines. 3,367,591, 2–6–68, Cl. 242—55.12.

Lehmann, Alfred: *See*—
Schmied, August, Jan, and Lehmann. 3,367,526.

Lehmann, Herbert G. Dispenser with one-piece tamper-proof actuator. 3,367,540, 2–6–68, Cl. 222—153.

Leigh Products, Inc.: *See*—
Moore, Robert J. 3,367,622.

Lein, Juergen G. A., to Addressograph-Multigraph Corp. Liquid development of electrostatic images. 3,367,791, 2–6–68, Cl. 117—37.

Leitten, Carl F., Jr.: *See*—
Heestand, Richard L., and Leitten. 3,367,826.

Leitz, Ernst, G.m.b.H.: *See*—
Meinecke, Gunther, and Lussem. 3,367,231.

Lejon, Jean C., to Controle Bailey (Societe Anonyme). Recorder drive including a single-phase, shaded-pole, spring-biased, A.C. motor controlled by a potentiometer. 3,368,126, 2–6–68, Cl. 318—18.

Lemelson, Jerome H. Apparatus for molding. 3,366,993, 2–6–68, Cl. 18—26.

Lemery, Douglas J.: *See*—
Anderson, Roy H., and Lemery. 3,367,216.

Lemon, Joseph R., to Chrysler Corp. Seat belt reminder signal. 3,368,197, 2–6–68, Cl. 340—52.

Lenahan, William M., and A. G. Watts. Thermally insulated shell mold and method for making same. 3,367,393, 2–6–68, Cl. 164—34.

Leonard, Frank W., to W. A. Teel. Mobile home support. 3,367,614, 2–6–68, Cl. 248—354.

Lepelletier, Pierre A. G., Societe Anonyme Francaise Du Ferodo. Braking installations for automotive vehicles. 3,367,457, 2–6–68, Cl. 188—152.

Lerch, John W., to United States Steel Corp. Strip guide for a pinhole detector. 3,368,079, 2–6–68, Cl. 230—219.

Lesinski, Chester A., and J. W. Van Wyk, to The Dow Chemical Co. Polymeric amide-secondary dialkyl ammonium salt-paraformaldehyde flocculant composition and method. 3,367,918, 2–6–68, Cl. 260—72.

Lesley, Hubert G. Adjustable tie down device. 3,366,997, 2–6–68, Cl. 24—68.

Leslie, James D., to General Motors Corp. Closure latch. 3,367,699, 2–6–68, Cl. 292—216.

Lester, Robert A., and A. Nelkin, to Westinghouse Electric Corp. Traffic supervisory apparatus. 3,367,450, 2–6–68, Cl. 187—52.

Leth, Peter T., to California Packing Corp. Apparatus for orienting tapered agricultural products. 3,367,477, 2–6–68, Cl. 198—33.

Letson, Gordon M., and R. A. Baldrey. Impact absorbing apparatus. 3,367,479, 2–6–68, Cl. 198—127.

Leva, Max. Gas-liquid contact apparatus. 3,367,638. 2–6–68, Cl. 261—113.

Le Vasseur, Robert F., to The Ferrule Mfg. Corp. Furniture glide. 3,366,991, 2–6–68, Cl. 16—42.

Levenstein, Wieslaw L.: *See*—
Salwa, Henryk S., Jaworska, Levenstein, Bury, Vaedtke, Jedrzejuk, and Czarnocka. 3,367,950.

Levin, Nathan D., to Admiral Corp. Three-electron gun assembly with electrically connecting and supporting plate for the control grids. 3,368,097, 2–6–68, Cl. 313—82.

Levine, Charles A., to The Dow Chemical Co. Electroless plating on non-conducting surfaces. 3,367,792, 2–6–68, Cl. 117—47.

Levine, Seymour D., and P. A. Principe, to E. R. Squibb & Sons, Inc. 15-oxygenated-Δ^3-A-norandrostene-2,17-diones. 3,367,963, 2–6–68, Cl. 260—488.

Levine, Seymour D., and P. A. Principe, to E. R. Squibb & Sons, Inc. 12-oxygenated-A-norandrost-3-enes. 3,367,964, 2–6–68, Cl. 260—488.

Levine, Seymour D., to E. R. Squibb & Sons, Inc. $\Delta^{3,5}$-A-norandrostadienes and intermediates. 3,367,965, 2–6–68, Cl. 260—488.

Levine, Sol. Power operated knife with reciprocating slicing blade and electric motor located remotely of the blade. 3,367,026, 2–6–68, Cl. 30—272.

Lewis, James G., to The Imperial Tobacco Co. (of Great Britain and Ireland), Ltd. Method and apparatus for threshing leaves, e.g. tobacco leaves. 3,367,342, 2–6–68, Cl. 131—145.

Lewis, Karl R. Firearm construction. 3,367,053, 2–6–68, Cl. 42—59.

Lewis-Shepard Co.: *See*—
Becker, Bernard B. 3,367,440.

Libby, Charles C., to The Board of Trustees of the Ohio State University. Sonic transducer. 3,368,086, 2–6–68, Cl. 310—9.2.

Liggett, Robert W., to Allied Chemical Corp. Process for preparing organic disulfides from tetra thio carbonates and alkyl halides. 3,367,975, 2–6–68, Cl. 260—608.

Ligi, Joseph J.: *See*—
Brown, Russell A., and Ligi. 3,367,744.

Lilly, Eli, and Co.: *See*—
Soper, Quentin F. 3,367,949.

Linde, Harry T.: *See*—
Cowan, Arnold A., and Linde. 3,367,528.

Linder, George J., Jr., to Camera Corp. of America. Photographic apparatus. 3,367,252, 2–6–68, Cl. 95—13.

Lindquist, Alberta M. Toothbrush holder. 3,367,610, 2–6–68, 248—110.

Lipowski, Stanley A.: *See*—
Fetscher, Charles A., and Lipowski. 3,367,959.

Lippmann, Hans J., and K. Wiehl, to Siemens-Schuckertwerke Aktiengesellschaft. Information carriers for magnetic destination recording in conveying systems. 3,368,208, 2–6–68, Cl. 340—174.1.

Lister, Paul J., to The B. F. Goodrich Co. Hose curing unit. 3,368,017, 2–6–68, Cl. 264—347.

Little, Edmund J.: *See*—
Raider, George K., Little, Johnsen, and Nakazawa. 3,367,257.

Litton Business Systems, Inc.: *See*—
Gang, Herman. 3,367,568.

Littwin, Arthur K., to A. K., R. L. and D. F. Littwin, and H. A. Young, all trustees under trust dated 1-2-51 known as Littwin family trust No. 1. Apparatus for and method of demagnetizing. 3,368,119, 2-6-68, Cl. 317—157.5.

Littwin, Robert L.: *See*—
Littwin, Arthur K. 3,368,119.

Littwin, Donald F.: *See*—
Littwin, Arthur K. 3,368,119.

Liu, Gordon Y. T., and C. J. Bryan, to The Dow Chemical Co. Polyuerization of symmetrical dichloroethylene. 3,367,925, 2-6-68, Cl. 260—91.7.

Llewelyn, David M.: *See*—
West, De Witt H., and Llewelyn. 3,367,767.
West, De Witt H., and Llewelyn. 3,367,768.

Lloyd, William A., to Varian Associates. Sublimation getter pump employing a consumable getter source element heated by radiation. 3,367,564, 2-6-68, Cl. 230—69.

Loch, Luther D., to The Carborundum Co. Thermoelectric device comprising $100SnO_2{:}^{1}{}_{2}Sb_2O_3$. 3,367,803, 2-6-68, Cl. 136—238.

Löffler, Theodor, P. Seifried, G. Wilmsmeyer, and K. Harbrecht, to Firma Rheinmetall G.m.b.H. Hand guard for rifles. 3,367,054, 2-6-68, Cl. 42—71.

Loizides, Edward. Checking system. 3,368,203, 2-6-68, Cl. 340—172.5.

Lombard, Ralph S., to Textron, Inc. Improved rotary pump. 3,367,274, 2-6-68, Cl. 103—103.

Loock, Frederick F., J. P. Lorbiecki, and R. L. Schurrer, to Allen-Bradley Co. Clamp for sieve stack assemblies of reciprocating air column sifters and the like. 3,367,497, 2-6-68, Cl. 209—312.

Look, Merton A., and E. Berg, to S. D. Warren Co. Self-aligning sensing skid. 3,367,180, 2-6-68, Cl. 73—159.

Lopez, Gabriel J. Game missile and projector therefor. 3,367,659, 2-6-68, Cl. 273—95.

Lorbiecki, Joseph P.: *See*—
Loock, Frederick F., Lorbiecki, and Schurrer. 3,367,497.

Loung, Pai Y. Furnace for refractory metals. 3,368,021, 2-6-68, Cl. 13—23.

Lovercheck, Charles L. Towing arrangement for airplanes. 3,367,285, 2-6-68, Cl. 104—173.

Lowry, Raymond F.: *See*—
Groves, Wilson T., and Lowry. 3,367,142.

Lucas, Raymond L. R. Semi-automatic machine for assembling partitions. 3,367,246, 2-6-68, Cl. 93—37.

Lucky, Robert W., to Bell Telephone Laboratories, Inc. Adaptive equalizer for digital transmission systems having means to correlate present error component with past, present and future received. 3,368,168, 2-6-68, Cl. 333—18.

Luden, Alfred J., to Bureau of Engraving, Inc. Control device for electroplating bath. 3,367,859, 2-6-68, Cl. 204—228.

Ludwig, Arthur L., to Hastings Mfg. Co. Windshield wiper arms. 3,366,989, 2-6-68, Cl. 15—250.2.

Lund, Richard B., A. C. Pierce, and E. Turi, to Allied Chemical Corp. Stabilized halogen-containing olefin polymer compositions and stabilizer therefor. 3,367,906, 2-6-68, Cl. 260—45.7.

Lunzer, Frederic A., to Ideal Toy Corp. Track intersection unit. 3,367,284, 2-6-68, Cl. 104—60.

Lurie, Randolph D., to Continental Can Co. Inc. Drawn containers. 3,367,554, 2-6-68, Cl. 229—2.5.

Lüssem, Heribert: *See*—
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Lutton, Edwin S., and N. B. Tucker, to The Procter & Gamble Co. Stabilization of salad oils. 3,367,782, 2-6-68, Cl. 99—118.

Lynch, Francis J., and D. L. Miller, to John I. Thompson & Co. Surface friction tester. 3,367,170, 2-6-68, Cl. 73—9.

Lytle, Robert J., and R. T. Girvin, to The Panel-Clip Co. Jig for assembling roof trusses. 3,367,010, 2-6-68, Cl. 29—200.

MB Associates: *See*—
Mainhardt, Robert. 3,367,112.
Mainhardt, Robert. 3,367,113.

M & T Chemicals Inc.: *See*—
Leebrick, John R., and Remes. 3,367,954.
Passal, Frank. 3,367,854.

Macdiarmid, Ian F., to Postmaster General, Her Majesty's. Electrical distortion corrector. 3,368,029, 2-6-68, Cl. 178—5.2.

MacGregor, William W., to Honeywell Inc. Synchronizing arrangement utilizing an electromechanical resonator to derive clock pulses from a binary data signal. 3,368,037, 2-6-68, Cl. 178—69.5.

Mack Trucks, Inc.: *See*—
Claar, Paul W. 3,367,691.

Mackiw, Vladimir N.: *See*—
Zubryckyj, Nicolas, Evand, and Mackiw. 3,367,740.

MacLaren, David S. Composite mounting collar and cover for septic tank aerator mechanism. 3,367,071, 2-6-68, Cl. 52—21.

Macone, Frederick W.: *See*—
Kuhns, Roger J., and Macone. 3,367,253.

MacPhee, John, to American Machine & Foundry Co. Nuclear reactor fuel bundle. 3,367,840, 2-6-68, Cl. 176—78.

Madison, William F., to United States of America, Navy. Device for dispensing a slurry-type additive into a liquid solvent. 3,367,542, 2-6-68, Cl. 222—193.

Madsen, Kristian D., to Allmanna Svenska Elektriska Aktiebolaget. Rotating electric high power machine with super-conducting stator. 3,368,087, 2-6-68, Cl. 310—10.

Madison, Norman L., to The Dow Chemical Co. Preparation of perfluoroisopropyl sulfide and perfluoroacetone. 3,367,971, 2-6-68, Cl. 260—593.

Magee, Albert C., and J. N. Grassby, to The International Nickel Co., Inc. Valve and method for operating mechanical tuyere puncher and the like. 3,367,238, 2-6-68, Cl. 91—36.

Mainhardt, Robert, to MB Associates. Multiple plate rocket nozzle. 3,367,112, 2-6-68, Cl. 60—201.

Mainhardt, Robert, to MB Associates. Internally cut rocket nozzle. 3,367,113, 2-6-68, Cl. 60—201.

Malcom, Arthur H.: *See*—
Branson, Charles D., Willson, and Malcom. 3,367,572.

Mallory, James D., and L. D. Ryan, to Owens-Illinois, Inc. Apparatus for joining glass parts. 3,367,824, 2-6-68, Cl. 156—363.

Maltner, Heinrich, GmbH.: *See*—
Rabe, Peter, and Dieterle. 3,368,111.

Mandonas, Nicholas J., to Western Electric Co., Inc. Assembly apparatus. 3,367,012, 2-6-68, Cl. 29—203.

Mandonas, Nicholas J., and E. T. Stocker, to Western Electric Co., Inc. Assembly apparatus. 3,367,013, 2-6-68, Cl. 29—203.

Manetta, Peter J.: *See*—
Tabor, Ralph L., Greenwood, and Manetta. 3,367,197.

Mangieri, Daniel D., to United States of America, Navy. Full pressure suit activation system with eject capabilities. 3,367,328, 2-6-68, Cl. 128—142.5.

Mankowich, Abraham, to United States of America, Army. Alkaline water-based cleaner. 3,367,878, 2-6-68, Cl. 252—110.

Mann, William W.: *See*—
Seymour, Shaun A., and Mann. 3,367,520.

Manske, Wendell J., to Minnesota Mining and Mfg. Co. Radiant white light source. 3,367,149, 2-6-68, Cl. 67—98.

Mantel, Daniel: *See*—
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Manteuffel, Allan A.: *See*—
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McGinty, Wallace H., J. W. Southers, and J. M. Taylor. Knitting machine for forming non-run pockets in hosiery. 3,367,144, 2-6-68, Cl. 66—48.

McGivern, James F., Jr., to United Aircraft Corp. Selected area hardcoating of aluminum. 3,367,852, 2-6-68, Cl. 204—15.

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Lawes, Louis F. W., Shreeve, and Mihalik. 3,367,307.

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Navran, Leslie. Baseball batting practice device. 3,367,655, 2–6–68, Cl. 273—26.

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Nid Pty. Ltd.: *See*—
Faerber, Hans A. 3,367,288.

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Brown, William H., Dretzke, and Niemczyk. 3,367,717.

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Gramenius, Hans D., and Nilsson. 3,368,062.

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Furuta, Koichi. 3,367,251.

Nishio, Fumihiko: *See*—
Nakazawa, Yoshiyuki, Nasu, and Nishio. 3,367,779.

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Noll, Franz H., to Wiley Mfg. Co. Hinged cover plate for hatch cover. 3,367,067, 2–6–68, Cl. 49—98.

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Norman, Paul W.: *See*—
Stanford, Arthur, and Norman. 3,367,225.

North American Phillips Co., Inc.: *See*—
Bom, Johannes G. W., Ebbinge, Hofland, and Tobisch. 3,367,313.
Dijken, Reinder H., Jager, Krikke, and Kraus. 3,366,995.
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Thoma, Wilhelm, Rinke, and Oertel. 3,367,899.

O'Keefe, William J. Air concentrating, distributing and bath water bubbling device. 3,367,325, 2–6–68, Cl. 128—66.

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O'Link, Maurice H., to Stearns Mfg. Co. Boat canopy holding means. 3,367,349, 2–6–68, Cl. 135—6.

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Orr, Harley J., to Sola Basic Industries, Inc. Manual bypass for meter sockets. 3,368,118, 2–6–68, Cl. 317—108.

Osborn, Lloyd, to V-M Corp. Reel mounting and reel mounting assembly. 3,367,596, 2–6–68, Cl. 242—68.3.

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Mallory, James D., and Ryan. 3,367,824.
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Packaging Frontiers, Inc.: *See*—
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Packard, Henry: *See*—
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Packett, Marvin A., and O. J. Langmesser, Jr., to General Motors Corp. Window regulator mechanism. 3,367,196, 2–6–68, Cl. 74—89.18.

Page, Earl M.: *See*—
Mims, John B., and Page. 3,367,837.

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Palmer, William H., to Industrial Nucleonics Corp. Rotary die extruder system. 3,368,007, 2–6–68, Cl. 264—40.

Panel-Clip Co., The: *See*—
Lytle, Robert J., and Girvin. 3,367,010.

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Panzer, Richard E., to United States of America, Navy. High energy-density heat-activated voltaic cells at intermediate temperatures. 3,367,800, 2–6–68, Cl. 136—83.

Papalia, John: *See*—
Jennings, James W., Papalia, and Smith. 3,367,420.

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Parker, Jimmy J.: *See*—
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Parrish, Joseph R., to Parrish Instrument Ltd. Step control circuit including a voltage controlled oscillator. 3,368,128, 2–6–68, Cl. 318—138.

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Partington, Albert J., to Westinghouse Electric Corp. Continuous shroud for rotor blades. 3,367,629, 2–6–68, Cl. 253—77.

Pasierb, Edward F., to Radio Corp. of America. Semiconductor gallium arsenide with germanium connecting layer. 3,368,125, 2–6–68, Cl. 317—237.

Passal, Frank, to M & T Chemicals Inc. Nickel plating. 3,367,-854, 2–6–68, Cl. 204—49.

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Pavlath, Attila E.: *See*—
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Peabody Engineering Corp.: *See*—
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Pearson, Robert D., and A. E. Boie. Folding carts. 3,367,676, 2–6–68, Cl. 280—36.

Peel, Robert, and T. B. Reavis, to Hanes Corp. Method and apparatus for needle selection in reciprocatory knitting. 3,367,145, 2–6–68, Cl. 66—48.

Pelouch, James J. Vehicle lift. 3,367,449, 2–6–68, Cl. 187—8.75.

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Pendleton, Wesley W.: *See*—
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Abert, Jack C., Perin, and Dean. 3,367,547.

Perison, Ronald C., Sr.: *See*—
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Perkins, B. F., & Son, Inc.: *See*—
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Perkins, Gilbert T., to E. I. du Pont de Nemours and Co. Process for the preparation of 4,4'-methylenedianiline. 3,367,969, 2–6–68, Cl. 260—570.

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Perrine, Robert A.: *See*—
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Persson, Jan E., and H. K. Olofsson, to Atlas Copco Aktiebolag. Means for unloading and controlling compressor units. 3,367,562, 2–6–68, Cl. 230—24.

Petermann, Robert, to Gesellschaft zur Forderung der Forschung an der Eidgenossischen Technischen Hochschule. Manufacturing of a porous metallic electrode. 3,367,023, 2–6–68, Cl. 29—527.

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Turillon, Pierre P., Crawford, and Peters. 3,367,773.

Peterson, Glen. Method of and apparatus for producing and transmitting borehole signals. 3,368,195, 2–6–68, Cl. 340—18.

Peterson, Janet B., and M. Dexter, to Geigy Chemical Corp. Polyolefins stabilized with alkyl-4-hydroxyphenyl carbamates. 3,367,908, 2–6–68, Cl. 260—45.85.

Peterson, Robert C. Load equalizer. 3,367,209, 2–6–68, Cl. 74—573.

Peterson, Soren E. Small potato eliminator structure. 3,367,494, 2–6–68, Cl. 209—106.

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Petty, Olive S.: *See*—
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Petursson, Sigurdur G., and J. L. Forgie. Pop-up waste or drain. 3,366,980, 2–6–68, Cl. 4—295.

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Hamilton, Donald A 3,367,488.
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Piccinini, August D. Template. 3,367,295, 2–6–68, Cl. 112—146.

Pickavance, Alan, and R. C. Freestone, to Pilkington Bros. Ltd. Apparatus for press bending and toughening a sheet of glass. 3,367,763, 2–6–68, Cl. 65—287.

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Lund, Richard B., Pierce, and Turi. 3,367,906.

Pierce, Arvia L.: *See*—
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Pierce, Robert R., and D. J. Kossler, to Pennsalt Chemicals Corp. Corrosion-proof liner for chimney outer wall. 3,367,075, 2–6–68, Cl. 52—249.

Pierson, John E., to E. I. du Pont de Nemours and Co. Purification of ethylene glycol containing salts of terephthalic acid by plural distillation. 3,367,847, 2–6–68, Cl. 203—41.

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Pisciotta Humbers A., and Anthony T. Pisciotta, Jr., to Jefferson Tank & Seat Mfg. Co., Inc. Method of molding multivented hollow articles. 3,368,013, 2–6–68, Cl. 264—125.

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Pittsburgh Plate Glass Co.: *See*—
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Plagman, Erwin L., Jr. High pressure dry steam system and method of controlling the same. 3,367,309, 2–6–68, Cl. 122—1.

Platz, Elwood T., to I-T-E Circuit Breaker Co. High pressure contact switch having an operating lever and two arcuate ballraces for each contactor. 3,368,050, 2–6–68, Cl. 200—162.

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Pogainis, Edmunds M.: *See*—
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Pond, Robert B., to Atom Mfg. Co., Inc. Fish lure. 3,367,057, 2–6–68, Cl. 43—42.02.

Pond, Warren G., F. E. Cooney, and C. M. Meznarich, to The National Cash Register Co. Voltage distribution circuit arrangements for high-density packaging of electronic systems. 3,368,117, 2–6–68, Cl. 317—101.

Poole, Lorin K.: *See*—
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Porter, Forrest V., to Dresser Industries, Inc. Perforating gun for small diameter bullets. 3,367,429, 2–6–68, Cl. 175—4.58.

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Possis Machine Corp.: *See*—
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Powell, Edward B. Shotgun muzzle device comprising a compensator and choke. 3,367,055, 2–6–68, Cl. 42—79.

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Pratt, Harold R., C. D. Forman, A. B. Small, and J. F. Reeves, to Esso Research and Engineering Co. Insulation system. 3,367,492, 2–6–68, Cl. 220—9.

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Predmore, Richard F., F. De L. Jones, and G. H. Shriver, to Deere & Co. Tobacco leaf orienting means. 3,367,475, 2–6–68, Cl. 198—33.

Preston, William, to Louis Frankel. Dispenser for dispensing granular and powdered material and the like. 3,367,543, 2–6–68, Cl. 222—285.

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Priebs, Horst, to Anker-Werke Aktiengesellschaft. Selective monitor device for accounting machines. 3,367,569, 2–6–68, Cl. 235—60.5.

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Primmer, Charles A.: *See*—
Brandemihl, Primmer and Brandemihl, 3,367,061.

Primmer, Charles A.: *See*—
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Principe, Pacifico A.: *See*—
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Priore, Antoine. Apparatus for producing radiations penetrating living cells. 3,368,155, 2–6–68, Cl. 328—233.

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Lutton, Edwin S., and Tucker. 3,367,782.

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Puhl, Henry E. Wheelbarrow attachment. 3,367,674, 2–6–68, Cl. 280—13.

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Puls, Richard T., and W. T. Wencka. Fish lure. 3,367,059, 2–6–68, Cl. 43—42.14.

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Pyle-National Co., The: *See*—
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QED Inc.: *See*—
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Quattrone, Phillip D., and R. W. Staley, to United States of America National Aeronautics and Space Administration. Exposure system for animals. 3,367,308, 2–6–68, Cl. 119—15.

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Rabe, Peter, and H. Dieterle, to Heinrich Maltner, G.m.b.H. Gas cigarette lighter. 3,368,111, 2–6–68, Cl. 317—85.

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Racine, William A. Mechanical movement. 3,367,195, 2–6–68, Cl. 74—89.2.

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Dennison, Robert C. 3,368,035.
Dischert, Robert A., and Kellaway. 3,368,033.
Dischert, Robert A., and Kellaway. 3,368,034.
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Ragettli, Christian, and J. Leeuwerik, to Metal Containers Ltd. Method and apparatus for forming filament wound vessels. 3,367,815, 2–6–68, Cl. 156—175.

Raider, George K., E. J. Little, J. M. Johnsen, and Y. Nakazawa, to The Pyle-National Co. Air control for white room. 3,367,257, 2–6–68, Cl. 98—33.

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Rankine, Kenneth E., to General Electric Co. Multilayer contact system for semiconductor devices. 3,368,120, 2–6–68, Cl. 317—234.

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Seymour, Shaun A., and W. E. James, to Sperry Rand Corp. Self-cleaning silo unloader impeller. 3,367,521, 2–6–68, Cl. 214—17.

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48 : 3,368,113	50 : 3,367,204	51 : 3,367,825	53 : 3,367,478	54 : 3,367,966	55 : 3,367,692
3,368,144	51 : 3,367,042	3,367,882	3,367,496	55 : 3,367,039	3,367,704
3,368,145	3,367,380	3,368,129	3,367,820	3,367,059	3,367,708
3,368,191	3,367,556	3,368,146	3,367,823	3,367,080	3,367,713
3,368,196	3,367,557	53 : 3,367,000	3,368,214	3,367,490	3,367,849
49 : 3,367,186	3,367,558	3,367,092	54 : 3,367,062	3,367,497	3,367,972
3,367,348	3,367,559	3,367,210	3,367,495	3,367,552	3,368,116
3,367,430	3,367,651	3,367,357	3,367,536	3,367,591	3,368,172
3,367,494	3,367,821	3,367,437	3,367,847	3,367,645	56 : 3,367,668
3,367,805	3,367,822	3,367,477	3,367,904	3,367,674	

Design Patents

6 : 210,072	6 : 210,103	9 : 210,097	25 : 210,089	36 : 210,102	42 : 210,079
210,074	210,105	12 : 210,081	26 : 210,104	210,106	210,087
210,075	210,109	17 : 210,096	34 : 210,083	39 : 210,077	210,108
210,076	210,112	210,100	36 : 210,068	210,088	48 : 210,070
210,082	8 : 210,080	18 : 210,110	210,091	210,098	55 : 210,071
210,085	9 : 210,066	21 : 210,094	210,092	42 : 210,064	210,078
210,086	210,090	24 : 210,069	210,101	210,065	210,111
210,095	210,093	210,073			

Plant Patents

6 : 2,794	34 : 2,795				

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

February 6, 1968 Volume 847 Number 1

TRADEMARKS
NOTICES

United States Adopted Names

LIST No. 18

July 1, 1967 to October 31, 1967

The following nonproprietary names for the drugs described have been adopted by the USAN Council (the nomenclature committee sponsored by the American Medical Association, the American Pharmaceutical Association, and the United States Pharmacopeial Convention) in cooperation with the interested manufacturers. The designation "United States Adopted Names" (USAN) has been coined to distinguish these formally adopted nonproprietary names from other nonproprietary names. Adoption of such names does not imply endorsement of the products involved by the A.M.A. Council on Drugs, the United States Pharmacopeia, or the National Formulary.

Any comments or suggestions should be addressed to Doctor Joseph B. Jerome, Secretary, United States Adopted Names Council, American Medical Association, 535 N. Dearborn St., Chicago, Ill., 60610.

ambuside: diuretic
aprotinin: proteinase inhibitor
benazoline hydrochloride: nasal decongestant
bolenol: anabolic
boxidine: hypocholesteremic; adrenal steroid synthesis blocker
canrenoate potassium: aldosterone antagonist
canrenone: aldosterone antagonist
carbadox: antibacterial
clioxanide: anthelmintic
clomacran phosphate: tranquilizer
diflucortolone: glucocorticoid
diflucortolone pivalate: glucocorticoid
fenalamide: smooth muscle relaxant
ferric fructose: hematinic
fludorex: anorexic; antiemetic
fonazine mesylate: antihistaminic; antiserotonin; antibradykinin

CONDITION OF TRADEMARK APPLICATIONS AS OF DECEMBER 31, 1967

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	17,288
Date of oldest new application	Dec. 19, 1966
Date of oldest amended application (filing date)	Aug. 20, 1964

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	3-21-67	4-8-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	4-6-67	8-20-64
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	2-13-67	11-5-64
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	12-19-66	5-25-65
Renewals (All Classes)	12-4-67	----------
Sec. 12(c) Publications (All Classes)	12-11-67	----------

Applications filed during the month of December 1967—2,073

Registrations Issued ---------- 451—No. 843,452 to No. 843,902
Renewals Issued ---------- 60

For the Quarter October 1, 1967 through December 31, 1967

Applications filed	6,822
Registrations issued	5,009
Renewals issued	826
Cancellations under Section 8	1,238

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

kitasamycin : antibiotic
lithium carbonate : psychotherapeutic
mefenorex hydrochloride : anorexiant
mefexamide : central nervous system stimulant
melitracen hydrochloride : antidepressant
menoctone : antimalarial
mequidox : antibacterial
mitocromin : antineoplastic
mitomalcin : antineoplastic
monensin : antiparasitic ; antibacterial ; antifungal
norflurane : general inhalation anesthetic
octodrine : vasoconstrictor ; local anesthetic
oxogestone : progestogen
rayon, purified : medicinal grade rayon
tenemycin : antibiotic
triamcinolone diacetate : glucocorticoid

United States Adopted Names (USAN)
and
United States Adopted Names (Proposed) (USAN)
QUARTERLY CUMULATIVE LIST
January 1, 1967–September 30, 1967

This is a revised alphabetical listing of the nonproprietary names *proposed for adoption* by the USAN Council which were published in the Trademark Bureau Bulletin during the period indicated. The listing also incorporates the revised lists of *adopted* nonproprietary names issued by the USAN Council, but not published in the Bulletin.

The Quarterly Cumulative List is intended to supplement USAN Cumulative List 5, 1961–1966, published annually for the Council by the United States Pharmacopeia ; it is distributed with an issue of the Trademark Bureau Bulletin.

An asterisk (*) before a name indicates an *adopted name;* all other names on the list are *proposed for adoption.*

Since Q.C.L. is cumulative, only the latest issue need be consulted. All preceding lists may be discarded.

Any comments or protests regarding proposed names should be brought promptly to the attention of the USAN Council, American Medical Association, 535 N. Dearborn St., Chicago, Ill., 60610.

*acecilidine : parasympathominetic
alamecin : antibacterial
alamethicin : antibiotic
alamicin : antibiotic
*alcuronium chloride : muscle relaxant
alpranol : β-adrenergic receptor antagonist
alpranolol hydrochloride : β-adrenergic receptor antagonist
alprenolol hydrochloride : β-adrenergic receptor antagonist
*ambuside : diuretic
*amfonelic acid : central nervous system stimulant
amquinol : coccidiostat
*aprotinin : proteinase inhibitor
*atolide : anticonvulsant
*azaperone : tranquilizer
azaribine : oral antipsoriatic
*benazoline hydrochloride : nasal decongestant
*bensalan : germicide
*benzoxiquine : antiseptic
betametsoate : topical anti-inflammatory
betsoben : topical anti-inflammatory
bolenol : anabolic
*boxidine : hypochloresteremic ; adrenal steroid synthesis blocker
*buthiazide : diuretic ; antihypertensive
*calcitonin : plasma hypocalcemic hormone
*canrenoate potassium : aldosterone antagonist
*canrenone : aldosterone antagonist
*captamine hydrochloride : cutaneous depigmenting activity
*carbadox : antibacterial
carbathione : treatment of anaplasmosis in cattle
carbatone : treatment of anaplasmosis in cattle
carbetone : treatment of anaplasmosis in cattle
carbose : cellulose derivative
carsolate : anthelmintic
*cephalexin : antibiotic
choldexamine : hypocholesteremic
cholosol : choleretic
choriontropin : chorionic gonadotropin
chorotropin : chorionic gonadotropin
*cinnamedrine : uterine antispasmodic
*cinperene : tranquilizer
clincomycin : antibiotic
clinimycin : antibiotic
*clioxanide : anthelmintic
*clofazimine : tuberculostatic ; leprostatic
clofluperol : neuroleptic
clomacran phosphate : tranquilizer
clopindol : coccidiostat
*clorexolone : diuretic
colestran : hypocholesteremic
cosotropin : corticotropin
cosyntropin : corticotropin
cyclazodone : central nervous system agent
*cyclophenazine hydrochloride : tranquilizer
*cyproximide : tranquilizer ; antidepressant
danazol : antipituitary gonadoptrophin
dextracol : hypochloresteremic
*diapamide : diuretic ; antihypertensive
*difluanine hydrochloride : central nervous system stimulant
*difluocortolone : glucocorticoid
*difluocortolone pivalate : glucocorticoid
dimazepine : hypnotic
erizomycin : antibiotic
*ethonam nitrate : fungicide
*fenalamide : smooth muscle relaxant
*fenclonine : serotonin biosynthetsis inhibitor ; psychotropic
fendilidine : analgesic
*fenestrel : nonsteroid estrogen
fenidine : analgesic
ferric fructose : hematinic
filipin : antibiotic
fiofenetate : hypocholesteremic
*fludorex : anorexic ; antiemetic
fluvazol : glucocorticoid
*fonazine mesylate : antihistamine ; antiserotonin
*fursalan : germicide
gestiosyn acetophenide : conception control
gestosone acetophenide : progestin
gloxazone : treatment of anaplasmosis in cattle
glorizone : treatment of anaplasmosis in cattle
glybenide : oral hypoglycemic
glycamide : oral hypoglycemic
glycuride : oral hypoglycemic
halofenate : hypocholesteremic
halomycin : antibiotic
*hetacillin potassium : antibiotic
*ibuprofen : anti-inflammatory
indadine : CNS agent
indamine hydochloride : central nervous system agent
indriline : CNS agent
kalacin : antibiotic
kalafungin : antifungal antibiotic
kalamycin : antibiotic
ketimipramine hydrochloride : antidepressant
ketipramine hydrochloride : antidepressant
*kitasamycin : antibiotic
lamycin : antibacterial
lithium carbonate : psychotherapeutic
lomomycin : antibiotic
lydimycin : antibiotic
*mafenide : antibacterial
*mefenorex hydrochloride : anorexiant
*mefexamide : central stimulant
*melitracen hydrochloride : antidepressant
*menoctone : antimalarial
*mequidox : antibacterial
*methallibure : ovulation control in swine
milypertine : tranquilizer
*mitocromin : antineoplastic
*mitomalcin : antineoplastic
*molindone hydrochloride : sedative ; tranquilizer
monensin : antibiotic
*nadide : treatment of alcoholism and drug addiction
*nalmexone hydrochloride : analgesic ; narcotic antagonist
*nifuradene : antibacterial
*nifurimide : antibacterial
*nifurquinazol : antibacterial
nifursol : histomonocide
*nonoxynol 4 : nonionic surfactant
*nonoxynol 9 : spermatocide
*nonoxynol 15 : nonionic surfactant
*nonoxynol 30 : nonionic surfactant

*norflurane : general inhalation anesthetic
*octodrine : vasoconstrictor
olamycin : antibiotic
olandomycin : antibiotic
*oxogestone : progestogen
oxymix : mucolytic
*oxypurinol : xanthine oxidase inhibitor
parbendazole : anthelmintic
penflurane : inhalation anesthetic
*pentagastrin : gastric acid secretion stimulant
*pimoside : tranquilizer
piprozol : choleretic
piprozolin : choleretic
profadol : analgesic
ranimycin : antibiotic
*ribamincol : learning and memory enhancer
riboprine : antineoplastic
rifampicine : antibacterial
rifampin : antibacterial
rifaran : antibacterial
*silandrone : androgen
soterenol hydrochloride : adrenergic bronchodilator
steffomycin : antibiotic
sulfadoxine : bacterial sulfonamide
sulfapyrazole : antibacterial
sulfazomet : bacterial sulfonamide
sulforoxine : bacterial sulfonamide
sulfazamet : antibacterial sulfonamide
tenemycin : antibiotic
*thiosalan : germicide
*tibrofan : germicide
tilidine hydrochloride : analgesic
tofenacin : antiparkinson
tomidine hydrochloride : analgesic
toridine : analgesic
triacetadine : antimitotic
trolamycin : antibiotic
trolandomycin : antibiotic
tylidine : analgesic
verapamil : coronary vasodilator
*volazocine : analgesic

NEW TRADEMARKS ADMITTED TO REGISTRATION

Under the Trademark Bureau regulations all trademarks filed with the Trademark Bureau are automatically registered. No protests may be made to or through the Association. Any discussion regarding tentative or proposed or "in use" trademarks must be made to the firm claiming such trademark.

Applications for the following new marks have been received and registered by the Bureau in pursuance of the regulations (entries appearing in lower case type and enclosed in single quotation marks indicate nonproprietary names) :

AMAPAR : Parke, Davis & Company, Detroit, Mich. For analgesic. Not yet in use.

ARMORAL : Armour Pharmaceutical Company, Chicago, Ill. For pharmaceutical preparations containing proteolytic enzymes. Not yet in use.

BETASE : Merck & Co., Inc., Rahway, N.J. For antidiabetic preparation. Not yet in use.

CENTRIN : Parke, Davis & Company, Detroit, Mich. For analgesic. Not yet in use.

CETASOL : Crookes-Barnes Laboratories, Inc., Wayne, N.J. For antibacterial ophthalmic solution. Not yet in use.

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Edu-Tek, Incorporated, St. Louis, Mo., Reg. No. 737,919, Canc. No. 9016.

Neil Products Inc., Santa Monica, Calif., Reg. No. 503,823, Canc. No. 9028.

Jacob Anthes, d.b.a. American Research Laboratories, Fort Atkinson, Wis., Reg. No. 740,652, Canc. No. 9039.

Mrs. Stevens Candies, Inc., assignee of Candy Lane, Inc., Los Angeles, Calif., Reg. No. 524,571, Canc. No. 9061.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 246,224. E. W. Bliss Company, Pittsburgh, Pa. Filed May 23, 1966.

THE ROLLS WITH THE STRIPED RED WABBLERS

Owner of Reg. Nos. 515,013, 624,425, 777,798, and others.

Class 14—Metals and Metal Castings and Forgings

For Unifinished Cast Iron, Steel and Alloyed Rolls for Use in Rolling Mills.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Finished Cast Iron, Steel and Alloyed Rolls for Use in Rolling Mills.

First use 1957.

SN 248,385. Minneapolis-Moline, Inc., Hopkins, Minn. Filed June 20, 1966.

HOT LINE

Owner of Reg. No. 813,920.

Class 6—Chemicals and Chemical Compositions

For Antifreeze.
First use on or about June 1, 1966.

Class 15—Oils and Greases

For Lubricating Oils and Greases Including Gear Oil, Crankcase Oil, and Hydraulic Oil.
First use as early as August 1960.

Class 16—Protective and Decorative Coatings

For Paints—Namely, Touch-up Paints, Paint Suitable for Painting Internal Combustion Engines, Tractors, and Farm Implements, and Parts and Accessories for Such Engines, Tractors, and Implements.
First use as early as August 1960.

Class 21—Electrical Apparatus, Machines, and Supplies

For Coils, Generators, Electric Motors, Distributors, Ignition Points and Condensors, Electrical Wire and Cable, Lamps, Voltage Regulators, and Batteries.
First use as early as August 1960.

Class 26—Measuring and Scientific Appliances

For Ammeters and Oil Pressure, Temperature, and Fuel Gauges.
First use as early as August 1960.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

For Conveyor Belts for Combines and Other Farm Implements, Power Transmitting Belts, Fan and Other Flexible V- and Cog Belts, Radiator Hose, Oil Bearing and Grease Seals, Gaskets and Packings for Surrounding Shafts or Rods Projecting Through Housings or the Like.
First use as early as August 1960.

SN 257,433. S.p.A. Manifattura Lane Ugo Rista, Brugherio, Milan, Italy. Filed Oct. 28, 1966.

RISTAKNIT

Owner of Italian Reg. No. 173,753, dated Dec. 11, 1965.

Class 39—Clothing

For Knitted Type Clothing—Namely, Dresses, Suits, Coats, Sweaters, Blouses, and Other Sports Wear.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Fabrics for Making Dresses, Suits, and the Like.

SN 281,161. Pamper Products Co., Brooklyn, N.Y. Filed Sept. 26, 1967.



Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Cosmetic Bags, Travel Cases, and Change Purses.

Class 39—Clothing

For Shower Caps and Slumber Caps.

First use May 2, 1967.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 263,194. Newark Brush Company, Kenilworth, N.J. Filed Jan. 24, 1967.

FLEXAGRIT

For Abrasive Filled Plastic Bristles for Use in Brushes for Finishing and Deburring Metal, Wood, and Plastic Parts.
First use May 31, 1966.

SN 269,871. Ethyl Corporation, Richmond, Va. Filed Apr. 24, 1967.

ETHYL

Owner of Reg. Nos. 187,410, 399,427, and others.
For Plastic Film and Sheeting for General Use.
First use Dec. 3, 1963.

Class 2—Receptades

SN 232,116. Calpine Containers, San Francisco, Calif., by change of name from California Pine Box Distributors, San Francisco, Calif. Filed Nov. 4, 1965.



Without waiver of its common law rights in the mark as a whole or any feature thereof, applicant disclaims exclusive right to the word "Containers" and the phrase "Since 1895" separate and apart from the mark as shown.

For Containers of the Wire Bound, Plywood, Corrugated (Cardboard), and Sawn (Wood) Types as Used for Packing, Shipping, and Storing Various Commodities in Commerce.
First use on about July 15, 1965.

SN 278,439. Vistron Corporation, Cleveland, Ohio. Filed Aug. 16, 1967.

PRO MAC

For Plastic Dinnerware.
First use July 7, 1967.

SN 278,483. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed Aug. 17, 1967.

E-Z OFF

Owner of Reg. Nos. 227,085, 735,108, and others.
For Folded Paperboard Cartons.
First use July 17, 1967.

Class 5—Adhesives

SN 269,870. Ethyl Corporation, Richmond, Va. Filed Apr. 24, 1967.

ETHYL

Owner of Reg. Nos. 187,410, 399,427, and others.
For Pressure Sensitive Adhesive Tape.
First use Oct. 22, 1964.

Class 6—Chemicals and Chemical Compositions

SN 251,913. Glaxo Laboratories Limited, Greenford, England. Filed Aug. 8, 1966.

ZYDEX

Owner of British Reg. No. 832,183, dated Mar. 19, 1962.
For Enzyme Preparations for Use in Sugar and Starch Industries.

Class 8—Smokers' Artides, Not Including Tobacco Products

SN 266,680. Park Industries, Inc., Murfreesboro, Tenn. Filed Mar. 14, 1967.

PARK

For Cigarette Lighters.
First use 1940.

SN 267,680. Scripto, Inc., Atlanta, Ga. Filed Mar. 27, 1967.

SCRIPTANE CLASSIC

For Butane Cigarette Lighters and Flints and Wicks Therefor.
First use Mar. 1, 1967.

SN 267,681. Scripto, Inc., Atlanta, Ga. Filed Mar. 27, 1967.

SCRIPTANE RIVIERA

For Butane Cigarette Lighters and Flints and Wicks Therefor.
First use Mar. 1, 1967.

SN 284,557. Swartz Creations, Inc., Fort Lauderdale, Fla. Filed Nov. 13, 1967.

MINI-PAK

For Cigarette Case.
First use Oct. 28, 1967.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 259,513. Aktiebolaget, Norma Projektilfabrik, Amotfors, Sweden. Filed Nov. 28, 1966.

DUAL-CORE

Owner of U.S. Reg. No. 762,463.
For Cartridges and Bullets.
First use October 1961; in commerce October 1961.

Class 10 — Fertilizers

SN 255,762. Armour Agricultural Chemical Company, Chicago, Ill. Filed Oct. 5, 1966.

SOILIFE

For Fertiliser.
First use Oct. 15, 1965.

Class 12 — Construction Materials

SN 267,000. Berdon, Inc., d.b.a. Ornyte, Division of Berdon, Inc., Santa Monica, Calif. Filed Mar. 17, 1967.

DURATUF

For Fiberglass Building Panels.
First use Feb. 28, 1967.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 267,661. The Polymer Corporation, Reading, Pa. Filed Mar. 27, 1967.

COR-BOND

For Steel Pipe and Related Accessories, Such as Mechanical Couplings, Meter Risers, Fittings, and T's.
First use Jan. 3, 1967.

Class 16 — Protective and Decorative Coatings

SN 279,889. Baron Blakeslee, Incorporated, Chicago, Ill. Filed Sept. 8, 1967.

BLACO-THIN

For Paint Thinners.
First use on or about Feb. 18, 1960.

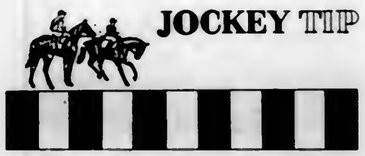
SN 285,037. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Nov. 16, 1967.

NEXTEL

Owner of Reg. No. 832,101.
For Clear Gloss Coating.
First use Mar. 15, 1967.

Class 17 — Tobacco Products

SN 276,712. Svenska Tobaks Aktiebolaget, Stockholm, Sweden. Filed July 24, 1967.



The word "Tip" is disclaimed apart from the mark as shown.
Owner of Swedish Reg. No. 117,499, dated Sept. 9, 1966.
For Cigarettes, Cigars, and Cigarillos.

SN 276,859. The Pinkerton Tobacco Co., Toledo, Ohio. Filed July 26, 1967.

RED HORSE

For Smoking and Chewing Tobacco.
First use in or about January 1897.

SN 285,626. Philip Morris Incorporated, New York, N.Y. Filed Nov. 27, 1967.

PLAZA

For Cigarettes.
First use Nov. 11, 1967.

SN 285,628. Philip Morris Incorporated, New York, N.Y. Filed Nov. 27, 1967.

LIMITED EDITION

For Cigarettes.
First use Nov. 11, 1967.

Class 18 — Medicines and Pharmaceutical Preparations

SN 269,551. Merck & Co., Inc., Rahway, N.J. Filed Apr. 19, 1967.

COLECTRIL

For Diuretic Preparation.
First use Mar. 16, 1967.

Class 19 — Vehicles

SN 283,059. William L. Bales, Grand Junction, Colo. Filed Oct. 23, 1967.

SNOW BIRDIE

For Powered Vehicles for Traveling Across Snow.
First use in or about September 1966.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 271,285. Plas-Steel Products, Inc., Walkerton, Ind. Filed May 11, 1967.

POLY QUAD

For Cubical Quad Antennas.
First use Mar. 10, 1967.

SN 271,380. Milgo Electronic Corporation, Miami, Fla. Filed May 12, 1967.

MODEM 4400

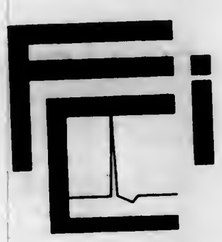
Owner of Reg. Nos. 823,323 and 823,324.
For Modulator/Demodulator Devices Used in the Transmission of Data From Point to Point.
First use at least as early as Mar. 24, 1967.

SN 271,591. Cambridge Thermionic Corporation, Cambridge, Mass. Filed May 16, 1967.

TORQFORM

Owner of Reg. No. 640,945.
For Coil Forms.
First use Apr. 28, 1967.

SN 283,962. Marathon Electric Manufacturing Corporation, Wausau, Wis. Filed Nov. 2, 1967.



For Magnetic Firing Components for Control of Silicon Controlled Rectifiers and Thyratron Tubes.
First use November 1962.

Class 22 — Games, Toys, and Sporting Goods

SN 264,625. Whitman Publishing Company, Racine, Wis. Filed Feb. 13, 1967.



Owner of Reg. No. 268,283.
For Assembly-Type Toy Kits.
First use Nov. 17, 1965.

SN 266,693. Jack Russell Company, Inc., Key Biscayne, Fla. Filed Mar. 14, 1967.

RUSSELL

For Bandelore or Yo Yo-Type Toy Tops.
First use Feb. 20, 1956.

SN 268,418. Kenner Products Company, Cincinnati, Ohio. Filed Apr. 5, 1967.

MINISPORT

For Apparatus Sold as a Unit for Playing a Toy Automobile Board Game.
First use Sept. 2, 1966.

SN 269,731. Eusebio F. Acevedo, Fontana, Calif. Filed Apr. 21, 1967.

BATACA

The word "Bataca" is fanciful and is derived from the Spanish word "Batacazo" meaning "noisy violent fall."
For Sports Game Device—Namely, a Padded Club Used by the Players for Sparring and Striking Each Other.
First use October 1964.

SN 269,885. Hassenfeld Bros. Inc., Pawtucket, R.I. Filed Apr. 24, 1967.

LITE-BRITE

For Toy Set Comprising a Board and Light Conducting Pegs Slidably Connectable Therewith To Form Various Pictures.
First use on or about Feb. 27, 1967.

SN 270,127. John H. Goettsch, d.b.a. Toy Concepts Co., Chicago, Ill. Filed Apr. 27, 1967.

GOOPAROO

For Low-Heat Liquid Plastic Material for Making Molded Plastic Toy or Hobby Figures and Similar Toy or Hobby Items.
First use on or before Apr. 21, 1967.

SN 272,087. The Orvis Company, Inc., Manchester, Vt. Filed May 22, 1967.

FULLFLEX

For Fishing Rods.
First use at least as early as Mar. 2, 1967.

SN 273,464. Atlantic Lures, Inc., Providence, R.I. Filed June 9, 1967.

KARATE

For Fishing Lures.
First use Aug. 10, 1966.

SN 273,467. Atlantic Lures, Inc., Providence, R.I. Filed June 9, 1967.

BARON

For Fishing Lures.
First use March 1955.

SN 273,469. Atlantic Lures, Inc., Providence, R.I. Filed June 9, 1967.

PLUNGER-PUP

For Fishing Lures.
First use June 6, 1964.

SN 273,543. Wham-O Mfg. Co., San Gabriel, Calif. Filed June 9, 1967.

SHOOP SHOOP HULA-HOOP

Owner of Reg. No. 739,307.
For Plastic Toy Hoops.
First use Mar. 8, 1967.

SN 273,971. Nasco Doll Inc., Brooklyn, N.Y. Filed June 15, 1967.

CLAUDETTE

For Doll Heads, Wigs, Falls, and Hair Styling Accessories Therefor.
First use June 2, 1967.

SN 274,942. Bel-Air Pools, Inc., Southfield, Mich. Filed June 28, 1967.

BARON

For Pool Tables, Billiard Tables, Tennis Tables, and Allied Equipment.
First use Sept. 1, 1965.

SN 277,805. South Bend Tackle Company Inc., South Otselic, N.Y. Filed Aug. 8, 1967.

CLASSIC IV

For Fishing Rods.
First use May 31, 1967.

SN 282,517. Jimmy Roche, Los Angeles, Calif. Filed Oct. 16, 1967.

ARROW

For Golf Balls.
First use Mar. 11, 1967.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 244,146. Specialized Products, Incorporated, Taylorville, Ill. Filed Apr. 22, 1966.

STIRALL

For Apparatus for Use in Connection With Equipment for the Drying of Stored Granular Materials.
First use February 1965.

SN 268,152. Central Soya Company, Inc., d.b.a. Central Soya, Fort Wayne, Ind. Filed Apr. 3, 1967.

CSY

For Steel Tools—Namely, Shovels and Scoop Shovels.
First use on or before Feb. 23, 1967.

SN 268,422. National Equipment Corporation, Bronx, N.Y. Filed Apr. 5, 1967.

CLUSTER-MASTER

For Candy-Making Machine.
First use December 1966.

SN 269,084. Luminite Products Corporation, Salamanca, N.Y. Filed Apr. 13, 1967.

LUMINITE

Owner of Reg. No. 719,238.
For Surface Print Rollers for Textiles and Decorative Papers.
First use about Jan. 12, 1925.

Class 24—Laundry Appliances and Machines

SN 268,755. McGraw-Edison Company, Elgin, Ill. Filed Apr. 10, 1967.

ROUTEMASTER

For Laundry Dryers.
First use Jan. 13, 1967.

Class 26—Measuring and Scientific Appliances

SN 233,055. Bausch & Lomb Incorporated, Rochester, N.Y. Filed Nov. 22, 1965.

BAUSCH & LOMB



The drawing is lined for the color red. Owner of Reg. Nos. 230,592, 675,220, and others.
For Spectacles, Sun Glasses, Lenses; Optical Apparatus and Instruments; and Scientific Apparatus and Devices Comprising Light Sources, Optical, Electro-Optical, Electronic and Electrical Apparatus and Instruments for Measuring and/or Testing and/or Recording and/or Inspection and/or Laboratory Use and/or Use in Control Systems.
First use Aug. 20, 1965.

SN 233,056. Bausch & Lomb Incorporated, Rochester, N.Y. Filed Nov. 22, 1965.



The drawing is lined for the color red. Owner of Reg. Nos. 230,592, 675,220, and others.
For Spectacles, Sun Glasses, Lenses; Optical Apparatus and Instruments; and Scientific Apparatus and Devices Comprising Light Sources, Optical, Electro-Optical, Electronic and Electrical Apparatus and Instruments for Measuring and/or Testing and/or Recording and/or Inspection and/or Laboratory Use and/or Use in Control Systems.
First use Aug. 20, 1965.

SN 233,057. Bausch & Lomb Incorporated, Rochester, N.Y. Filed Nov. 22, 1965.

BAUSCH & LOMB

Owner of Reg. Nos. 230,592, 675,220, and others.
For Spectacles, Sun Glasses, Lenses; Optical Apparatus and Instruments; and Scientific Apparatus and Devices Comprising Light Sources, Optical, Electro-Optical, Electronic and Electrical Apparatus and Instruments for Measuring and/or Testing and/or Recording and/or Inspection and/or Laboratory Use and/or Use in Control Systems.
First use Nov. 15, 1965.

SN 233,058. Bausch & Lomb Incorporated, Rochester, N.Y. Filed Nov. 22, 1965.



Owner of Reg. Nos. 230,592, 675,220, and others.
For Spectacles, Sun Glasses, Lenses; Optical Apparatus and Instruments; and Scientific Apparatus and Devices Comprising Light Sources, Optical, Electro-Optical, Electronic and Electrical Apparatus and Instruments for Measuring and/or Testing and/or Recording and/or Inspection and/or Laboratory Use and/or Use in Control Systems.
First use Nov. 15, 1965.

SN 241,103. Video Electronic Systems, Inc., Lubbock, Tex. Filed Mar. 15, 1966.

Video SPORTRAINER

The drawing is lined for the color blue, but the color does not form a part of the mark. The term "Video" is disclaimed except as it appears in the composite mark.
For Video Cameras, Tape Recorders, and Video Viewers, Used as a Unit for Instructional Purposes.
First use Jan. 20, 1965.

SN 241,104. Video Electronic Systems, Inc., Lubbock, Tex. Filed Mar. 15, 1966.

Video Teletrainer

The drawing is lined for the color blue, but the color does not form a part of the mark. The term "Video" is disclaimed except as it appears in the composite mark.
For Video Cameras, Tape Recorders, and Video Viewers, Used as a Unit for Instructional Purposes.
First use July 15, 1965.

SN 245,516. Sanders Associates, Inc., Nashua, N.H. Filed May 12, 1966.



Owner of Reg. Nos. 770,747, 786,739, and 786,806.
For Gyroscopes, Gyroscopic Systems, Oceanographic Monitoring and Surveillance Equipment, Sonobuoys, Guidance and Navigation Apparatus for Use in Airplanes, Missiles, Submarines, Helicopters and Similar Vehicles, Hydrophones, Compasses and Goniometer Compasses, Accelerometer, Acceleration Sensors, Delay Lines, Telemetry Systems and Electrical Servo Test Systems.
First use Nov. 22, 1963, on gyroscopes.

SN 247,923. Houston Fearless Corporation, Los Angeles, Calif. Filed June 13, 1966.

COLORMASTER

For Photographic Film Processor.
First use Mar. 31, 1966.

SN 250,454. C. A. Curran, Chicago, Ill. Filed July 18, 1966.

DACTYLOCHROME LEARNING LANTERN

For Audio-Visual Teaching Machines.
First use June 6, 1966.

SN 252,032. Roxin Optical Export Corp., New York, N.Y. Filed Aug. 9, 1966.

ARTLINE

For Spectacle Frames.
First use July 6, 1966.

SN 255,135. Tela Cable Incorporated, North Providence, R.I. Filed Sept. 26, 1966.

TELA-CABLE

For Electrical Testing Instrument for Checking Against Shorts and for Electrically Identifying Individual Circuits or Cables.
First use Aug. 16, 1966.

SN 257,374. Electronic Memories, Inc., Hawthorne, Calif. Filed Oct. 27, 1966.



For Magnetic Core Electronic Memories.
First use June 20, 1966.

SN 259,679. Span Products Inc., Paterson, N.J. Filed Nov. 29, 1966.

LAB-SAFE

For Plastic Ware for Growing Cultures.
First use Sept. 22, 1966.

SN 260,672. Mid-Continent Manufacturing Co., Columbus, Ohio. Filed Dec. 13, 1966.

TCA
THERMOMETER CORPORATION OF AMERICA

Owner of Reg. Nos. 625,290 and 637,427.
For Thermometers, Hydrometers, and Hygrometers.
First use Jan. 15, 1966.

SN 266,207. Electronic Memories, Inc., Hawthorne, Calif. Filed Mar. 8, 1967.

SEMS 5

For Magnetic Core Memory Apparatus.
First use June 29, 1966.

SN 272,102. School House Products, Inc., New York, N.Y. Filed May 22, 1967.

CAMBRIDGE

For Slide Rules.
First use Apr. 25, 1967.

Class 27 — Horological Instruments

SN 252,906. Sunbeam Corporation, Chicago, Ill. Filed Aug. 22, 1966.

DELIGHT

For Clocks.
First use May 16, 1966.

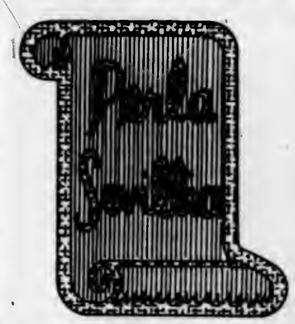
SN 261,239. Time Products Limited, London, England. Filed Dec. 21, 1966.

SEKONDA

Owner of British Reg. No. 891,074, dated Feb. 22, 1966.
For Watches and Clocks, and Parts Thereof.

Class 28 — Jewelry and Precious-Metal Ware

SN 257,082. William Rand, Inc., New York, N.Y. Filed Oct. 24, 1966.



The English translation of the words "Perla Sevillia" is "Sevillian pearl." The drawing is lined for the colors red and gold. The word "Perla" is disclaimed apart from the mark as shown.
For Imitation Pearl Necklaces.
First use Nov. 26, 1964.

SN 267,177. Oneida Ltd., Oneida, N.Y. Filed Mar. 20, 1967.

ENGLISH GARDEN

For Silverplated Flatware.
First use 1950.

SN 271,645. Anni Schaad, Stuttgart, Germany. Filed May 16, 1967.

langani
with the black pearl

The term "With the Black Pearl" is disclaimed apart from the trademark as shown.
For Costume Jewelry.
First use December 1958; in commerce August 1966.

SN 272,719. Emo E. Gottlieb, New York, N.Y. Filed May 31, 1967.

MAGNUM

For Watch Bands.
First use Mar. 4, 1964.

Class 30 — Crockery, Earthenware, and Porcelain

SN 244,930. Shenango Ceramics, Inc., New Castle, Pa. Filed May 4, 1966.

DUXBURY

For China Dinnerware.
First use Nov. 8, 1965.

SN 248,113. Castleton China, Inc., New Castle, Pa. Filed June 15, 1966.

FLAMENCO

For China Dinnerware.
First use Jan. 3, 1966.

Class 32 — Furniture and Upholstery

SN 243,967. Diks & Coenen N.V., Uden, Netherlands. Filed Apr. 21, 1966.

DICO
EURO STYL

Owner of Dutch Reg. No. 148,260, dated June 17, 1963.
For Tubular Steel Beds, Including Bedsteads, Folding Beds, Divans, Twin Beds, Convertible Beds, and Wire Mattresses; Tubular Steel Furniture—Namely, Chairs, Tables, Pedestals and Dressing Tables; Tubular Steel Occasional Furniture—Namely, Outside (Pavement) Chairs and Tables and Kitchen Chairs and Tables; Pillows and Bolsters Filled, Among Other Things, With Kapok, Foam Plastic, and Foam Rubber.

SN 271,939. Hampton Shops, Paterson, N.J. Filed May 19, 1967.

HAMPTON MODERN

Owner of Reg. No. 431,320.
For Living Room, Dining Room, Kitchen, and Bridge Tables and Chairs, Davenports, Beds, Dressers, Settees, Desks, Bookcases, Chests, and Footstools.
First use Dec. 11, 1945.

SN 272,572. Breneman, Inc., Cincinnati, Ohio. Filed May 29, 1967.

HEATHER

For Window Shades.
First use April 1966.

Class 33 — Glassware

SN 262,430. Paul Masson, Inc., d.b.a. Paul Masson, and Paul Masson Vineyards, San Francisco, Calif. Filed Jan. 12, 1967.

RUBION

Owner of Reg. No. 825,412.
For Beverage Glassware.
First use Aug. 18, 1966.

SN 265,116. Società Italiana Vetro S.I.V. S.p.A., Vasto, Chieti, Italy. Filed Feb. 20, 1967.

SOCIETÀ ITALIANA VETRO
SIV

Owner of Italian Reg. No. 177,322, dated Apr. 18, 1966.
For Sheet Glass, Fiber Glass Insulation, Safety Glass, and Laminated Glass.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 240,753. M.G.M.S. Associates, Inc., Cambridge, Mass. Filed Mar. 11, 1966.

ARROW - LINE

For Vents for Household Clothes Dryers, Sold Unassembled.
First use Aug. 2, 1965.

SN 250,515. Alfred G. B. Prather, Lanham, Md. Filed July 18, 1966.

SPIRAL
PRODUCTS

The word "Products" is disclaimed apart from the mark as shown.
For Outdoor Barbecue Fireplaces.
First use Apr. 12, 1966.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 258,840. Rexall Drug and Chemical Company, d.b.a. Colorite Plastics Company, Los Angeles, Calif. Filed Nov. 16, 1966.

XL
FORMULA 100

Applicant disclaims the word "Formula" apart from the mark as shown.
For Garden Hose.
First use Sept. 26, 1966.

SN 265,510. Andrew Fisher Cycle Co. Inc., New York, N.Y. Filed Feb. 27, 1967.

PARAGON STUD

Applicant disclaims the word "Stud." Owner of Reg. No. 777,884.
For Bicycle Tires and Tubes.
First use on or about Dec. 23, 1966.

SN 265,511. Andrew Fisher Cycle Co. Inc., New York, N.Y. Filed Feb. 27, 1967.

PARAGON SLICK

Applicant disclaims the word "Slick." Owner of Reg. No. 777,884.
For Bicycle Tires and Tubes.
First use on or about Dec. 23, 1966.

SN 266,785. Pneumatiques, Caoutchouc Manufacture et Plastiques Kleber-Colombes, Colombes, Hauts de Seine, France. Filed Mar. 15, 1967.

V10

Owner of French Reg. No. 490,764, dated Sept. 26, 1960 (Seine); Natl. Inst. No. 151,428.
For Tires.

Class 36 — Musical Instruments and Supplies

SN 276,341. Nissho Electronics Corporation, Higashisumiyoshi-ku, Osaka, Japan. Filed July 19, 1967.

CATHY

For Electronic Devices—Namely, Electrophonographs.
First use at least as early as Apr. 20, 1960; in commerce at least as early as Apr. 20, 1960.

Class 37 — Paper and Stationery

SN 246,672. Frankel Carbon & Ribbon Company, Denver, Colo. Filed May 26, 1966.

KLEAN-FAX

For Copy Paper for Thermal Copying Processes.
First use in or about October 1962.

SN 257,297. Metro Wholesale Corporation, New York, N.Y. Filed Oct. 26, 1966.



Owner of Reg. Nos. 811,624, 761,169, and others.
For Wax Paper and Paper Napkins.
First use June 1961 on wax paper.

SN 263,563. Graphic Controls Corporation, Buffalo, N.Y. Filed Jan. 30, 1967.

MOISTIC

For Paper Charts for Recording Instruments.
First use May 5, 1966.

SN 267,835. Marcal Paper Mills, Inc., East Paterson, N.J. Filed Mar. 29, 1967.



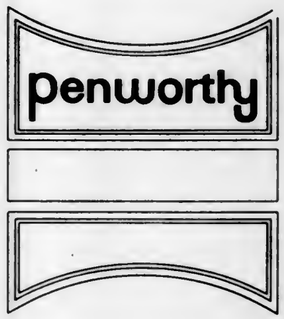
Owner of Reg. Nos. 706,678 and 833,704.
For Household Paper Products—Namely, Toilet Paper, Paper Napkins, and Paper Towels.
First use on or about June 28, 1949.

SN 270,208. Consolidated Cellulose Products, Inc., New York, N.Y., assignee of A.P.W. Products Company, Inc., New York, N.Y. Filed Apr. 28, 1967.

GUSTO

For Paper Towels and Napkins.
First use Apr. 18, 1967.

SN 271,158. Lakeside Central Company, Chicago, Ill. Filed May 10, 1967.



Owner of Reg. Nos. 273,010 and 606,406.
For Writing Tablets, Composition Books, Notebooks, Loose-Leaf Fillers, Blank Books, Boxes of Writing Paper and Envelopes, Index Cards, Multi-Color Pads, Memo Fillers, Air Mail Envelopes, Typewriter Papers, Construction Papers, Art Papers, and Subject and Theme Book Covers.
First use Jan. 1, 1967.

SN 271,296. U.S. Plywood-Champion Papers Inc., Hamilton, Ohio. Filed May 11, 1967.

KNIGHTKOTE

For Coated Printing Papers, Including Coated Offset Paper, Coated Letterpress, and Coated Cover.
First use Sept. 14, 1965.

Class 38 — Prints and Publications

SN 210,331. Miss Universe, Inc., New York, N.Y. Filed Jan. 21, 1965.

MISS UNIVERSE BEAUTY PAGEANT

Owner of Reg. Nos. 568,507, 763,982, and others.
For Publication.
First use June 1952.

SN 227,316. Miss Universe, Inc., New York, N.Y. Filed Sept. 7, 1965.

MISS U.S.A. BEAUTY PAGEANT

For Publication.
First use June 4, 1965.

SN 240,424. Fiduciary Publishers, Inc., New York, N.Y. Filed Mar. 9, 1966.

TRUSTS AND ESTATES

For Magazine Published From Time to Time.
First use 1939.

SN 255,003. Parents' Magazine Enterprises, Inc., New York, N.Y., assignee of Home Library Press, Inc., New York, N.Y. Filed Sept. 23, 1966.

BETTER LIVING ENCYCLOPEDIA

Applicant disclaims the exclusive right to the word "Encyclopedia" apart from the trademark as shown.
For Series of Books.
First use December 1963.

SN 256,564. Lawrence Katzman, New York, N.Y. Filed Oct. 17, 1966.

waiting room reader

For Cartoon Publication—Namely, Magazine Issued Periodically.
First use Nov. 1, 1956.

SN 260,844. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Dec. 15, 1966.

THE ART OF LIVING

For Memoranda Calendars.
First use June 1, 1966.

SN 260,846. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Dec. 15, 1966.

CAT AND DOG DAYS

For Engagement Calendars.
First use June 1, 1966.

SN 260,847. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Dec. 15, 1966.

REMEMBER WHEN

For Memoranda Calendars.
First use June 1, 1966.

SN 263,968. Welcome Wagon International, Inc., Memphis, Tenn. Filed Feb. 3, 1967.

WELCOME WAGON

Owner of Reg. No. 439,421.
For Magazines, Manuals, and Instruction and Information Booklets and Leaflets.
First use July 1928.

SN 264,257. The Regents of the University of Michigan, Ann Arbor, Mich. Filed Feb. 8, 1967.

चिकित्सालय

The mark is an abstract design representing a word used for hospital in Northern India.
For Journals.
First use Sept. 1, 1965.

SN 267,182. Random House, Inc., New York, N.Y. Filed Mar. 20, 1967.



Applicant disclaims the word "Books" apart from the mark as shown.
For Books.
First use on or about Nov. 21, 1966.

Class 39 — Clothing

SN 239,323. Rough Rider, Inc., Napa, Calif. Filed Feb. 21, 1966.



The geographically descriptive abbreviation "Cal." is disclaimed apart from the mark as shown.
For Ladies' Blouses, Culottes, Robes, Capris, Jackets, Skirts, and Burnooses.
First use July 15, 1965.

SN 242,745. Oomphies, Inc., New York, N.Y. Filed Apr. 5, 1966.

MR. Oomphies

Owner of Reg. No. 395,222.
For Shoes.
First use Dec. 5, 1957.

SN 259,660. Maison Gelot Societe Anonyme, Paris, France. Filed Nov. 29, 1966.

GELOT

Owner of French Reg. No. 469,167, dated Dec. 27, 1967 (Seine); Natl. Inst. No. 100,316.
For Men's and Ladies' Hats; Men's Personal Linens—Namely, Ties, Underwear, Handkerchiefs, and Ascots.
First use 1835; in commerce 1920.

SN 259,825. Hanes Corporation, Winston-Salem, N.C. Filed Dec. 1, 1966.

DURA-LOOP

For Hosiery.
First use Nov. 11, 1966.

SN 260,113. Wellco Re-Search Industries, Inc., Waynesville, N.C. Filed Dec. 5, 1966.



For Shoes, Boots, and Other Footwear in General.
First use Nov. 21, 1966.

SN 262,318. Clarks Overseas Shoes Limited, London, England. Filed Jan. 11, 1967.



The drawing is lined for red and gold. Owner of U.S. Reg. Nos. 540,599, 691,307, and 729,768.
For Boots, Shoes, and Slippers.
First use Aug. 1, 1963; in commerce in or about July 1966.

SN 263,697. Rapid-American Corporation, New York, N.Y. Filed Jan. 31, 1967.



For Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers, and Vests.
First use Jan. 17, 1967.

SN 263,988. Electronic Crystals Corporation, New York, N.Y. Filed Feb. 6, 1967.

LOOK SWEETER IN A SWEATER

The word "Sweater" is disclaimed apart from the mark as shown. Owner of Reg. No. 433,138.
For Sweaters.
First use Feb. 1, 1937.

SN 266,049. Kayser-Roth Corporation, New York, N.Y. Filed Mar. 6, 1967.

FIT-ALL-HEEL

Owner of Reg. Nos. 300,827 and 513,617.
For Hosiery.
First use Feb. 11, 1946.

SN 269,001. Irwin Touster, d.b.a. Headstart Co., Long Island City, N.Y. Filed Apr. 12, 1967.

TOPPIT

Owner of Reg. No. 813,496.
For Children's and Ladies' Clothing and Accessories—Namely, Hosiery, Tights, and Footwear.
First use on or about Feb. 6, 1967.

SN 270,832. Wolverine World Wide, Inc., Rockford, Mich. Filed May 5, 1967.

FOOTHOLD

For Insoles for Shoes.
First use on or about Feb. 11, 1967.

SN 270,949. Peter Pan International, Inc., New York, N.Y., by merger and change of name from Peter Pan Foundations, Inc., New York, N.Y. Filed May 8, 1967.

ON-THE-SPOT

For Brassieres.
First use May 2, 1967.

SN 271,047. The Enro Shirt Company, Inc., Louisville, Ky. Filed May 9, 1967.

THE BUFFER

Applicant's related company owner of Reg. No. 231,131.
For Dress Shirts and Sport Shirts.
First use Apr. 3, 1966.

SN 276,137. International Playtex Corporation, Dover, Del. Filed July 17, 1967.

MADEMOISELLE PLAYTEX

For Brassieres.
First use June 7, 1967.

SN 283,753. Maidenform, Inc., New York, N.Y. Filed Oct. 31, 1967.

DREAM-TIMER

Owner of Reg. Nos. 714,771, 831,661, and others.
For Foundation Garments and Lingerie.
First use Oct. 6, 1967.

Class 40—Fancy Goods, Furnishings, and Notions

SN 260,600. Solo Products Corporation, New York, N.Y. Filed Dec. 12, 1966.

RAPID SET

The word "Set" is disclaimed apart from the mark as shown.
For Non-Electric Hair Rollers.
First use Dec. 2, 1966.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 235,164. Celanese Corporation, New York, N.Y., by change of name from Celanese Corporation of America, New York, N.Y. Filed Dec. 23, 1965.



For Greige and Finished Fabrics in the Piece of All Types for Use in Men's, Women's, and Children's Apparel, for Use in Home Furnishings, and for Use in the Industrial Field.
First use Dec. 10, 1965.

SN 252,160. Cannon Mills Company, Kannapolis, N.C. Filed Aug. 11, 1966.

SUN-FUN

For Towels, Wash Cloths, and Beach Towels.
First use June 15, 1966.

SN 261,060. Fiber Industries, Inc., Charlotte, N.C. Filed Dec. 19, 1966.

FYBRITE

For Greige and Finished Fabrics in the Piece of All Types for Use in Men's, Women's, and Children's Apparel, for Use in Home Furnishings, and for Use in the Industrial Field.
First use Nov. 17, 1966.

SN 262,126. Chatham Manufacturing Company, Elkin, N.C. Filed Jan. 9, 1967.

EVENSONG

For Blankets.
First use Dec. 23, 1960.

SN 266,548. The Kendall Company, Walpole, Mass. Filed Mar. 13, 1967.

NOVONETTE

Owner of Reg. No. 202,445.
For Nonwoven Fabrics Made From Textile Fibers, or Mixtures Thereof, and Nonwoven Fabrics in Combination With Other Textile Fabrics, in the Piece and in Cut Lengths or Sizes, for Use as Substitutes for Knitted, Netted and Woven Fabrics and the Like.
First use July 7, 1966.

SN 268,666. Aktieselskabet C. Olesen, Copenhagen, Denmark. Filed Apr. 10, 1967.



For Carpets, Curtains, Upholstery Fabrics, and Traveling Rugs.
First use Nov. 28, 1956; in commerce at least as early as Jan. 16, 1959.

SN 269,060. Collins & Aikman Corporation, New York, N.Y. Filed Apr. 13, 1967.

PETALSMOOTH

For Tricot Apparel Fabric for Use in Making Apparel in the Field of Lingerie and Loungewear.
First use Mar. 9, 1967.

SN 269,875. Ethyl Corporation, Richmond, Va. Filed Apr. 24, 1967.

ETHYL

Owner of Reg. Nos. 187,410, 899,427, and others.
For Plastic Netting.
First use Nov. 18, 1964.

SN 271,188. J. P. Stevens & Co., Inc., New York, N.Y. Filed May 10, 1967.

STEVAIR

For Fabrics Made From Synthetic Fibers or Cellulosic Fibers, or Blends of the Foregoing.
First use Apr. 21, 1967.

SN 271,233. Dan River Mills, Incorporated, Danville, Va. Filed May 11, 1967.

HANDI-CUT

Owner of Reg. No. 543,518.
For Textile Fabrics in the Piece of Cotton or Synthetic Fibers, or Any Combinations Thereof.
First use Nov. 7, 1949.

SN 271,853. J. P. Stevens & Co., Inc., New York, N.Y. Filed May 18, 1967.

SET FREE

For Piece Goods of One or More Natural Fibers Including Wool and Cotton, or of Synthetic Fibers or Cellulosic Fibers, or Blends of the Foregoing.
First use May 4, 1967.

SN 271,931. Fieldcrest Mills, Inc., Spray, N.C. Filed May 19, 1967.

Shasteau

For Textile Rugs and Carpeting.
First use Jan. 20, 1967.

SN 272,711. Dan River Mills, Incorporated, Danville, Va. Filed May 31, 1967.

RIVERCLUB

For Textile Fabrics in the Piece of Cotton or Synthetic Fibers, or Any Combinations Thereof.
First use Apr. 28, 1967.

SN 272,935. Louis Hand Incorporated, New York, N.Y. Filed June 2, 1967.

A ROOM HAPPENING

For Curtains.
First use May 18, 1967.

SN 273,123. J. P. Stevens & Co., Inc., New York, N.Y. Filed June 5, 1967.

MERRYAIRE

For Needle Punched or Non-Woven Carpet With a Latex Foam Back.
First use May 26, 1967.

SN 273,184. Dan River Mills, Incorporated, Danville, Va. Filed June 6, 1967.

KRINKL-CORD

Owner of Reg. No. 615,045.
For Textile Fabrics in the Piece of Cotton or Synthetic Fibers, or Any Combinations Thereof.
First use Jan. 25, 1954.

SN 273,220. Webco Mills, Inc., Burlington, N.C. Filed June 6, 1967.

SUPERTRIQUE

Owner of Reg. No. 726,029.
For Tricot Fabrics Sold in the Piece, for Making Lingerie, Blouses, Outer Wear, and Other Apparel.
First use Mar. 2, 1961.

SN 277,106. National Research Corporation, Cambridge, Mass. Filed July 31, 1967.

SPACE

Owner of Reg. Nos. 823,682 and 829,524.
For Metallised Plastic Film Blankets and Covers.
First use on or about July 5, 1967.

SN 285,092. Hygiene Industries, Inc., New York, N.Y. Filed Nov. 17, 1967.

IH

Owner of Reg. No. 835,363.
For Shower Curtains.
First use at least as early as Mar. 15, 1967.

SN 285,177. Qual Fab, Inc., New York, N.Y. Filed Nov. 20, 1967.

Home Sweet Home Fabrics

No claim is made to the word "Fabrics" apart from the mark as shown.
For Cotton Fabrics in the Piece.
First use Oct. 27, 1967.

Class 43 — Thread and Yarn

SN 261,209. Filatures Prouvost & Cie, La Lainiere de Roubaix, Roubaix, Nord, France. Filed Dec. 21, 1966.

MENESTREL

The French word "Menestrel" may be translated to mean "minstrel" in English. Owner of French Reg. No. 8,727, dated Mar. 11, 1961 (Roubaix); Natl. Inst. No. 162,062.
For Yarns and Threads.

SN 272,856. Rich-Flex Mfg. Corporation, Central Falls, R.I. Filed June 1, 1967.

GLOWETTE

For Frieze Yarns.
First use May 25, 1967.

SN 273,041. Columbia-Minerva Corporation, New York, N.Y. Filed June 5, 1967.

REFLECTION

For Yarn.
First use May 15, 1967.

SN 285,176. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Nov. 20, 1967.

PPG INDUSTRIES

For Fiber Glass Yarn.
First use at least as early as May 26, 1967.

Class 44 — Dental, Medical, and Surgical Appliances

SN 259,814. DWS, Inc., Gladstone, Oreg. Filed Dec. 1, 1966.

DRAKE-WILLOCK

For Mobile Dialysis Delivery System Which Functions With an Artificial Kidney for Home and Hospital Treatment of Chronic Uremia and Acute Renal Failure.
First use Dec. 25, 1964.

SN 260,231. Arne Bybjerg Pedersen, d.b.a. Carmen Curlers, Kalundborg, Denmark. Filed Dec. 7, 1966.

CARMEN

Owner of U.S. Reg. No. 826,450.
For Electrical Apparatus for Heating Hair Curlers, Permanent Waving Machines, and Parts and Accessories for These Goods.
First use October 1963; in commerce Jan. 20, 1965.

SN 260,793. Whip-Mix Corporation, Louisville, Ky. Filed Dec. 14, 1966.

HYGROBATH

For Water Bath and Parts Thereof for Plaster of Paris Molds.
First use Nov. 18, 1949.

SN 263,162. Danilo Cossi, Florence, Italy. Filed Jan. 24, 1967.

KROMOPAN

Owner of Italian Reg. No. 157,096, dated Oct. 26, 1961.
For Dental Impression Materials.
First use July 1954; in commerce December 1962.

SN 269,993. Levoy's Inc., Salt Lake City, Utah. Filed Apr. 25, 1967.

EXTRACATH

For Intravenous Catheters and Intravenous Catheter Placement Units.
First use May 6, 1966.

SN 270,246. Helene Curtis Industries, Inc., Chicago, Ill. Filed [illegible]. 28, 1967.

HER HIGHNESS

For Electrically Operated Hair Dryer.
First use on or about Nov. 26, 1966.

SN 270,333. Abbott Laboratories, North Chicago, Ill. Filed May 1, 1967.

STYLOCATH

For Peritoneal Dialysis Catheter.
First use July 15, 1966.

SN 270,470. Bearing Products Co., Inc., Philadelphia, Pa. Filed May 2, 1967.

MILLIKNIT

For Knitted Plastic Formed Into Artificial Vascular Devices and/or Blood Vessels.
First use Mar. 9, 1966.

SN 271,257. Johnson & Johnson, New Brunswick, N.J. Filed May 11, 1967.

DERMISOFF

Owner of Reg. No. 719,395.
For First Aid Pads, Bandages, and Adhesive Tapes.
First use Apr. 7, 1967.

Class 45 — Soft Drinks and Carbonated Waters

SN 266,255. The Pillsbury Company, Minneapolis, Minn. Filed Mar. 8, 1967.

Sir Reginald Lime-Lime



Applicant disclaims the words "Lime-Lime" apart from the mark as shown.
For Powders for Making Soft Drinks.
First use Feb. 27, 1967.

SN 266,256. The Pillsbury Company, Minneapolis, Minn. Filed Mar. 8, 1967.

Baron von Lemon



Applicant disclaims the word "Lemon" apart from the mark as shown.
For Powders for Making Soft Drinks.
First use May 6, 1966.

SN 273,775. Heublein, Inc., Hartford, Conn. Filed June 13, 1967.

TONIGHT

For Dry Non-Alcoholic Cocktail Mixes.
First use May 29, 1967.

SN 279,439. Nehi Bottling Company of Harlingen, d.b.a. Tyme Bottling Company, Harlingen, Tex. Filed Aug. 31, 1967.

tyme

For Carbonated Soft Drinks.
First use Mar. 10, 1967.

SN 284,134. Eng-Skell Company, San Francisco, Calif. Filed Nov. 6, 1967.

Old Creamy

Applicant disclaims the word "Creamy" apart from the mark as shown.
For Syrup Concentrate for Preparation of Root Beer Drink.
First use as early as Dec. 30, 1951.

Class 46—Foods and Ingredients of Foods

SN 190,291. Shurtenda Steaks, Inc., Denver, Colo. Filed Apr. 3, 1964.

SHURTENDA

For Frozen, Cooked Meat Products.
First use March 1962.

SN 238,198. Alfred Dunhill Limited, London, England. Filed Feb. 7, 1966.

DUNHILL

Owner of U.S. Reg. Nos. 155,951, 634,071, and others.
For Tea.
First use 1962; in commerce 1962.

SN 238,748. David Kleckner & Son, Inc., Brooklyn, N.Y. Filed Feb. 14, 1966.

FLAV-O-PEAK

For Gelatine, Pudding, and Hot Chocolate Dessert Powders; Food Flavors; Food Flavoring Extracts; Dessert Toppings—Namely, an Imitation Non-Dairy Whip and Flavored Syrups; Meringue Powder; Soup Bases; Spaghetti Sauce Seasoning; and Spaghetti Rice Seasoning.
First use July 1964.

SN 240,219. Keebler Company, Melrose Park, Ill., by change of name from United Biscuit Company of America, Melrose Park, Ill. Filed Mar. 4, 1966.

CARAWAY CRAZYS

The word "Caraway" is disclaimed apart from the mark as shown.
For Crackers.
First use Jan. 26, 1966.

SN 246,466. Hershey Chocolate Corporation, Hershey, Pa. Filed May 24, 1966.

CHOCOLATE TOWN, U.S.A.!

Applicant disclaims the terms "Chocolate" and "U.S.A." apart from the mark as shown.
For Confection Comprising Marshmallow Encapsulated in a Cup-Like Container of Chocolate.
First use November 1965.

SN 251,721. SCM Corporation, New York, N.Y., assignee of The Glidden Company, d.b.a. Bell Food Products Company, Cleveland, Ohio. Filed Aug. 4, 1966.

MIDWEST

Owner of Reg. No. 557,090.
For Pickles.
First use June 17, 1949.

SN 252,359. Dell Products Corp., Hillside, N.J. Filed Aug. 15, 1966.

SIDE DISH

For Frozen Potatoes Stuffed With Sour Cream and Chives.
First use July 15, 1966.

SN 253,496. Central Soya Company, Inc., d.b.a. Central Soya, Fort Wayne, Ind. Filed Aug. 31, 1966.

FULSOY

Owner of Reg. No. 426,748.
For Defatted Soy Flour Blended With Extracted, Centrifuged Soybean Oil.
First use on or before Aug. 7, 1944.

SN 253,698. Witco Chemical Company, Inc., New York, N.Y. Filed Sept. 1, 1966.

RUMENEX

For Nitrogenous Nutrient-Containing Ingredient for Cattle Feeds.
First use July 26, 1966.

SN 259,079. Beatrice Foods Co., Chicago, Ill. Filed Nov. 21, 1966.

BOND'S

Owner of Reg. No. 575,585.
For Dill Gherkins; Kosher Dill Gherkins; Hamburger Dill Slices; Kosher Hamburger Dill Slices; Dill Pickles; Kosher Dill Pickles; Hot Dill Mixed Pickles; Hot Dill Cauliflower; Sour Gherkins; Sour Pickles; Sweet Gherkins; Sweet Pickles; Sweet Mixed Pickles; Sweet Sliced Pickles; Sweet Relish; Hamburger Relish; Hot Dog Relish; Corn Relish; Cocktail Onions; Dill Relish; Candied Midget Pickles; Candied Gherkins; Candied Crosscut Slices; Candied Mixed Pickles; Candied Cauliflower; Candied Mustard Pickles; Candied Sweet Sticks; Candied Sweet Dill Sticks; Candied Sweet Dill Slices; Fresh Pack Sweet Cucumber Slices; Fresh Pack Sweet Cucumber Spears; Fresh Pack Dill Gherkins; Fresh Pack Kosher Dill Gherkins; Fresh Pack Dill Pickles; Fresh Pack Kosher Dill Pickles; Fresh Pack Dill Spears; Fresh Pack Kosher Dill Spears; Fresh Pack Dill Crosscut Slices; Polish Style Dills; Polish Style Dill Spears; California Wonder Sweet Peppers; Hot Pepper Rings; Hot Banana Pepper Rings; Sweet Banana Pepper Rings; Hot Cherry Peppers; Sweet Cherry Peppers; and Hot Finger Peppers.
First use Apr. 14, 1945, on pickles.

SN 262,394. Balch Flavor Company, Pittsburgh, Pa. Filed Jan. 12, 1967.

VANIMITE

For Flavoring Extracts for Ice Cream.
First use Jan. 6, 1945.

SN 262,877. Miami Maid Bakery Inc., Dayton, Ohio. Filed Jan. 19, 1967.

GOLDEN MEAL

The word "Meal" is disclaimed apart from the mark as shown.
For Bread.
First use Jan. 12, 1967.

SN 263,624. A. L. Stewart & Sons, Cherryfield, Maine. Filed Jan. 30, 1967.

STEWART'S

Owner of Reg. Nos. 296,882 and 781,835.
For Canned Blueberries, Canned Apple Sauce, and Canned Vegetables.
First use 1868 on canned blueberries.

SN 263,750. The Creamette Company, Minneapolis, Minn. Filed Feb. 1, 1967.

Cream-a-roni

Owner of Reg. No. 821,223.
For Alimentary Pastes.
First use Feb. 20, 1966.

SN 263,828. W. R. Grace & Co., New York, N.Y. Filed Feb. 2, 1967.



The drawing is lined for red, but no claim is made to color.
Owner of Reg. No. 741,379 and others.
For Mayonnaise, Salad Dressings, and Meatless Sauces, Pickle Relish Sandwich Spread, Tartar Sauce, Cocktail Sauce, Flavored Syrups for Food Purposes, Prepared Mustard, Horseradish, Vinegar, Tomato Ketchup and Tomato Puree, Pickles, Pickle Relishes, Pickled Beets, Pickled Peppers; Canned Goods—Namely, Beef Stew, Chili Con Carne, Prepared Spaghetti, Sauerkraut, and Shoestring Potatoes; Potato Chips; a Refrigerated Package Unit Containing Ingredients for the Preparation of Pizza; and Cookies.
First use Aug. 24, 1966.

SN 266,306. Dairy King, Inc., Baltimore, Md. Filed Mar. 9, 1967.

DAIRY KING

For Cheese, Sour Cream, Sour Half and Half, and Horseradish.
First use at least as early as July 1953.

SN 267,260. National Dairy Products Corporation, Chicago, Ill. Filed Mar. 21, 1967.

HARVEST MOON

For Cheese.
First use March 1955.

SN 268,960. Hudson National, Inc., New York, N.Y. Filed Apr. 12, 1967.



For Non-Caloric Sweetener, Salt Substitute, Non-Caloric Liquid Sweetener, Monosodium Glutamate, Concentrated Low Sodium Liquid Sweeteners, Meat Tenderiser, and Unflavored Gelatin.
First use Jan. 2, 1967.

SN 269,360. Sucre Banana Import Corp., New York, N.Y. Filed Apr. 17, 1967.

SUCRE

For Fresh Bananas.
First use April 1966.

SN 269,402. Continental Baking Company, Rye, N.Y. Filed Apr. 18, 1967.

DING DONGS

For Cake.
First use Mar. 18, 1967.

SN 269,416. John H. Ginsbach, d.b.a. Rio Citrus, Alamo, Tex. Filed Apr. 18, 1967.

PALM GARDENS

For Fresh Citrus Fruits.
First use Mar. 10, 1953.

SN 269,417. John H. Ginsbach, d.b.a. Rio Citrus, Alamo, Tex. Filed Apr. 18, 1967.

TALL TEXAN

For Fresh Citrus Fruits.
First use Nov. 15, 1961.

SN 269,763. Keebler Company, Elmhurst, Ill. Filed Apr. 21, 1967.

LIL' ANIMAL FRIENDS

The words "Lil' Animal" are disclaimed apart from the mark as shown.
For Cookies.
First use Jan. 6, 1967.

SN 270,587. Loyola Beach Vegetable Company, Riviera, Tex. Filed May 3, 1967.

LOYOLA BEACH

For Fresh Vegetables—Namely, Carrots, Cucumbers, Cauliflower, Cabbage, Lettuce, Turnips, Beets, and Broccoli; and Fresh Melons—Namely, Cantaloupes, Muskmelons, Casaba Melons, Honeydew Melons, and Watermelons.
First use Apr. 20, 1967.

SN 271,268. Masonite Corporation, Chicago, Ill. Filed May 11, 1967.

Masonex

For Livestock Feed.
First use Aug. 23, 1963.

SN 272,148. American Dietaids Company, Inc., Yonkers, N.Y. Filed May 23, 1967.

KICK-OFF

For Breakfast Cereal.
First use May 17, 1967.

SN 272,164. Carpenter Cook Company, Menominee, Mich. Filed May 23, 1967.

WIGWAM

Owner of Reg. No. 227,069.
For Canned Fruits, Canned Fruit Juices, and Canned Vegetables.
First use at least as early as 1891.

SN 272,633. Ralston Purina Company, St. Louis, Mo. Filed May 29, 1967.

PURINA

Owner of Reg. Nos. 61,057, 772,457, and others.
For Edible Protein.
First use July 7, 1959.

SN 273,641. Hunt-Wesson Foods, Inc., d.b.a. Winters Canning Co., Fullerton, Calif. Filed June 12, 1967.

MENU

For Tomato Catsup.
First use 1911.

SN 273,848. Bramble Canning Corporation, Greenwood, Del. Filed June 14, 1967.

BRAMBLE

For Canned Vegetables—Namely, Tomatoes, Sweet Potatoes, and White Potatoes.
First use July 1959 on tomatoes.

SN 276,481. Sky Valley Foods, Inc., New York, N.Y. Filed July 20, 1967.

SKY VALLEY

For French Fried Onion Rings.
First use May 11, 1957.

SN 279,033. The Quaker Oats Company, Chicago, Ill. Filed Aug. 25, 1967.

FROST BITES

For Breakfast Cereal.
First use Aug. 9, 1967.

SN 281,850. John Morrell & Co., Chicago, Ill. Filed Oct. 5 1967.

POWER PLUS

For Dog Food.
First use April 1961.

SN 284,865. General Mills, Inc., Minneapolis, Minn. Filed Nov. 15, 1967.

POOH POOHS

For Cereal Derived Snack Product.
First use on or prior to Jan. 9, 1967.

SN 284,871. General Mills, Inc., Minneapolis, Minn. Filed Nov. 15, 1967.

ALICE & FRIENDS

For Cereal Derived Snack Product.
First use on or prior to Jan. 9, 1967.

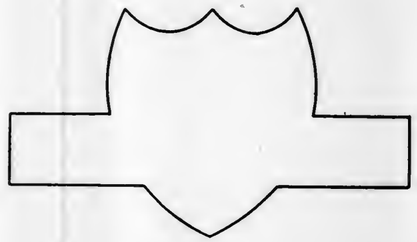
SN 284,968. General Foods Corporation, White Plains, N.Y. Filed Nov. 16, 1967.

TRAINING TABLE

For Cereal Breakfast Food.
First use Oct. 11, 1967.

Class 49 — Distilled Alcoholic Liquors

SN 227,559. Chandon Champagne Corporation, New York, N.Y. Filed Sept. 10, 1965.



Owner of Reg. No. 634,170.
For Champagne Wines.
First use November 1936.

SN 258,944. Vilh. Christiansen A/S, d.b.a. Vilh. Christiansen Inc., Copenhagen, Denmark. Filed Nov. 17, 1966.



Applicant disclaims the word "Cherry" apart from the mark as shown.
For Wines.
First use July 16, 1965; in commerce July 16, 1965.

SN 269,162. Beaulieu Vineyard, San Francisco, Calif. Filed Apr. 14, 1967.

GEORGES DE LATOUR

PRIVATE RESERVE

No claim is made to the words "Private Reserve" apart from the mark as shown. "Georges de Latour" is the name of the founder of the company, now deceased. Owner of Reg. No. 624,154.
For Wines.
First use 1942.

Class 48 — Malt Beverages and Liquors

SN 260,252. Heineken's Brouwerijen Nederland N.V., Amsterdam, Netherlands. Filed Dec. 7, 1966.



No claim is made to the exclusive use of the word "Malta" apart from the mark as a whole. Owner of U.S. Reg. Nos. 547,390, 823,035, and others.
For Non-Alcoholic Beverage Made From Malt and Hops.
First use Oct. 12, 1961; in commerce March 1962.

SN 260,253. Heineken's Boruwerijen Nederland N.V., Amsterdam, Netherlands. Filed Dec. 7, 1966.



No claim is made to the exclusive use of the word "Malta" apart from the mark as a whole. Owner of U.S. Reg. Nos. 547,390, 823,035, and others.
For Non-Alcoholic Beverage Made From Malt and Hops.
First use Oct. 12, 1961; in commerce March 1962.

SN 267,115. Anheuser-Busch, Incorporated, St. Louis, Mo. Filed Mar. 20, 1967.

KING OF BEERS

No claim is made to the word "Beers" apart from the mark as shown.
For Beer.
First use at least as early as 1951.

Class 49 — Distilled Alcoholic Liquors

SN 247,507. H. Hellebrekers & Zonen N.V., Delft, Netherlands. Filed Dec. 8, 1967.



The drawing is lined for gold. Owner of Dutch Reg. No. 89,632, dated Aug. 27, 1947.
For Dutch Gin and Liqueurs.

SN 267,271. Tequila Cuervo, S.A., Mexico City, Mexico. Filed Mar. 21, 1967.

CUERVO

The term "Cuervo" is a Spanish word meaning "raven."
Owner of U.S. Reg. Nos. 311,870, 311,871, and 711,630.
For Tequila.
First use Nov. 9, 1966; in commerce Nov. 9, 1966.

SN 268,472. Canadian Schenley Distilleries, Ltd., Montreal, Quebec, Canada. Filed Apr. 6, 1967.

CANADIAN CUSTOM

No claim of exclusive right is made to the word "Canadian" as used on Canadian whisky. Owner of Canadian Reg. No. 148,380, dated Dec. 2, 1966.
For Canadian Whisky.

SN 271,182. Schenley Industries, Inc., New York, N.Y. Filed May 10, 1967.

SCHENLY PLUS 7

Owner of Reg. Nos. 323,937, 770,479, and others.
For Whiskey.
First use Apr. 27, 1967.

SN 272,180. Joseph S. Finch and Company, New York, N.Y. Filed May 23, 1967.

GIBSON'S

Owner of Reg. Nos. 97,533, 545,859, and 653,883.
For Whiskies, Gin, and Vodka.
First use in or about 1837.

Class 50 — Merchandise Not Otherwise Classified

SN 258,891. Borg-Warner Corporation, Chicago, Ill. Filed Nov. 17, 1966.

SG

For Portable and Fixed Safety and Warning Devices for Land, Sea, and Air—Namely, Floats, Signposts, Signs, Sign Blanks, Frames, Bases, Lids, Connectors, Flags, Reflective and Non-Reflective Pavement Markers, and Traffic Control Barricades.
First use on or prior to June 21, 1965.

SN 268,045. Halo Sales Corporation, d.b.a. Olde Tower Sealing Wax, San Francisco, Calif. Filed Mar. 31, 1967.

DESIGNED FOR TODAY...WITH FOND RESPECT FOR THE PAST.

For Sealing Wax Sets.
First use Mar. 2, 1967.

SN 284,551. Printing Developments, Inc., New York, N.Y. Filed Nov. 13, 1967.

TILON

For Photosensitive Nylon Letterpress Printing Plates.
First use on or about Oct. 2, 1967.

SERVICE MARKS

Class 100 — Miscellaneous

SN 227,713. Smith Oil Corporation, Rockford, Ill. Filed Sept. 13, 1965.

WAYSIDE CHEF

For Restaurant Service.
First use on or about Nov. 20, 1964.

SN 251,709. Commercial Travellers Club, Inc., Grand Rapids, Mich. Filed Aug. 4, 1966.

CTC

For Services of Arranging Special Accommodations and Rates at Hotels, Motels, and Other Public Facilities for Its Member-Subscribers.
First use November 1964.

SN 264,146. The Chicken Shack, Colorado Springs, Colo. Filed Feb. 7, 1967.



For Service Involving the Technical Assistance of Franchised Restaurant Operators Including Consultation, Supplying of Information on Procedures of Operation, Cooking of Foods, and the Like.
First use Apr. 1, 1934.

SN 267,931. Electronic Communications, Inc., St. Petersburg, Fla. Filed Mar. 30, 1967.

ECI

Owner of Reg. Nos. 706,255, 706,588, and 775,282.
For Engineering and Consulting Services Rendered to Others on a Contract Basis—Namely, Conducting Surveys, Design Studies, and Research Related to Electronic Communications and Data Processing.
First use Jan. 21, 1963.

SN 270,381. Guardian Leasing, Inc., Hinsdale, Ill. Filed May 1, 1967.

GL

For Equipment Leasing Services—Namely, the Leasing of Equipment to Automobile Dealers and Owners and Operators of Service Stations and the Like.
First use Apr. 1, 1965.

Class 101 — Advertising and Business

SN 234,622. Cheltenham Book Shop, Inc., Wyncote, Pa. Filed Dec. 15, 1965.

PAPERBACK DEN

Applicant disclaims the word "Paperback" apart from the mark as shown.
For Retail Book Store Services.
First use Dec. 19, 1963.

SN 240,063. Campus Rentals, Madison, Wis. Filed Mar. 8, 1966.

CAMPUS RENTALS

Without relinquishing any of its common law rights, applicant disclaims exclusive right to use of the word "Rentals."
For Renting Student Housing.
First use Aug. 1, 1965.

SN 240,313. S. H. Leggitt Company, d.b.a. Leggitt Associate Stores, Marshall, Mich. Filed Mar. 7, 1966.



No registration rights are claimed for the words "Quality" and "Associate Store" apart from the mark as shown.
For Retail Store Services for Trailer Parts and Accessories.
First use Nov. 29, 1963.

SN 246,638. Atlanta Trade Shows, Inc., Atlanta, Ga. Filed May 26, 1966.

YOUNG AMERICA EXPOSITION

The word "Exposition" is disclaimed.
For Providing a Marketing and Promotion Exhibition To Be Held Annually Providing a Marketing and Promotional Exhibition of Goods Appealing to Young People.
First use Oct. 15, 1965.

SN 250,578. Marvin S. Healy, d.b.a. National Income Tax Service, Clifton, Colo. Filed July 19, 1966.



No claim is made to the wording "Income Tax Service" apart from the mark as shown.
For Preparation of Income Tax Returns.
First use Apr. 25, 1966.

SN 251,313. The Mogul Ski Shop, Philadelphia, Pa. Filed July 29, 1966.

THE MOGUL SKI SHOP

The words "Ski Shop" are disclaimed when used apart from the mark as shown.
For Retail Ski Shop Services.
First use Oct. 1, 1963.

SN 268,403. Glendinning Companies, Inc., Westport, Conn. Filed Apr. 5, 1967.

TIGER HUNT

For Services Related to Promotional Game Programs of the Public-Participating Type, for Retail Businesses of Others—Namely, Originating, Planning, Devising Materials for, and Implementing Such Programs.
First use Dec. 14, 1966.

SN 269,445. The Oklahoma Publishing Company, Oklahoma City, Okla. Filed Apr. 18, 1967.

colorgraphics

For Printing Services.
First use Nov. 1, 1966.

SN 270,238. Farm Chemicals of Oregon, Inc., d.b.a. Pacific Basin Trading Company, Athena, Oreg. Filed Apr. 28, 1967.

PABATCO

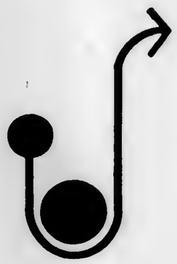
For Import-Export-Marketing Service.
First use December 1961.

SN 279,346. Michael S. Gerstein, d.b.a. Copy Cop Duplicating Services, Boston, Mass. Filed Aug. 30, 1967.

COPY COP

For Duplicating Services of Materials.
First use on or about Aug. 3, 1967.

SN 281,339. United Data Centers, Inc., New York, N.Y. Filed Sept. 28, 1967.



For Commercial Data Processing Provided by Computer Centers Which Are Located in Different Areas.
First use June 9, 1967.

SN 281,943. Mid-Atlantic Expositions, Incorporated, Washington, D.C. Filed Oct. 6, 1967.



For Promoting the Sale of Goods and Services of Others by Means of Advertising and Exhibitions.
First use on or before May 1, 1966.

Class 102 — Insurance and Financial

SN 265,417. Financial Service Corporation of America, Atlanta, Ga. Filed Feb. 24, 1967.



For Services Relating to the Sale and Purchase of Securities on Behalf of Others; Brokerage Services for Life Insurance and Annuity Companies, and for Savings and Loan Associations; and Also for Services Relating to Financial Planning Involving the Creation and Conservation of Estates.
First use April 1965.

Class 103 — Construction and Repair

SN 262,250. Acme Uniform & Linen Inc., Cincinnati, Ohio. Filed Jan. 10, 1967.

ACMETIZED

For Uniform and Linen Cleaning Service.
First use Dec. 1, 1966.

SN 262,310. Bird Space Technology, Inc., Palm Springs, Calif. Filed Jan. 11, 1967.

bird
space technology

Applicant disclaims use of the words "Space Technology" except when used as a part of the mark as shown.
For Aircraft Repair, Aircraft Modification and Design of Aircraft Modifications and Radio Installation Services on Aircraft.
First use on or about May 4, 1959.

Class 104 — Communication

SN 240,361. Norman B. York, d.b.a. Tel-Consultants, San Diego, Calif. Filed Mar. 7, 1966.

TEL-CONSULTANTS

For Consulting Services Pertaining to Business Telephone, Telegraph, Intercommunicating and Radio Communications Facilities.
First use Jan. 29, 1965.

SN 252,370. Field Communications Corporation, Chicago, Ill. Filed Aug. 15, 1966.



The mark is a fanciful letter "F."
For Television Broadcasting Service.
First use on or about Jan. 3, 1966.

Class 105 — Transportation and Storage

SN 257,110. Twin City Air Service, Inc., Benton Harbor, Mich. Filed Oct. 24, 1966.

TWINAIR

For Charter Air Transportation and Rental of Aircraft.
First use July 1965.

SN 269,203. Northeast Airlines, Inc., Boston, Mass. Filed Apr. 14, 1967.

CATCH A YELLOWBIRD

For Air Transportation of Passengers and Freight.
First use September 1966.

Class 106 — Material Treatment

SN 237,594. Standard International Corporation, Andover, Mass., assignee of Roll-Die & Mold Decorators, Inc., Youngstown, Ohio. Filed Jan. 28, 1966.



The lining shown in the palette indicates red; the lining shown in the stylised well indicates shading only.
For Texturing Molds and Dies for Plastic Injection, Blow Molding, Vacuum Forming, Fiberglass, Hard Board, Die Casting and Texturing Rolls for Patterned Metal, Vinyl and Extruding.
First use Nov. 20, 1964.

SN 244,726. Nimet Industries, Inc., South Bend, Ind. Filed May 2, 1966.

NITUFF

For Treating Metal Surfaces—Namely, the Surfaces of Aluminum Products of Others.
First use October 1965.

SN 255,600. Color Service Company, Inc., New York, N.Y. Filed Oct. 3, 1966.

Color Service

The term "Color Service" is disclaimed apart from the mark as shown.
For Processing and Mechanical Editing of Motion Picture Film.
First use at least as early as Dec. 16, 1949.

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

843,452. AA AND DESIGN. Ablestik Adhesive Company. MULTIPLE CLASS (Classes 1, 5, 21, and 23). SN 235,476. Pub. 9–26–67. Filed 12–29–65.

843,453. CROSS CHECKS. Avon Sole Company. MULTIPLE CLASS (Classes 1 and 39). SN 243,303. Pub. 11–21–67. Filed 4–13–66.

843,454. METLCONE. Gladen Enterprises, Inc. MULTIPLE CLASS (Classes 1 and 50). SN 244,580. Pub. 11–21–67. Filed 4–29–66.

843,455. COPPERCONE. Gladen Enterprises, Inc. MULTIPLE CLASS (Classes 1 and 50). SN 244,581. Pub. 11–21–67. Filed 4–29–66.

843,456. XPI. American Cyanamid Company. SN 250,441. Pub. 11–21–67. Filed 7–18–66.

843,457. CRECY AND DESIGN. De Wine & Hamma Seed Company, Inc. SN 252,948. Pub. 11–21–67. Filed 8–23–66.

843,458. JUNIOR SPECIMEN. Wight Nurseries, Inc. SN 254,003. Pub. 11–21–67. Filed 9–7–66.

843,459. EPSYN. Copolymer Rubber & Chemical Corporation. SN 254,777. Pub. 11–21–67. Filed 9–20–66.

843,460. VITASIZED. FMC Corporation. SN 258,680. Pub. 11–21–67. Filed 11–15–66.

843,461. PEMCO. SCM Corporation, assignee of The Glidden Company. SN 259,725. Pub. 11–21–67. Filed 11–30–66.

843,462. FORTELON. Fiber Industries, Inc. SN 261,058. Pub. 11–21–67. Filed 12–19–66.

843,463. FORTYL. Fiber Industries, Inc. SN 261,059. Pub. 11–21–67. Filed 12–19–66.

843,464. PICOPORE. Ionics, Incorporated. SN 261,498. Pub. 11–21–67. Filed 12–27–66.

843,465. SAN LORENZO. San Lorenzo Nursery Company. SN 262,444. Pub. 11–21–67. Filed 1–12–67.

843,466. INTERPLEX. Interplex. SN 262,587. Pub. 11–21–67. Filed 1–16–67.

Class 2 — Receptades

843,467. MAIL SAFE AND DESIGN. Waldorf Paper Products Company. SN 240,371. Pub. 11–21–67. Filed 3–7–66.

843,468. INSTANT OCEAN AND DESIGN. Aquarium Systems, Inc. SN 243,075. Pub. 11–21–67. Filed 4–11–66.

843,469. EPTONE. National Can Corporation. SN 259,138. Pub. 11–14–67. Filed 11–21–66.

843,470. DART AND DESIGN. Dart Container Corporation. SN 259,815. Pub. 11–21–67. Filed 12–1–66.

843,471. UNION. Union Steel Chest Corporation. MULTIPLE CLASS (Classes 2, 22, and 25). SN 264,116. Pub. 11–21–67. Filed 2–6–67.

843,472. MP AND DESIGN. Union Carbide Corporation. SN 265,752. Pub. 11–21–67. Filed 3–1–67.

843,473. HANDI-FLATS. Geo. J. Ball, Inc. SN 266,852. Pub. 11–21–67. Filed 3–16–67.

843,474. SAMSON AND DESIGN. Samson Plastics, Inc. MULTIPLE CLASS (Classes 2, 32, and 44). SN 277,589. Pub. 11–21–67. Filed 8–7–67.

843,475. SAMSON. Samson Plastics, Inc. MULTIPLE CLASS (Classes 2, 32, and 44). SN 277,590. Pub. 11–21–67. Filed 8–7–67.

843,476. SELF STICK. Phoenix Products Company, Inc. SN 280,677. Pub. 11–21–67. Filed 9–19–67.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

843,477. WEIGHT WATCHERS. Weight Watchers International, Inc. SN 249,693. Pub. 11–21–67. Filed 7–6–66.

Class 4 — Abrasives and Polishing Materials

843,478. VESCO-LITE. W. R. Grace & Co. SN 252,925. Pub. 11–21–67. Filed 8–23–66.

843,479. TOP SHINE. Dynasurf Chemical Corporation. SN 257,175. Pub. 11–21–67. Filed 10–25–66.

843,480. STAFF. Staff Supermarket Associates, Inc. SN 258,258. Pub. 11–21–67. Filed 11–8–66.

843,481. MAGIK KLING AND DESIGN. Family Life Products, Inc. SN 259,414. Pub. 11–21–67. Filed 11–25–66.

843,482. COME ON STRONG. B & L Sales Associates. SN 265,484. Pub. 11–21–67. Filed 2–27–67.

Class 5 — Adhesives

843,452. (See Class 1 for this trademark.)

843,483. WELDWOOD. U.S. Plywood-Champion Papers Inc., by merger and change of name from United States Plywood Corp. MULTIPLE CLASS (Classes 5, 6, 12, 16, 22, and 32). SN 239,001. Pub. 11–21–67. Filed 2–17–66.

843,484. SWINGLINE. Swingline Inc. MULTIPLE CLASS (Classes 5, 12, and 14). SN 265,377. Pub. 11–21–67. Filed 2–24–67.

843,485. NEXUS. United States Steel Corporation. SN 274,389. Pub. 11–21–67. Filed 6–21–67.

Class 6 — Chemicals and Chemical Compositions

843,483. (See Class 5 for this trademark.)

843,486. REV 500 AND FLAG DESIGN. Dealers Service Specialty Corp. MULTIPLE CLASS (Classes 6 and 15). SN 235,380. Pub. 11–21–67. Filed 12–28–65.

843,487. TPC AND DESIGN. Takasago Koryo Kogyo Kabushiki Kaisha. SN 244,858. Pub. 11–21–67. Filed 5–3–66.

843,488. SUN SENT. Geigy Chemical Corporation (New York corporation), by merger from Geigy Chemical Corporation (Delaware corporation). SN 249,230. Pub. 11–21–67. Filed 6–29–66.

843,489. AFTER A RAIN. Geigy Chemical Corporation (New York corporation), assignee of Geigy Chemical Corporation (Delaware corporation). SN 249,524. Pub. 11–21–67. Filed 7–5–66.

843,490. DU-DU. Hodgson and Fraser Ltd., assignee of Hugh Malcolm Fraser. SN 251,906. Pub. 11–21–67. Filed 8–8–66.

843,491. PIEFER. Miguel Viejo, d.b.a. Piefer Co. SN 256,782. Pub. 11–21–67. Filed 10–19–66.

843,492. BRAND X. Chadbourn Gotham, Inc. SN 257,933. Pub. 11–21–67. Filed 11–4–66.

843,493. WICKENOL. Wickhen Products, Inc. SN 258,011. Pub. 11–21–67. Filed 11–4–66.

843,494. SILATEX. O. D. Berry, d.b.a. Sunshine Cleaners. SN 259,638. Pub. 4–4–67. Filed 11–29–66.

843,495. PEMCO. SCM Corporation, assignee of The Glidden Company. SN 259,726. Pub. 11–21–67. Filed 11–30–66.

843,496. PER-SOLV. Foremost Chemicals, Inc. SN 265,622. Pub. 11–21–67. Filed 2–28–67.

843,497. HIL-PHENE. Hillyard Enterprises, Inc. SN 266,760. Pub. 11–21–67. Filed 3–15–67.

843,498. HARTZ MOUNTAIN. Hartz Mountain Products Corp. SN 268,183. Pub. 11–21–67. Filed 4–3–67.

843,499. DIE-WEED. Triangle Chemical Company. SN 268,347. Pub. 11–21–67. Filed 4–4–67.

843,500. AMERCHOL L–101. American Cholesterol Products, Inc. SN 268,461. Pub. 11–21–67. Filed 4–6–67.

843,501. AMADULL. American Aniline Products, Inc. SN 268,672. Pub. 11–21–67. Filed 4–10–67.

843,502. ANYLOK. American Aniline Products, Inc. SN 268,675. Pub. 11–21–67. Filed 4–10–67.

843,503. AMAWET. American Aniline Products, Inc. SN 268,676. Pub. 11–21–67. Filed 4–10–67.

843,504. AMAFOAM. American Aniline Products, Inc. SN 268,678. Pub. 11–21–67. Filed 4–10–67.

843,505. AMASLIP. American Aniline Products, Inc. SN 268,679. Pub. 11–21–67. Filed 4–10–67.

843,506. AMATERG. American Aniline Products, Inc. SN 268,680. Pub. 11–21–67. Filed 4–10–67.

843,507. AMAPEL. American Aniline Products, Inc. SN 268,681. Pub. 11–21–67. Filed 4–10–67.

843,508. AMAFUME. American Aniline Products, Inc. SN 268,683. Pub. 11–21–67. Filed 4–10–67.

843,509. MONINDEX. Ortho Pharmaceutical Corporation, d.b.a. Ortho Diagnostics. SN 270,697. Pub. 11–21–67. Filed 5–4–67.

843,510. HEMA-CYAN. Uni-Tech Chemical Manufacturing Company. SN 272,669. Pub. 11–21–67. Filed 5–31–67.

843,511. HEMA-CYN. Uni-Tech Chemical Manufacturing Company. SN 272,670. Pub. 11–21–67. Filed 5–31–67.

843,512. EXCHLOR. Diamond Alkali Company. SN 273,833. Pub. 11–21–67. Filed 6–14–67.

Class 7 — Cordage

843,513. TIGER-TIES. Germain's, Inc. SN 251,056. Pub. 11–21–67. Filed 7–26–66.

Class 10 — Fertilizers

843,514. TLC AND DESIGN. The Borden Company. SN 242,212. Pub. 10–10–67. Filed 3–30–66.

843,515. ASTRO-GRO. Armour Agricultural Chemical Company. SN 255,766. Pub. 11–21–67. Filed 10–5–66.

843,516. FEEDRITE. Armour Agricultural Chemical Company. SN 255,767. Pub. 11–21–67. Filed 10–5–66.

843,517. HEAD START. American Plant Food Corporation. SN 257,346. Pub. 11–21–67. Filed 10–27–66.

843,518. MULTI-PELS. American Plant Food Corporation. SN 257,347. Pub. 11–21–67. Filed 10–27–66.

843,519. RICE ROUSER. American Plant Food Corporation. SN 257,350. Pub. 11–21–67. Filed 10–27–66.

Class 12 — Construction Materials

843,483. (See Class 5 for this trademark.)

843,484. (See Class 5 for this trademark.)

843,520. GR. General Refractories Company. SN 242,124. Pub. 11–29–66. Filed 3–29–66.

843,521. MONARCH AND DESIGN. Monarch Pool Corp. SN 243,156. Pub. 9–12–67. Filed 4–11–66.

843,522. RAINLOCK. Reynolds Metals Company. SN 248,847. Pub. 11–21–67. Filed 6–23–66.

843,523. CONNOR. Connor Forest Industries, by change of name from The Connor Lumber and Land Company. MULTIPLE CLASS (Classes 12 and 32). SN 252,048. Pub. 11–21–67. Filed 8–10–66.

843,524. CADILLAC AND DESIGN. General Pools Corporation, assignee of General Pool Corporation. SN 256,543. Pub. 11–21–67. Filed 10–17–66.

843,525. GREENCARB. A. P. Green Refractories Co. SN 259,109. Pub. 11–21–67. Filed 11–21–66.

843,526. CONWED. Conwed Corporation, by change of name from Wood Conversion Company. SN 261,553. Pub. 11–21–67. Filed 12–27–66.

843,527. HENDON. Hendon Construction Company. SN 263,064. Pub. 11–21–67. Filed 1–23–67.

843,528. TANGENT. Tangent Products Corporation. SN 265,142. Pub. 11–21–67. Filed 2–21–67.

843,529. SYNTERRA AND DESIGN. Synterra Corporation. SN 270,432. Pub. 11–21–67. Filed 5–1–67.

843,530. RAIN FLOW CONTINUOUS GUTTERING AND DESIGN. Rain-Flow Systems, Inc. SN 272,446. Pub. 11–21–67. Filed 5–26–67.

843,531. PERMA PLATE AND DESIGN. Arrow Metal Products Corp. SN 277,964. Pub. 11–21–67. Filed 8–10–67.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

843,532. S-B AND DESIGN. S-B Manufacturing Company. MULTIPLE CLASS (Classes 13 and 50). SN 257,002. Pub. 11–21–67. Filed 10–24–66.

843,533. WRIGHT PRODUCTS AND DESIGN. Hartzell Manufacturing, Inc., d.b.a. Wright Products. MULTIPLE CLASS (Classes 13 and 25). SN 257,905. Pub. 11–21–67. Filed 11–4–66.

843,534. POWER-CISION. The S-P Manufacturing Corporation. MULTIPLE CLASS (Classes 13 and 23). SN 258,252. Pub. 11–21–67. Filed 11–8–66.

843,535. FUNNEL ENTRY. Kenlin Enterprises, Inc. SN 258,386. Pub. 11–21–67. Filed 11–10–66.

843,536. GEMOFIX-STUDS. Sileps, Inc. SN 259,033. Pub. 11–21–67. Filed 11–18–66.

843,537. U AND DESIGN. Universal Metal Hose Company. SN 259,866. Pub. 11–21–67. Filed 12–1–66.

843,538. DUR-X-CEL. Durex Products, Inc. SN 260,539. Pub. 11–21–67. Filed 12–12–66.

843,539. LEAK-TITE. Goerlich's, Inc. SN 260,840. Pub. 11–21–67. Filed 12–15–66.

843,540. INDEPENDENT AND DESIGN. Independent Nail, Inc., by change of name and assignment from The Independent Nail Corporation. SN 261,658. Pub. 11–21–67. Filed 12–29–66.

843,541. TUF-O-COR AND DESIGN. Tulsa Fittings Corporation. SN 261,690. Pub. 11–21–67. Filed 12–29–66.

843,542. FAS-FIT. Colonial Plastics Manufacturing Co. SN 265,276. Pub. 11–21–67. Filed 2–23–67.

843,543. SWAGELOK. Crawford Fitting Company. SN 266,008. Pub. 11–21–67. Filed 3–6–67.

843,544. MISCELLANEOUS DESIGN. Wisconsin Wire Works. MULTIPLE CLASS (Classes 13 and 14). SN 279,888. Pub. 11–21–67. Filed 9–8–67.

Class 14 — Metals and Metal Castings and Forgings

843,484. (See Class 5 for this trademark.)

843,544. (See Class 13 for this trademark.)

843,545. SPIRAUX REUNIS SR AND DESIGN. Société des Fabriques de Spiraux Réunies. MULTIPLE CLASS (Classes 14 and 27). SN 244,852. Pub. 11–21–67. Filed 5–3–66.

843,546. HOEGANAES AND DESIGN. Hoeganaes Corporation. SN 265,068. Pub. 11–21–67. Filed 2–20–67.

Class 15—Oils and Greases

843,486. (See Class 6 for this trademark.)

843,547. AQUA LUBE AND DESIGN.Mitann Inc., d.b.a. Zip Aerosol Products. SN 259,453. Pub. 11–21–67. Filed 11–25–66.

843,548. TELCON. Alvin Products, Inc. SN 267,228. Pub. 11–21–67. Filed 3–21–67.

843,549. SHOP MAGIC AND DESIGN. Crult's Replacement Parts, Inc. SN 270,357. Pub. 11–21–67. Filed 5–1–67.

843,550. SUPERMIL. The American Oil Company. SN 271,333. Pub. 11–21–67. Filed 5–12–67.

843,551. AMOQUENCH. The American Oil Company. SN 271,334. Pub. 11–21–67. Filed 5–12–67.

Class 16—Protective and Decorative Coatings

843,483. (See Class 5 for this trademark.)

843,552. COPOLY. Reliance Universal Incorporated. SN 194,919. Pub. 3–30–65. Filed 6–4–64.

843,553. CONCOAT. Continental Coatings Corporation. SN 258,283. Pub. 11–21–67. Filed 11–9–66.

843,554. BOND-AID. Evr-Gard Coatings Corporation. SN 261,982. Pub. 11–21–67. Filed 1–5–67.

843,555. DRI-DUST AIRLESS SPRAY. Kyanize Paints, Inc. SN 263,378. Pub. 11–21–67. Filed 1–26–67.

843,556. MOISTURPEL. Kyanize Paints, Inc. SN 263,381. Pub. 11–21–67. Filed 1–26–67.

843,557. SHEL-TEX. Kyanize Paints, Inc. SN 263,382. Pub. 11–21–67. Filed 1–26–67.

843,558. MARMO PLAST AND DESIGN. The Sargent Paint Mfg. Co. SN 264,594. Pub. 11–21–67. Filed 2–13–67.

Class 17—Tobacco Products

843,559. JAMAICA CLUB. Samuel B. Jacobs. SN 251,928. Pub. 11–21–67. Filed 8–8–66.

843,560. DEBONAIR. Havatampa Cigar Corporation. SN 259,318. Pub. 11–21–67. Filed 11–23–66.

843,561. A CARGO OF CONTENTMENT IN THE BOWL OF ANY PIPE AND DESIGN. The American Tobacco Company. SN 259,894. Pub. 11–21–67. Filed 12–2–66.

843,562. TROPHY. Havatampa Cigar Corporation. SN 259,317. Pub. 11–28–67. Filed 11–23–66.

843,563. VINCENTELLA. Corral, Wodiska y Ca. SN 260,409. Pub. 11–21–67. Filed 12–9–66.

843,564. ROLLING HOGSHEAD AND DESIGN. The American Tobacco Company. SN 260,640. Pub. 11–21–67. Filed 12–13–66.

843,565. CUM LAUDE. Lane Limited. SN 260,667. Pub. 11–21–67. Filed 12–13–66.

843,566. PHILIP MORRIS AND DESIGN. Philip Morris Incorporated. SN 272,559. Pub. 11–21–67. Filed 5–29–67.

Class 18—Medicines and Pharmaceutical Preparations

843,567. RD AND DESIGN. Rexall Drug and Chemical Company, d.b.a. Rexall Drug Company. SN 201,873. Pub. 3–23–65. Filed 9–14–64.

843,568. A-H-ROBINS. A. H. Robins Company, Incorporated. SN 244,056. Pub. 11–14–67. Filed 4–22–66.

843,569. IRON GUARD. Columbian Hog and Cattle Powder Co. SN 244,680. Pub. 6–27–67. Filed 5–2–66.

843,570. HVP. Hudson National, Inc., d.b.a. Hudson Vitamin Products. MULTIPLE CLASS (Classes 18 and 44). SN 254,053. Pub. 11–21–67. Filed 9–8–66.

843,571. THUNDERHEAD. Thunderhead Laboratories, Inc. SN 256,018. Pub. 11–21–67. Filed 10–7–66.

843,572. LB-PREP. Gray Pharmaceutical Co. SN 258,100. Pub. 10–17–67. Filed 11–7–66.

843,573. SCOLABAN. The Wellcome Foundation Limited. SN 258,632. Pub. 11–21–67. Filed 11–14–66.

843,574. LEAN-CUT. Hubbard Milling Company. SN 262,169. Pub. 11–21–67. Filed 1–9–67.

843,575. GEOMETRIC FORM DEPICTING FLASK CONTAINING STYLIZED A WITHIN A CIRCLE. Allergan Pharmaceuticals. SN 262,386. Pub. 11–21–67. Filed 1–12–67.

843,576. LINIGESIC. Invenex Pharmaceuticals. SN 262,793. Pub. 11–21–67. Filed 1–18–67.

843,577. FOLVRON. American Cyanamid Company. SN 263,242. Pub. 11–21–67. Filed 1–25–67.

843,578. KESSO-PEN. Foremost-McKesson, Inc., by merger and change of name from McKesson & Robbins, Incorporated., d.b.a. McKesson Laboratories. SN 263,597. Pub. 11–21–67. Filed 1–30–67.

843,579. LAXITOL. The Purdue Frederick Company. SN 263,607. Pub. 11–21–67. Filed 1–30–67.

843,580. POLARON. Warren-Teed Pharmaceuticals Inc. SN 263,719. Pub. 11–21–67. Filed 1–31–67.

843,581. SIDEROX. Warren-Teed Pharmaceuticals Inc. SN 263,859. Pub. 11–21–67. Filed 2–2–67.

843,582. FRAGIVIX. Societe Belge de l'Azote et des Produits Chimiques du Marly. SN 265,117. Pub. 11–21–67. Filed 2–20–67.

843,583. SOXA. Vita Elixir Company, Inc. SN 265,231. Pub. 11–21–67. Filed 2–21–67.

843,584. SOFT DEN. Denison Laboratories, Inc. SN 266,310. Pub. 11–21–67. Filed 3–9–67.

843,585. FORTIFIVER. Murphy Products Company, Inc. SN 266,905. Pub. 11–21–67. Filed 3–16–67.

843,586. ORPHAC. Rexall Drug and Chemical Company, d.b.a. Riker Laboratories. SN 268,616. Pub. 11–21–67. Filed 4–7–67.

843,587. THEELIN R-P. Parke, Davis & Company. SN 272,781. Pub. 11–21–67. Filed 6–1–67.

843,588. LET GO. American Home Products Corporation. SN 279,021. Pub. 11–21–67. Filed 8–25–67.

843,589. DYNAPREL. Mead Johnson & Company. SN 279,789. Pub. 11–21–67. Filed 9–7–67.

Class 19—Vehicles

843,590. 250S. Daimler-Benz Aktiengesellschaft. SN 239,501. Pub. 11–21–67. Filed 2–24–66.

843,591. NAPCO AND DESIGN. Napco Industries, Inc. MULTIPLE CLASS (Classes 19 and 23). SN 240,321. Pub. 11–21–67. Filed 3–7–66.

843,592. NAVIPLANE. Bertin et Compagnie. SN 244,073. Pub. 11–21–67. Filed 4–21–66.

843,593. ECOA AND DESIGN. Equipment Company of America. MULTIPLE CLASS (Classes 19 and 50). SN 246,297. Pub. 11–21–67. Filed 5–23–66.

843,594. RAM'S HORN AND DESIGN. Schwinn Bicycle Company, by change of name from Arnold, Schwinn & Co. SN 255,769. Pub. 11–21–67. Filed 10–5–66.

843,595. MAASGLAS. Machinale Glasfabriek de Maas N.V. SN 260,259. Pub. 10–31–67. Filed 12–7–66.

843,596. LYNX. Lee S. Siebert, assignee of Stanray Corporation. SN 261,599. Pub. 10–31–67. Filed 12–28–66.

843,597. MOBY DINK ! AND DESIGN. Snark Products, Inc. SN 264,110. Pub. 11–21–67. Filed 2–6–67.

843,598. 230SL. Daimler-Benz Aktiengesellschaft. SN 266,125. Pub. 11–21–67. Filed 3–7–67.

843,599. CROWN. Toyota Motor Company, Ltd. SN 273,451. Pub. 11–21–67. Filed 6–9–67.

843,600. HOBO. Graham Products Limited. SN 274,968. Pub. 11–21–67. Filed 6–28–67.

Class 21—Electrical Apparatus, Machines, and Supplies

843,452. (See Class 1 for this trademark.)

843,601. LOCKHEED. Lockheed Aircraft Corporation. SN 86,795. Pub. 2–21–61. Filed 12–7–59.

843,602. WOODENEER. Dasey Products Company. SN 228,243. Pub. 11–21–67. Filed 9–21–65.

843,603. COOKBOOK. Scovill Manufacturing Company. SN 240,794. Pub. 2–14–67. Filed 3–11–66.

843,604. C (ELECTRONIC DESIGN). Chronetics, Inc. SN 244,971. Pub. 11–21–67. Filed 5–5–66.

843,605. FIELD EFFECT SCOTT AND DESIGN. H. H. Scott, Inc. SN 245,244. Pub. 11–21–67. Filed 5–9–66.

843,606. CRYO GAUSS. Compagnie Francaise Thomson Houston-Hotchkiss Brandt, by change of name from Compagnie Francaise Thomson-Houston. SN 247,335. Pub. 11–21–67. Filed 6–6–66.

843,607. SPEEDYNE. The New York Air Brake Company. SN 248,516. Pub. 11–21–67. Filed 6–20–66.

843,608. PLASTILET. Atlantic Research Corporation. SN 248,957. Pub. 11–21–67. Filed 6–27–66.

843,609. SIMRAD. Simonsen Radio A/S. MULTIPLE CLASS (Classes 21 and 26). SN 250,524. Pub. 11–21–67. Filed 7–18–66.

843,610. REC AND DESIGN. Rosemount Engineering Company. MULTIPLE CLASS (Classes 21, 22, 26, and 39). SN 252,615. Pub. 11–21–67. Filed 8–18–66.

843,611. POSITEMP. Pennsylvania Electronics Technology, Inc. SN 252,887. Pub. 11–21–67. Filed 8–22–66.

843,612. GR 874. General Radio Company. SN 254,273. Pub. 11–21–67. Filed 9–12–66.

843,613. VECTRON AND DESIGN. Vectron Laboratories, Inc. SN 258,179. Pub. 11–21–67. Filed 11–7–66.

843,614. SEELITE. General Motors Corporation. SN 260,421. Pub. 11–21–67. Filed 12–9–66.

843,615. W J H. AMP Incorporated. SN 261,910. Pub. 11–21–67. Filed 1–4–67.

843,616. THE STOPPER. Nicholl Brothers, Inc. SN 262,054. Pub. 11–21–67. Filed 1–6–67.

843,617. DIPATAN. Components, Inc. SN 262,130. Pub. 11–21–67. Filed 1–9–67.

843,618. TERMI-GRID. AMP Incorporated. SN 264,486. Pub. 11–21–67. Filed 2–13–67.

843,619. ISOLTAXIAL. Solitron Devices, Inc. SN 264,978. Pub. 11–21–67. Filed 2–17–67.

Class 22—Games, Toys, and Sporting Goods

843,471. (See Class 2 for this trademark.)

843,483. (See Class 5 for this trademark.)

843,610. (See Class 21 for this trademark.)

843,620. HICKORY & TWEED. Hickory & Tweed, Inc. SN 227,539. Pub. 11–21–67. Filed 9–10–65.

843,621. DRYCEL. Scientific Anglers Incorporated. SN 243,903. Pub. 11–21–67. Filed 4–20–66.

843,622. "RED HORSE DERBY." The Addison Terry Company, Inc. SN 251,775. Pub. 11–21–67. Filed 8–5–66.

843,623. FLEX-COIL. Alden H. Simpson, d.b.a. Simcoe. SN 253,792. Pub. 11–21–67. Filed 9–2–66.

843,624. HED-MITS. Charles F. Clark, Inc. SN 255,517. Pub. 11–21–67. Filed 9–30–66.

843,625. ROLL. Santo Tessaro, d.b.a. Calzaturificio di Santo Tessaro, and Calzaturificio di Sante Tessaro. SN 259,777. Pub. 11–21–67. Filed 11–30–66.

843,626. TAC-TICKLE. Layman E. Allen, d.b.a. Wff 'N Proof. SN 261,248. Pub. 11–21–67. Filed 12–21–66.

843,627. ON-SETS. Layman E. Allen, d.b.a. Wff 'N Proof. SN 261,249. Pub. 11–21–67. Filed 12–21–66.

843,628. TONEALL. Toneall Corporation, Ltd. SN 261,765. Pub. 11–21–67. Filed 12–30–66.

843,629. STAKE YOUR CLAIM. The Grand Union Company, d.b.a. Stake Your Claim Co. SN 262,422. Pub. 11–21–67. Filed 1–12–67.

843,630. BI-CONIC. True Temper Corporation. SN 262,897. Pub. 11–21–67. Filed 1–19–67.

843,631. BM AND DESIGN. Babolat-Maillot-Witt. SN 264,645. Pub. 11–21–67. Filed 2–14–67.

843,632. PBA AND DESIGN. Professional Basketball Association Corp. SN 267,181. Pub. 11–21–67. Filed 3–20–67.

843,633. TEENSIE WEENSIES. A & H Doll Manufacturing Corporation. SN 268,561. Pub. 11–21–67. Filed 4–7–67.

843,634. SWEEP FLARE. Brunswick Corporation. SN 268,693. Pub. 11–21–67. Filed 4–10–67.

843,635. COUNT DOWN. Mondotoy Establishment. SN 269,553. Pub. 11–21–67. Filed 4–19–67.

843,636. FIRST FLIGHT AND DESIGN. Professional Golf Company. SN 276,500. Pub. 11–21–67. Filed 7–21–67.

843,637. PALM MASTER. Master Industries, Inc. SN 276,501. Pub. 11–21–67. Filed 7–21–67.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

843,452. (See Class 1 for this trademark.)

843,534. (See Class 13 for this trademark.)

843,591. (See Class 19 for this trademark.)

843,638. N·A·P·A-HI-TORQUE. National Automotive Parts Association. SN 172,215. Pub. 2–2–65. Filed 7–1–63.

843,639. BALDRIVE. Barrett Hydrostatics Limited. SN 203,858. Pub. 11–9–65. Filed 10–13–64.

843,640. GLADCO. Gladwin Corporation. SN 228,362. Pub. 11–21–67. Filed 9–22–65.

843,641. WRAPLOCK. Stone Conveyor Co., Inc. SN 235,727. Pub. 10–17–67. Filed 1–3–66.

843,642. HATRA. Alfred Hagelstein Maschinenfabrik. SN 235,949. Pub. 10–24–67. Filed 1–7–66.

843,643. INTERTYPESETTER. Harris-Intertype Corporation. SN 236,993. Pub. 12–20–66. Filed 1–21–66.

843,644. HY-POWER. Hydraulic Power Equipment Corp. SN 240,000. Pub. 10–11–66. Filed 3–2–66.

843,645. DYNAVECTOR. The Bendix Corporation. SN 241,578. Pub. 11–21–67. Filed 3–22–66.

843,646. HAND-GRIP. The Bates Manufacturing Company. SN 248,585. Pub. 11–21–67. Filed 6–21–66.

843,647. LIQUI-FORM ETC. AND DESIGN. Liqui-Box Corporation. SN 249,655. Pub. 11–21–67. Filed 7–6–66.

843,648. ANTIPOLL. Toussaint Sinibaldi. SN 254,074. Pub. 11–21–67. Filed 9–8–66.

843,649. RODIS. Rose Patch & Label Company. SN 254,724. Pub. 11–21–67. Filed 9–19–66.

843,650. ADD-A-DUMP. Loyd R. Fulton. SN 260,246. Pub. 11–21–67. Filed 12–7–66.

843,651. WAM. Maschinenbau "Wam" M. Osterhof. SN 260,557. Pub. 11–21–67. Filed 12–12–66.

843,652. PLY-WELD. The Union Fork and Hoe Company. SN 260,687. Pub. 11–21–67. Filed 12–13–66.

843,653. HASTELLOY. Union Carbide Corporation. SN 261,172. Pub. 11–21–67. Filed 12–20–66.

843,654. WIS-MATIC. Wisconsin Drill Head Co. SN 261,414. Pub. 11–21–67. Filed 12–23–66.

843,655. SNAP-BACK. Van Gorp Manufacturing, Inc. SN 261,896. Pub. 11-21-67. Filed 1-3-67.

843,656. QUIKLOK. Barber-Greene Company. SN 262,117. Pub. 11-21-67. Filed 1-9-67.

843,657. SAFE T DRIVE. Vaughan & Bushnell Mfg. Co. SN 262,359. Pub. 11-21-67. Filed 1-11-67.

843,658. LINK-BELT. Link-Belt Company. SN 262,428. Pub. 11-21-67. Filed 1-12-67.

843,659. SHEATH PAK. American Can Company. SN 262,841. Pub. 11-21-67. Filed 1-19-67.

843,660. EQUA-CHIP. Barber-Colman Company. SN 262,845. Pub. 11-21-67. Filed 1-19-67.

843,661. MARC II TELETOWER. Smith-Berger Manufacturing Corporation, d.b.a. Smith-Berger Mfg. Corp. SN 263,619. Pub. 11-21-67. Filed 1-30-67.

843,662. M-2 YARDER. Smith-Berger Manufacturing Corporation, d.b.a. Smith-Berger Mfg. Corp. SN 263,620. Pub. 11-21-67. Filed 1-30-67.

843,663. DYNA-REV. Arthur W. Alexander and Elsie M. Alexander (joint owners), d.b.a. Crank Shaft Co. SN 264,008. Pub. 11-21-67. Filed 2-6-67.

843,664. A AND DESIGN. Arne Broadhurst, d.b.a. Aycock Knives. SN 264,194. Pub. 11-21-67. Filed 2-8-67.

843,665. TC AND DESIGN. Tronic Corporation. SN 279,604. Pub. 11-21-67. Filed 9-5-67.

843,666. TRONIC. Tronic Corporation. SN 279,605. Pub. 11-21-67. Filed 9-5-67.

843,667. DYNAMIL. Western Technology, Inc. SN 280,196. Pub. 11-21-67. Filed 9-13-67.

Class 24 — Laundry Appliances and Machines

843,668. BIG "D." Colmac Industries, Inc. SN 263,539. Pub. 11-21-67. Filed 1-30-67.

Class 25 — Locks and Safes

843,471. (See Class 2 for this trademark.)

843,533. (See Class 13 for this trademark.)

843,669. VIRO. Viro Innocenti S.p.A. SN 239,947. Pub. 11-21-67. Filed 3-1-66.

Class 26 — Measuring and Scientific Appliances

843,609. (See Class 21 for this trademark.)

843,610. (See Class 21 for this trademark.)

843,670. LOCKHEED. Lockheed Aircraft Corporation. SN 86,796. Pub. 2-21-61. Filed 12-7-59.

843,671. D T P L. Laboratory for Electronics, Inc. SN 241,669. Pub. 11-21-67. Filed 3-23-66.

843,672. DATASTROBE. Raytheon Company. SN 243,351. Pub. 11-21-67. Filed 4-13-66.

843,673. MISCELLANEOUS DESIGN. Sama & Etani, Inc. SN 243,485. Pub. 11-21-67. Filed 4-14-66.

843,674. DROPTIP. Leeds & Northrup Company. SN 243,999. Pub. 11-21-67. Filed 4-21-66.

843,675. MISCELLANEOUS DESIGN. United Control Corporation (Delaware corporation), assignee of United Control Corporation (Washington corporation). SN 245,357. Pub. 11-21-67. Filed 5-10-66.

843,676. UNITED CONTROL AND DESIGN. United Control Corporation (Delaware corporation), assignee of United Control Corporation (Washington corporation). SN 245,358. Pub. 11-21-67. Filed 5-10-66.

843,677. MOISTURAY. Republic Steel Corporation. SN 247,622. Pub. 11-21-67. Filed 6-8-66.

843,678. HARSHAW AND DESIGN. Kewanee Oil Company, d.b.a. The Harshaw Chemical Company, assignee of The Harshaw Chemical Company. SN 252,257. Pub. 11-21-67. Filed 8-12-66.

843,679. A AND DESIGN. Ault Incorporated. SN 254,768. Pub. 11-21-67. Filed 9-19-66.

843,680. ALLEN AND DESIGN. Allen Electric and Equipment Company. SN 255,584. Pub. 11-21-67. Filed 10-3-66.

843,681. LUFKOTE. The Lufkin Rule Company. SN 258,915. Pub. 11-21-67. Filed 11-17-66.

843,682. AQUA-GLO. Gammon Technical Products, Inc. SN 263,461. Pub. 11-21-67. Filed 1-27-67.

843,683. PRO-LAB. Simmon Omega, Inc. SN 264,109. Pub. 11-21-67. Filed 2-6-67.

843,684. HYDROSONDE. Huntec Limited. SN 265,305. Pub. 11-21-67. Filed 2-23-67.

843,685. FLO-MINDER. Eldorado Tool & Mfg. Corp. SN 265,709. Pub. 11-21-67. Filed 3-1-67.

843,686. SKY ROVER. David P. Bushnell. SN 267,311. Pub. 11-21-67. Filed 3-22-67.

843,687. SCUFA. The Dow Chemical Company. SN 269,645. Pub. 11-21-67. Filed 4-20-67.

843,688. MONEY MATE. Harold Reuter & Co., Inc. SN 273,353. Pub. 11-21-67. Filed 6-8-67.

843,689. SSI. Sweep Systems Inc. SN 277,249. Pub. 11-21-67. Filed 8-1-67.

Class 27 — Horological Instruments

843,545. (See Class 14 for this trademark.)

Class 28 — Jewelry and Precious-Metal Ware

843,690. DIAMOND-ITE. Diamond-Ite International Inc. SN 263,793. Pub. 11-21-67. Filed 2-2-67.

843,691. ERNST. Ernst, Inc. SN 273,718. Pub. 11-21-67. Filed 6-13-67.

Class 29 — Brooms, Brushes, and Dusters

843,692. WUNDA-BRUSH. Wunda-Brush, Inc. SN 259,038. Pub. 11-21-67. Filed 11-18-66.

843,693. DINALYCE. Dinalyce, Inc. SN 263,547. Pub. 11-21-67. Filed 1-30-67.

Class 30 — Crockery, Earthenware, and Porcelain

843,694. MISCELLANEOUS DESIGN. AB Smorgasbord. MULTIPLE CLASS (Classes 30 and 100). SN 215,372. Pub. 11-21-67. Filed 3-31-65.

843,695. VISTAL. Coors Porcelain Company. SN 241,762. Pub. 11-21-67. Filed 3-24-66.

Class 31 — Filters and Refrigerators

843,696. AQUA-CLEER. Culligan, Inc. SN 238,176. Pub. 11-21-67. Filed 2-7-66.

843,697. ANTHONY. Anthony Pools, Inc. SN 250,815. Pub. 11-21-67. Filed 7-22-66.

843,698. OMR. American Felt Company. SN 255,857. Pub. 11-21-67. Filed 10-6-66.

Class 32 — Furniture and Upholstery

843,474. (See Class 2 for this trademark.)

843,475. (See Class 2 for this trademark.)

843,483. (See Class 5 for this trademark.)

843,523. (See Class 12 for this trademark.)

843,699. TOWN CLASSICAL. U.S. Plywood-Champion Papers, Inc., by assignment, merger and change of name from Del-Mar Industries, Inc. SN 240,417. Pub. 11-21-67. Filed 3-8-66.

843,700. SELFIX. Selfix, Inc. SN 250,040. Pub. 11-21-67. Filed 7-11-66.

843,701. TOMOTOM. Hull Traders Limited. SN 250,580. Pub. 11-21-67. Filed 7-19-66.

843,702. CHARACTER PECAN. United Cabinet Corporation. SN 258,333. Pub. 11-21-67. Filed 11-9-66.

843,703. COME ON STRONG. B & L Sales Associates. SN 265,482. Pub. 11-21-67. Filed 2-27-67.

843,704. LYON. Lyon Metal Products, Incorporated. SN 265,723. Pub. 11-21-67. Filed 3-1-67.

843,705. POLYMASTER. Sleepmaster Products Company, Inc. SN 267,989. Pub. 11-21-67. Filed 3-30-67.

843,706. PERMA. Office Equipment Manufacturing Co., Inc. SN 270,602. Pub. 11-21-67. Filed 5-3-67.

Class 34 — Heating, Lighting, and Ventilating Apparatus

843,707. LANCER. Tescom Corporation. SN 250,424. Pub. 11-21-67. Filed 7-18-66.

843,708. STAR CUTTER. Tescom Corporation. SN 250,425. Pub. 11-21-67. Filed 7-18-66.

843,709. BW AND DESIGN. Barry-Wehmiller Company. SN 261,035. Pub. 11-21-67. Filed 12-19-66.

843,710. MARLO. H. K. Porter Company, Inc. SN 276,034. Pub. 11-21-67. Filed 7-14-67.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

843,711. MAX. Uniroyal, Inc., by change of name from United States Rubber Company. SN 223,852. Pub. 8-29-67. Filed 7-20-65.

843,712. PRIMERO. The Firestone Tire & Rubber Company. SN 263,553. Pub. 11-21-67. Filed 1-30-67.

Class 36 — Musical Instruments and Supplies

843,713. VARITONE. H. & A. Selmer, Inc. SN 247,289. Pub. 11-21-67. Filed 6-6-66.

843,714. FENCO. Fujiya Electric Co. Ltd. SN 259,239. Pub. 11-21-67. Filed 11-22-66.

Class 37 — Paper and Stationery

843,715. TRANSALID. General Aniline & Film Corporation. SN 239,895. Pub. 11-21-67. Filed 3-1-66.

843,716. WEATHER-VUE. Emil S. Wiesseck. SN 241,211. Pub. 11-21-67. Filed 3-16-66.

843,717. OLD SOUTH AND DESIGN. Louisiana Paper Company, Ltd. SN 246,476. Pub. 11-21-67. Filed 5-24-66.

843,718. MISS INFORMAL. Norcross, Inc. SN 260,174. Pub. 11-21-67. Filed 12-6-66.

843,719. FLORENTINE. Marcal Paper Mills, Inc. SN 271,716. Pub. 11-21-67. Filed 5-17-67.

Class 38 — Prints and Publications

843,720. GOLD DOLLAR CARD. O. O. Ressel, d.b.a. Woodrow Wilson Co. SN 205,722. Pub. 8-3-65. Filed 11-6-64.

843,721. CMDR. Commander Publishing, Inc. SN 256,430. Pub. 11-21-67. Filed 10-14-66.

843,722. NOONDAY. Farrar, Straus and Giroux, Inc. SN 261,287. Pub. 11-21-67. Filed 12-22-66.

843,723. BELL. Farrar, Straus and Giroux, Inc. SN 261,479. Pub. 11-21-67. Filed 12-27-66.

843,724. STATISCOPE. National TV Log, Inc. SN 278,168. Pub. 11-21-67. Filed 8-14-67.

843,725. MONTGOMERY COUNTY SENTINEL. Morkap Publishing Company. SN 279,254. Pub. 11-21-67. Filed 8-29-67.

Class 39 — Clothing

843,453. (See Class 1 for this trademark.)

843,610. (See Class 21 for this trademark.)

843,726. MATE BAIT. David Peyser Sportswear, Inc. SN 249,066. Pub. 11-21-67. Filed 6-27-66.

843,727. KING SLACKS. Panzier Associates, Inc. SN 251,224. Pub. 11-21-67. Filed 7-28-66.

843,728. IMPACT. J. P. Stevens & Co., Inc. SN 251,847. Pub. 11-21-67. Filed 8-5-66.

843,729. SATURNO AND DESIGN. London City Clothing Corp. SN 253,445. Pub. 11-21-67. Filed 8-30-66.

843,730. 18 HOUR GIRDLE. International Playtex Corporation, by change of name from International Latex Corporation. SN 256,216. Pub. 11-21-67. Filed 10-11-66.

843,731. DURAFLEX. Dunham Brothers Company. SN 256,728. Pub. 11-21-67. Filed 10-19-66.

843,732. HAPPINESS AND DESIGN. Pantsmaker, Inc. SN 257,403. Pub. 11-21-67. Filed 10-27-66.

843,733. JOE FRANK. Joe Frank, Inc. SN 258,801. Pub. 11-21-67. Filed 11-16-66.

843,734. HOOT OWL. Westbury Fashions, Inc. SN 259,360. Pub. 11-21-67. Filed 11-23-66.

843,735. HOOT OWL AND DESIGN. Westbury Fashions, Inc. SN 259,361. Pub. 11-21-67. Filed 11-23-66.

843,736. MASTER PLAID. Farah Manufacturing Company, Inc. SN 259,541. Pub. 11-21-67. Filed 11-28-66.

843,737. JOE FRANK INC. Joe Frank, Inc. SN 261,727. Pub. 11-21-67. Filed 12-30-66.

843,738. STANDING ROOM ONLY. Banberry Cross Inc. SN 262,016. Pub. 11-21-67. Filed 1-6-67.

843,739. ANY WEAR. Exquisite Form Industries, Inc. SN 262,323. Pub. 11-21-67. Filed 1-11-67.

843,740. BALINCOURT. Charles Glanzrock & Co. Inc. SN 263,372. Pub. 11-21-67. Filed 1-26-67.

843,741. LANARA. Blairmoor Knitwear Corp. SN 264,388. Pub. 11-21-67. Filed 2-10-67.

843,742. GRAFTON. The Calico Printers' Association, Limited. SN 264,512. Pub. 11-21-67. Filed 2-13-67.

843,743. OFF-THE-CUFF. Camp and McInnes, Inc. SN 267,125. Pub. 11-21-67. Filed 3-20-67.

843,744. ON-THE-CUFF. Camp and McInnes, Inc. SN 267,126. Pub. 11-21-67. Filed 3-20-67.

843,745. THOM MCAN RAGA BOOTS. Melville Shoe Corporation. SN 278,353. Pub. 11-21-67. Filed 8-16-67.

843,746. YVES SAINT LAURENT RIVE GAUCHE. Lanvin-Charles of the Ritz, Inc. SN 279,438. Pub. 11-21-67. Filed 8-31-67.

843,747. NAN LESLIE. Stacy Ames, Inc. SN 280,104. Pub. 11-21-67. Filed 9-11-67.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

843,748. FLUFFKNIT. Sondra Manufacturing Co., Inc. SN 257,203. Pub. 11-21-67. Filed 10-25-66.

843,749. FASCINATION. Chatham Manufacturing Company. SN 267,612. Pub. 11-21-67. Filed 3-27-67.

843,750. ANTINEA. J. B. Martin Company. SN 267,641. Pub. 11-21-67. Filed 3-27-67.

843,751. INDIDENIM. Canton Textile Mills, Inc. SN 267,812. Pub. 11-21-67. Filed 3-29-67.

843,752. MILPINE. Deering Milliken, Inc. SN 280,366. Pub. 11-21-67. Filed 9-15-67.

Class 43 — Thread and Yarn

843,753. PHENTEX. Textiles Phenix Ltee.—Phenix Textiles Ltd. SN 267,689. Pub. 11-21-67. Filed 3-27-67.

843,754. PHENTEX AND DESIGN. Textiles Phenix Ltee.—Phenix Textiles Ltd. SN 267,690. Pub. 11-21-67. Filed 3-27-67.

Class 44 — Dental, Medical, and Surgical Appliances

843,474. (See Class 2 for this trademark.)

843,475. (See Class 2 for this trademark.)

843,570. (See Class 18 for this trademark.)

843,755. TEMREX. Interstate Dental Co., Inc. SN 256,740. Pub. 11-21-67. Filed 10-19-66.

843,756. PNEUMOBAG. Bird Space Technology, Inc., assignee of Bird Corporation. SN 258,479. Pub. 11-21-67. Filed 11-14-66.

843,757. CYTEC. Nuclear Research Associates, Inc. SN 260,572. Pub. 11-21-67. Filed 12-12-66.

843,758. BURETROL. Baxter Laboratories, Inc. SN 260,642. Pub. 11-21-67. Filed 12-13-66.

843,759. DIRECTIONEAR. Textron, Inc. SN 260,685. Pub. 11-21-67. Filed 12-13-66.

843,760. UNICATH. Becton, Dickinson and Company. SN 260,718. Pub. 11-21-67. Filed 12-14-66.

843,761. MEDILEASE. D.M.R., Inc. MULTIPLE CLASS (Classes 44 and 100). SN 273,713. Pub. 11-21-67. Filed 6-13-67.

843,762. STERI-SONIC. Vernitron Corporation, d.b.a. Medical Products Division. SN 273,721. Pub. 11-21-67. Filed 6-13-67.

Class 45 — Soft Drinks and Carbonated Waters

843,763. STOP AND DESIGN. Ermey Vineyards, Inc. MULTIPLE CLASS (Classes 45 and 46). SN 223,935. Pub. 11-21-67. Filed 7-22-65.

843,764. PLANTAROME. Florasynth, Inc. SN 251,198. Pub. 11-21-67. Filed 7-28-66.

Class 46 — Foods and Ingredients of Foods

843,763. (See Class 45 for this trademark.)

843,765. WESTERNER. Armour and Company, d.b.a. Collier Industries. SN 219,173. Pub. 7-26-66. Filed 5-19-65.

843,766. HOLLAND HERRING ETC. AND DESIGN. Holland Herring Fisheries Association. SN 234,281. Pub. 11-21-67. Filed 12-9-65.

843,767. GLIDDEN AND DESIGN. SCM Corporation, assignee of The Glidden Company, d.b.a. Durkee Famous Foods. SN 234,818. Pub. 10-24-67. Filed 12-17-65.

843,768. BATTERCRISP. 40-Fathom Seafoods, Inc. SN 235,968. Pub. 11-21-67. Filed 1-7-66.

843,769. T AND SHIP DESIGN. Tillamook County Creamery Association. SN 245,354. Pub. 4-4-67. Filed 5-10-66.

843,770. RAYMOND ROBAIRE'S AND DESIGN. Raymond Robaire, d.b.a. Robaire's French Restaurant. SN 247,411. Pub. 11-21-67. Filed 6-6-66.

843,771. HARVEST MAID. Superior Foods, Inc. SN 254,742. Pub. 11-21-67. Filed 9-19-66.

843,772. TEXTROL. Central Soya Company, Inc. SN 256,923. Pub. 8-8-67. Filed 10-21-66.

843,773. CRITCHLEY'S. Critchley's Candies. SN 260,925. Pub. 11-21-67. Filed 12-16-66.

843,774. TABLE-MATE. Carnation Company. SN 261,277. Pub. 10-17-67. Filed 12-22-66.

843,775. EASTCHESTER. The Nestlé Company, Inc. SN 261,747. Pub. 11-21-67. Filed 12-30-66.

843,776. MOONLIGHT. Joseph V. Giolitti, d.b.a. Giolitti Ranches. SN 261,835. Pub. 11-21-67. Filed 1-3-67.

843,777. PILLSBURY'S SWEET 10 AND DESIGN. The Pillsbury Company. SN 261,999. Pub. 11-21-67. Filed 1-5-67.

843,778. EMMY LOU. L. H. Moore Canning Co. SN 262,176. Pub. 11-21-67. Filed 1-9-67.

843,779. P.M. MIX. Peerless Confection Company. SN 262,190. Pub. 11-21-67. Filed 1-9-67.

843,780. IRISH HEARTH RECIPE. Louis Sherry, Inc. SN 262,343. Pub. 11-21-67. Filed 1-11-67.

843,781. HENRI'S. Henri's Food Products Company, Inc. SN 264,056. Pub. 11-21-67. Filed 2-6-67.

843,782. WOODEN SPOON. Amurol Products Company. SN 264,719. Pub. 11-21-67. Filed 2-13-67.

843,783. KEN L RATION LITTLE DOG AND DESIGN. The Quaker Oats Company. SN 265,872. Pub. 9-5-67. Filed 3-3-67.

843,784. AGRIAID. Flavor Corporation of America. SN 266,218. Pub. 11-21-67. Filed 3-8-67.

843,785. PO-CO CHIPS. Morton Foods, Inc. SN 273,926. Pub. 11-21-67. Filed 6-15-67.

843,786. ROYAL HONDURAN. Castle & Cooke, Inc. SN 275,730. Pub. 11-21-67. Filed 7-11-67.

843,787. LUNCH BAR. Klein Chocolate Company. SN 276,997. Pub. 11-21-67. Filed 7-28-67.

843,788. MOVENPICK. Movenpick A.G. MULTIPLE CLASS (Classes 46, 47, and 49). SN 278,053. Pub. 11-21-67. Filed 8-11-67.

843,789. SKIMMERS. Mead Johnson & Company. SN 278,072. Pub. 11-21-67. Filed 8-11-67.

843,790. MISCELLANEOUS DESIGN. Kellogg Company. SN 280,516. Pub. 11-21-67. Filed 9-18-67.

843,791. MISCELLANEOUS DESIGN. Kellogg Company. SN 280,517. Pub. 11-21-67. Filed 9-18-67.

843,792. MISCELLANEOUS DESIGN. Kellogg Company. SN 280,518. Pub. 11-21-67. Filed 9-18-67.

Class 47 — Wines

843,788. (See Class 46 for this trademark.)

843,793. CHERRY SAXO. Peter Frederik Suhm Heering, d.b.a. Peter F. Heering. SN 266,169. Pub. 11-21-67. Filed 3-7-67.

Class 49 — Distilled Alcoholic Liquors

843,788. (See Class 46 for this trademark.)

843,794. CHRISTY AND BROOKS. Robert S. Delapenha. SN 238,846. Pub. 4-25-67. Filed 2-15-66.

Class 50 — Merchandise Not Otherwise Classified

843,454. (See Class 1 for this trademark.)

843,455. (See Class 1 for this trademark.)

843,532. (See Class 13 for this trademark.)

843,593. (See Class 19 for this trademark.)

843,795. POLISHU. Robert L. Sisler, d.b.a. Sisler Enterprises. SN 255,361. Pub. 11-21-67. Filed 9-28-66.

843,796. FEISTY BLOOMERS. H. Frank Jones, d.b.a. Feisty Bloomers by Camille. SN 274,029. Pub. 11-21-67. Filed 6-16-67.

843,797. RAVE. Pest-Guard Products, Inc., d.b.a. Danbar Products. SN 275,497. Pub. 11-21-67. Filed 7-7-67.

843,798. FOUR SEASONS. General Felt Industries, Inc. SN 279,786. Pub. 11-21-67. Filed 9-7-67.

Class 51 — Cosmetics and Toilet Preparations

843,799. EXCELLIUM. The Realistic Company. SN 241,930. Pub. 11-21-67. Filed 3-25-66.

843,800. KOLONIA 1800 ETC. AND DESIGN. Jose Sendra Marti, d.b.a. Crusellas. SN 245,329. Pub. 11-21-67. Filed 5-10-66.

843,801. TULIPSY. Fannie Roberts Heyman. SN 247,122. Pub. 11-21-67. Filed 6-2-66.

843,802. FERMODYL. Fermodyl Laboratories, Inc. SN 248,125. Pub. 11-21-67. Filed 6-15-66.

843,803. HINT O'PINK FLUFF-ON-COLOR AND DESIGN. The Fuller Brush Company. SN 249,319. Pub. 11-21-67. Filed 6-30-66.

843,804. GLORY-8. Pharmaco, Inc. SN 256,306. Pub. 11-21-67. Filed 10-12-66.

843,805. LYMEBURRY. Humphreys Medicine Company, Incorporated. SN 260,859. Pub. 11-21-67. Filed 12-15-66.

843,806. LIMAMELIS. Humphreys Medicine Company, Incorporated. SN 260,860. Pub. 11-21-67. Filed 12-15-66.

843,807. PRIVATE BRAND. Beauty Counselors, Inc. SN 261,450. Pub. 11-21-67. Filed 12-27-66.

843,808. PROTEIN-29. The Mennen Company. SN 261,740. Pub. 11-21-67. Filed 12-30-66.

843,809. ERNO LASZLO. Chesebrough-Pond's Inc., d.b.a. Erno Laszlo Institute. SN 261,807. Pub. 11-21-67. Filed 1-3-67.

843,810. JEANNINE. Warner Electric Company, Inc. SN 263,136. Pub. 11-21-67. Filed 1-23-67.

843,811. SKY SONG. Warner Electric Company, Inc. SN 263,138. Pub. 11-21-67. Filed 1-23-67.

843,812. J-OVIN. G.B. Importing Co. SN 263,460. Pub. 11-21-67. Filed 1-27-67.

843,813. BLAND. DeMert & Dougherty, Inc. SN 264,039. Pub. 11-21-67. Filed 2-6-67.

843,814. BIG A. The Gillette Company, d.b.a. The Toni Company. SN 264,406. Pub. 11-21-67. Filed 2-10-67.

843,815. GOLDEN ONE. Clairol Incorporated. SN 265,697. Pub. 11-21-67. Filed 3-1-67.

843,816. VIVE LA TAN. The Andrew Jergens Company. SN 271,573. Pub. 11-21-67. Filed 5-16-67.

843,817. NATURAL HOLD. Chesebrough-Pond's Inc. SN 276,412. Pub. 11-21-67. Filed 7-20-67.

843,818. SURE CONTROL. Chesebrough-Pond's Inc. SN 276,413. Pub. 11-21-67. Filed 7-20-67.

843,819. NATURAL CONTROL. Chesebrough-Pond's Inc. SN 276,490. Pub. 11-21-67. Filed 7-20-67.

843,820. BATH ROYALE. Chesebrough-Pond's Inc., d.b.a. Prince Matchabelli. SN 276,816. Pub. 11-21-67. Filed 7-26-67.

843,821. PHINAL PHASE. Redken Laboratories, Inc. SN 278,171. Pub. 11-21-67. Filed 8-14-67.

843,822. JUG A LUV. American Home Products Corporation. SN 279,020. Pub. 11-21-67. Filed 8-25-67.

843,823. CLYNOLA. Clynol Limited. SN 280,369. Pub. 11-21-67. Filed 9-15-67.

843,824. DECISION. Lever Brothers Company. SN 280,619. Pub. 11-21-67. Filed 9-18-67.

Class 52 — Detergents and Soaps

843,825. POOF. Trina, Inc. SN 242,070. Pub. 12-27-66. Filed 3-28-66.

843,826. LEGSOLVE. Walter G. Legge Company, Inc. SN 215,732. Pub. 11-21-67. Filed 8-4-66.

843,827. NYSTOL. Marine and Ship Supply, Inc. SN 257,190. Pub. 11-21-67. Filed 10-25-66.

843,828. ELECTROSMOOTHE. Kurts & Wolfe Chemical Co., Inc. SN 259,006. Pub. 11-21-67. Filed 11-18-66.

843,829. PROTEIN-29. The Mennen Company. SN 261,741. Pub. 11-21-67. Filed 12-30-66.

843,830. MAY DAY. Prentiss Drug & Chemical Co., Inc. SN 262,285. Pub. 11-21-67. Filed 1-10-67.

843,831. SANCTUARY. Armour and Company. SN 262,308. Pub. 11-21-67. Filed 1-11-67.

843,832. KYANIZE. Kyanise Paints, Inc. SN 263,385. Pub. 11-21-67. Filed 1-26-67.

843,833. BIG RED. Texas Refinery Corporation. SN 264,989. Pub. 11-21-67. Filed 2-17-67.

843,834. BO-PEEP. Purex Corporation, Ltd. SN 278,772. Pub. 11-21-67. Filed 8-22-67.

843,835. LONCOSOLVE. London Chemical Company, Inc. SN 279,145. Pub. 11-21-67. Filed 8-28-67.

843,836. SONIC-SOLVE. London Chemical Company, Inc. SN 279,149. Pub. 11-21-67. Filed 8-28-67.

843,837. HARMONY. Lever Brothers Company. SN 281,010. Pub. 11-21-67. Filed 9-21-67.

Service Marks

Class 100 — Miscellaneous

843,694. (See Class 30 for this trademark.)

843,761. (See Class 44 for this trademark.)

843,838. MANOR HOUSE INNS. Wayne B. Duddlesten. SN 246,056. Pub. 7-4-67. Filed 5-19-66.

843,839. COLONEL DIXIE AND DESIGN. Colonel Dixie Systems, Inc. SN 250,134. Pub. 10-24-67. Filed 7-13-66.

843,840. ATEC AND DESIGN. American Testing and Engineering Corporation. SN 262,913. Pub. 11-21-67. Filed 1-20-67.

Class 101 — Advertising and Business

843,841. OCTORAMA. Design Built Exhibits, Inc. SN 228,343. Pub. 11-21-67. Filed 9-22-65.

843,842. HI NEIGHBOR AND DESIGN. Milgram Food Stores, Inc. SN 242,169. Pub. 11-21-67. Filed 3-14-66.

843,843. PAREX PROGRAMMED ACCOUNTS RECEIVABLE EXTRA SERVICE. Brunswig Drug Company. SN 253,843. Pub. 11-21-67. Filed 9-6-66.

843,844. VISUMATIC. The Echlin Manufacturing Company. SN 253,863. Pub. 11–21–67. Filed 9–6–66.

843,845. $ $ $ AND SENSE. Ella Gale Doughton, d.b.a. Ella Gale. SN 255,192. Pub. 11–21–67. Filed 9–27–66.

843,846. DRAGON'S HEAD (DESIGN). Draco, Inc. SN 255,786. Pub. 11–21–67. Filed 10–5–66.

843,847. OASIS. D. H. Overmyer Co., Inc. SN 256,998. Pub. 11–21–67. Filed 10–24–66.

843,848. ACCOUNTAX. Accountax, Inc. SN 257,026. Pub. 11–21–67. Filed 10–24–66.

843,849. K (DESIGN). Keystone Computer Associates, Inc. SN 257,866. Pub. 11–21–67. Filed 11–3–66.

843,850. BLACK-OUT BINGO. Creative Merchandising, Inc., assignee of John D. Heikes, d.b.a. John Heikes & Associates, Inc. SN 259,115. Pub. 11–21–67. Filed 11–21–66.

843,851. ZIP FOOD MART AND DESIGN. Acme Markets, Inc. SN 261,269. Pub. 11–21–67. Filed 12–22–66.

Class 102 — Insurance and Financial

843,852. B (DESIGN). Bache & Co. Incorporated. SN 257,816. Pub. 11–21–67. Filed 11–3–66.

843,853. THE INDEPENDENT BANK AND DESIGN. The Independent Bank. SN 258,542. Pub. 11–21–67. Filed 11–14–66.

843,854. "CEMITRUST." Cemetery Care Investment Fund, Inc. SN 260,238. Pub. 11–21–67. Filed 12–7–66.

Class 103 — Construction and Repair

843,855. DRAGO AND DESIGN. Drago Operating Corp. SN 246,667. Pub. 11–21–67. Filed 5–26–66.

843,856. ORBIT PEST CONTROL "BLAST BUGS OUT OF THIS WORLD" AND DESIGN. William H. Clifton, d.b.a. Orbit Pest Control. SN 257,252. Pub. 10–10–67. Filed 10–26–66.

843,857. DRAPE RITE. Daniel Rachefsky, d.b.a. Custom Drapery Cleaners Division of Fresh Cleaners. SN 260,766. Pub. 11–21–67. Filed 12–14–66.

Class 106 — Material Treatment

843,858. ZIEBART AND DESIGN. Ziebart Process Corp. SN 237,776. Pub. 11–21–67. Filed 2–1–66.

843,859. BORECENTRIC. Howard Dearborn Incorporated. SN 252,077. Pub. 11–21–67. Filed 8–10–66.

Class 107 — Education and Entertainment

843,860. THE MONARCHS. The Monarchs. SN 246,909. Pub. 11–21–67. Filed 5–31–66.

843,861. ACTION. Action Productions Inc. SN 249,928. Pub. 11–21–67. Filed 7–11–66.

843,862. BIG KAHUNA. Stors Broadcasting Co. SN 261,408. Pub. 11–21–67. Filed 12–23–66.

843,863. THE CASINOS. Eugene Hughes. SN 261,768. Pub. 11–21–67. Filed 12–19–66.

843,864. THE IN-SEX. Frank Cariola. SN 276,206. Pub. 11–21–67. Filed 7–19–67.

Collective Membership Marks

Class 200

843,865. OUTWARD BOUND. Outward Bound, Inc. SN 235,221. Pub. 11–21–67. Filed 12–23–65.

843,866. AAF AMERICAN ACADEMY OF FLORISTS AND DESIGN. Society of American Florists and Ornamental Horticulturists. SN 242,853. Pub. 11–21–67. Filed 4–6–66.

843,867. OMEGA PHI ALPHA. Omega Phi Alpha. SN 252,488. Pub. 11–21–67. Filed 8–16–66.

843,868. MIA (DESIGN). Marble Institute of America, Inc. SN 258,237. Pub. 11–21–67. Filed 11–8–66.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 2 — Receptacles

843,869. Leslie Vajtay, Perth Amboy, N.J. SN 237,890. Filed P.R. 2–2–66; Am. S.R. 12–4–67.

COVER-LOK

For Plastic and Cardboard Containers Having a Novel Locking Feature Sold Empty to the Trade.
First use on or about Sept. 22, 1965.

Class 4 — Abrasives and Polishing Materials

843,870. Purex Corporation, Ltd., Lakewood, Calif. SN 284,552. Filed 11–13–67.

YOU'LL FIND THE WOMAN'S TOUCH IN EVERY PUREX PRODUCT

Owner of Reg. Nos. 155,699, 798,694, and others.
For Cleaning, Scouring, and Polishing Wads.
First use Apr. 19, 1965.

Class 6 — Chemicals and Chemical Compositions

843,871. Pennsalt Chemicals Corporation, Philadelphia, Pa. SN 247,054. Filed P.R. 6–1–66; Am. S.R. 10–23–67.

WATERSOPH

For Chemical Rinse for Use in Hard Water To Insure Streak-Free Drying of Glass and Metal Surfaces and To Prevent Corrosion.
First use December 1963.

Class 8 — Smokers' Artides, Not Including Tobacco Products

843,872. Lane Limited, New York, N.Y. SN 267,255. Filed 3–21–67.

WILSHIRE

For Pipes.
First use Sept. 1, 1945.

Class 10 — Fertilizers

843,873. S & D Products, Inc., Prairie du Chien, Wis. SN 254,471. Filed P.R. 9–14–66; Am. S.R. 11–27–67.

ROOTCONTACT PAKET

For Fertilizer Sold in Packets.
First use on or about Sept. 2, 1966.

Class 12 — Construction Materials

843,874. The Panel-Clip Company, Farmington, Mich. SN 225,501. Filed P.R. 8–11–65; Am. S.R. 8–28–67.

TrussPack

For Self-Nailing Fasteners.
First use Apr. 27, 1965.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

843,875. Revere Copper and Brass Incorporated, New York, N.Y. SN 263,398. Filed 1–26–67.

PERMA-SHEEN

For Copper Clad Stainless Steel Cooking Utensils With a High Luster Finish.
First use Mar. 30, 1965.

843,876. Revere Copper and Brass Incorporated, New York, N.Y. SN 263,399. Filed 1–26–67.

PERMA-LOC

For Aluminum, Stainless Steel, and Copper Clad Stainless Steel Cooking Utensils Having a Fluorocarbon Coating on Their Cooking Surfaces.
First use Sept. 17, 1965.

Class 16 — Protective and Decorative Coatings

843,877. SCM Corporation, New York, N.Y., assignee of The Glidden Company, Cleveland, Ohio. SN 259,106. Filed P.R. 11–21–66; Am. S.R. 11–13–67.

REE-DU

For Color Finish for Leather, Plastics, Rubber, and the Like.
First use Jan. 16, 1964.

Class 18 — Medicines and Pharmaceutical Preparations

843,878. Southwestern Drug Corporation, d.b.a. Tru-Lab Products, Dallas, Tex. SN 231,296. Filed P.R. 10–22–65; Am. S.R. 11–20–67.

TUF'N

For Skin Toughener and Athlete's Foot Preventive.
First use Aug. 25, 1964.

843,879. Bristol-Myers Company, New York, N.Y. SN 261,042. Filed P.R. 12–19–66; Am. S.R. 11–15–67.

THE COMFORTABLE WAY TO GET WELL

For Antibiotic.
First use Oct. 4, 1966.

Class 39 — Clothing

843,880. Divina Footwear, Inc., d.b.a. Ambassador, St. Louis, Mo. SN 253,738. Filed P.R. 9–2–66; Am. S.R. 12–6–67.

MONTAÑA BOOT by Ambassador

The word "Montana" is the Spanish word for "mountain."
For Men's Shoes.
First use June 30, 1966.

843,881. Harry Irwin, Inc., New York, N.Y. SN 258,548. Filed P.R. 11–14–66; Am. S.R. 11–20–67.

THERMO-GUARD

For Men's Topcoats, Overcoats and Women's Coats, and Inner Liners Which Are Precut and Ready To Be Attached to the Coats.
First use May 19, 1966.

Class 45 — Soft Drinks and Carbonated Waters

843,882. Quest, Inc., Charlotte, N.C. SN 238,786. Filed P.R. 2–14–66; Am. S.R. 12–14–67.

MOOSE MILK

For Soft Drinks and Flavoring Syrups Used in the Preparation of Soft Drinks.
First use Jan. 7, 1966.

Class 46 — Foods and Ingredients of Foods

843,883. Alewels, Incorporated, Concordia, Mo. SN 237,782. Filed P.R. 2–2–66; Am. S.R. 11–30–67.

OLD MISSOURI

For Ham, Bacon, and Summer Sausage.
First use Aug. 3, 1950.

843,884. Italiano Food Products, Inc., Lebanon, Pa. SN 243,447. Filed P.R. 4–14–66; Am. S.R. 9–18–67.



The drawing is lined for blue, red, yellow, and green.
For Egg Noodles.
First use Jan. 1, 1963.

843,885. Sessions Company, Inc., d.b.a. House of Sessions, Enterprise, Ala. SN 244,851. Filed P.R. 5–3–66; Am. S.R. 12–1–67.

HOUSE OF SESSIONS

For Candy.
First use December 1965.

843,886. The R. T. French Company, Rochester, N.Y. SN 247,687. Filed P.R. 6–9–66; Am. S.R. 12–6–67.

PEOPLE CRACKERS

For Dog Food.
First use Sept. 21, 1965.

843,887. Charms Company, Asbury Park, N.J. SN 253,952. Filed P.R. 9–7–66; Am. S.R. 11–24–67.



The drawing is lined for blue, purple, and red.
For Combined Candy and Chewing Gum.
First use June 16, 1965.

843,888. Southwestern Drug Corporation, d.b.a. Truett Laboratories, Dallas, Tex. SN 257,421. Filed P.R. 10–27–66; Am. S.R. 11–20–67.

ENERGY BOOST

For Energy Producing Chocolate Coated Food Bars.
First use Sept. 14, 1966.

843,889. Catelli-Habitant, Inc., Manchester, N.H. SN 257,827. Filed P.R. 11–3–66; Am. S.R. 11–24–67.

CATELLI

For Soup Mixes and Alimentary Pastes.
First use Sept. 2, 1966.

843,890. New Century Beverage Company, d.b.a. The Rite-Fresh Juice Company, San Francisco, Calif. SN 260,951. Filed P.R. 12–16–66; Am. S.R. 12–4–67.

Rite-Fresh

For Bottled Orange Juice.
First use Nov. 28, 1966.

843,891. Tootsie Roll Industries, Inc., Hoboken, N.J. SN 262,522. Filed P.R. 1–13–67; Am. S.R. 12–8–67.

Jolly good

For Candy.
First use Oct. 18, 1966.

843,892. P. J. Gast & Sons Bakery, Inc., Wheeling, W. Va. SN 263,167. Filed P.R. 1–24–67; Am. S.R. 11–20–67.

WHALE OF A LOAF

For Bread.
First use Oct. 31, 1966.

843,893. Joe B. Adams, d.b.a. Buono Burger Food Co., Amarillo, Tex. SN 264,180. Filed P.R. 2–8–67; Am. S.R. 11–29–67.



The word "Buono" is translated in English as "good." The lines on the drawing are a feature of the mark and do not indicate color lining.
For Dry Food Seasoning Which Is Mixed With Other Ingredients To Form a Food Sauce.
First use Nov. 7, 1966.

843,894. Beatrice Foods Co., Chicago, Ill. SN 268,018. Filed P.R. 3–31–67; Am. S.R. 11–21–67.

BLEND O FRUIT

For Glace Fruits.
First use Sept. 2, 1966.

Class 49 — Distilled Alcoholic Liquors

843,895. Old Boone Distillery Co., d.b.a. Fairfield Distillery Co., Louisville, Ky. SN 252,025. Filed P.R. 8–9–66; Am. S.R. 12–8–67.



For Whiskey.
First use June 9, 1961.

843,896. Robert McNish & Company Limited, d.b.a. Craig, Marshall & Co., Glasgow, Scotland. SN 260,669. Filed P.R. 12–18–66; Am. S.R. 12–6–67.

MARSHALL'S

For Whisky.
First use 1950.

Class 51 — Cosmetics and Toilet Preparations

843,897. L'Oreal, Paris, France. SN 241,067. Filed P.R. 3–15–66; Am. S.R. 12–1–67.

LES NUANCES ALEZANES

The English translation of "Les Nuances Alezanes" is "the chestnut shades." Owner of French Reg. No. 532,109, dated June 4, 1965 (Seine); Natl. Inst. No. 250,642.
For Hair Colorings.

843,898. Andrea Raab Corp., Brooklyn, N.Y., assignee of Select Beauty Brands, Great Neck, N.Y. SN 244,748. Filed P.R. 5–2–66; Am. S.R. 11–24–67.

TONE-OUT

For Hair Bleach and Hair Lightener.
First use Apr. 22, 1966.

Service Marks

Class 101 — Advertising and Business

843,899. Smith Johnson Motor Corporation, d.b.a. Smith Corner Motors, Portsmouth, Va. SN 247,635. Filed P.R. 6–8–66; Am. S.R. 12–4–67.

TRY-BUY PLAN

For Leasing of Cars and Other Motor Vehicles Whereby Lessee Has Option To Buy and Applying Rental to Purchase Price.
First use on or about May 6, 1966.

Class 102 — Insurance and Financial

843,900. First Federal Savings and Loan Association of Detroit, d.b.a. First Federal Savings of Detroit, Detroit, Mich. SN 233,485. Filed P.R. 11–29–65; Am. S.R. 11–6–67.



For Savings Accounts, Mortgage Loans, Issuance of Travelers Checks and Money Orders, Making Passbook Loans, Home Improvement Loans, Selling and Redeeming United States Savings Bonds, Cashing Pay Checks, Providing Safe Deposit Box Facilities, and Accepting Utilities Bill Payments.
First use Mar. 17, 1965.

Class 105 — Transportation and Storage

843,901. Cars, Incorporated, Elkhart, Ind. SN 231,979. Filed P.R. 11–2–65; Am. S.R. 12–6–67.



For Leasing Automobiles and Trucks.
First use Nov. 1, 1963.

Class 107 — Education and Entertainment

843,902. C-E-I-R, Inc., Washington, D.C., assignee of Automation Institute of America, Inc., San Francisco, Calif. SN 242,543. Filed P.R. 4–4–66; Am. S.R. 11–13–67.

AUTOMATION INSTITUTE OF AMERICA

For Education and Training Services in Connection With the Automation Data Processing Systems.
First use 1957.

TRADEMARK REGISTRATIONS RENEWED

66,452. NATIONAL SAFETY PAPER AND DESIGN. Cl. 37. 11–26–07.
67,052. FAITHFUL. Cl. 46. 1–14–08.
67,057. "PURITY" AND DRAWING. Cl. 46. 1–14–08.
67,074. "PURITY" AND REPRESENTATION OF LILIES. Cl. 46. 1–14–08.
67,137. EASTMAN. Cl. 26. 1–21–08.
67,494. GOLDEN-GLOW. Cl. 46. 2–4–08.
68,669. VOUCHER BOND. Cl. 37. 4–21–08.
172,503. SEIBERLING. Cl. 35. 8–28–23.
236,279. SHALIMAR. Cl. 51. 12–6–27.
236,435. "AMARO" ETC. AND DRAWING. Cl. 18. 12–13–27.
236,795. "PRESTO" AND DESIGN. Cl. 21. 12–20–27.
236,938. POOL'S SWETPRUF AND DESIGN. Cl. 39. 12–27–27.
237,082. FIBRO. Cl. 48. 1–3–28.
237,489. HYCC. Cl. 14. 1–10–28.
237,849. ROYAL LUXURY. Cl. 39. 1–17–28.
239,122. DRUMOHR. Cl. 39. 2–21–28.
241,350. "DUNBAR" AND DESIGN. Cl. 46. 4–24–28.
241,615. DUNBAR. Cl. 46. 5–1–28.
432,642. PALM FROND. Cl. 51. 9–9–47.
434,297. DI GRAZZO. Cl. 39. 11–18–47.
434,350. HEAR YE! HEAR YE! AND DESIGN. Cl. 39. 11–18–47.
434,352. HEAR YE! HEAR YE! THE SYMBOL OF BETTER WARES AND DESIGN. Cl. 39. 11–18–47.
434,741. PM AND DESIGN. Cl. 14. 12–2–47.
434,813. ML. Cl. 52. 12–9–47.
434,868. EXPELLO. Cl. 21. 12–9–47.
434,873. TRA-MIN. Cl. 18. 12–9–47.
435,001. DIRECTALS. Cl. 18. 12–9–47.
435,019. GILBARCO. Cl. 26. 12–9–47.
435,101. ADANON. Cl. 18. 12–9–47.
435,115. BLADEX. Cl. 6. 12–9–47.
435,147. FUTURO. Cl. 44. 12–9–47.
435,444. TRENTWELD. Cl. 13. 12–30–47.
435,764. NATIVE AND DESIGN. Cl. 42. 1–6–48.
436,493. REBEL ROSE. Cl. 51. 2–10–48.
436,791. TRENTWELD STAINLESS STEEL TUBES AND DESIGN. Cl. 13. 2–24–48.
437,193. SWEETHEART. Cl. 2. 3–9–48.
437,231. NORDLAGER. Cl. 48. 3–9–48.
437,424. MULTIPLY MAN POWER. Cl. 23. 3–23–48.
437,539. CORK-TEX. Cl. 1. 3–30–48.
437,715. SNAP-A-RAY. Cl. 44. 3–30–48.
437,769. HONEYCOMB. Cl. 4. 3–30–48.
438,097. RAG TIME. Cl. 46. 4–6–48.
438,105. HORST'S. Cl. 1. 4–6–48.
438,239. SANTIAM. Cl. 46. 4–13–48.
438,526. GRID. Cl. 22. 4–27–48.
438,573. LAUGHING MATTER. Cl. 38. 5–4–48
439,051. KOZY. Cl. 12. 6–1–48.
500,013. CASCADE. Cl. 42. 3–30–48.
500,156. HOOKLESS. Cl. 40. 5–4–48.
500,157. HOOKLESS. Cl. 7. 5–4–48.
500,158. HOOKLESS. Cl. 43. 5–4–48.
500,159. TALON. Cl. 40. 5–4–48.
500,160. TALON. Cl. 43. 5–4–48.
500,161. TALON. Cl. 7. 5–4–48.
500,195. AURAGREEN. Cl. 6. 5–11–48.
500,275. COFRON. Cl. 18. 5–11–48.
500,401. TRIDIONE. Cl. 18. 5–18–48.
500,497. HOOKLESS. Cl. 8. 6–1–48.
500,498. TALON. Cl. 8. 6–1–48.
500,499. TALON. Cl. 24. 6–1–48.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued Dec. 19, 1961

725,183. SKUFTITE. Cl. 1.
725,184. MERINGUE. Cl. 1.
725,188. ALARENE. Cl. 1.
725,193. LID-O-WATE. Cl. 2.
725,196. STETSON AND ACCORDION (DESIGN). Cl. 2.
725,199. THRIFTEE. Cl. 2.
725,200. S-T-R-E-T-C-H-A-B-A-G ! Cl. 3.
725,201. ANGELES AND DESIGN. Cl. 3.
725,202. POSTURE-BAG. Cl. 3.
725,203. LADY DUCHESS AND DESIGN. Cl. 3.
725,204. ROYAL DUKE AND DESIGN. Cl. 3.
725,205. COLLONIL. Cl. 4.
725,232. CALVENEER AND DESIGN. Cl. 12.
725,235. PRODUC-PRICED AND DESIGN. Cl. 18.
725,238. DSC WITHIN A CIRCLE. Cl. 14.
725,246. OP. Cl. 16.
725,247. ROSE-OF-LATAKIA AND DESIGN. Cl. 17.
725,253. MOR-RUN. Cl. 18.
725,256. HEPAIODRINE. Cl. 18.
725,257. HEPARIODINE. Cl. 18.
725,259. HORN-GO. Cl. 18.
725,265. INDULITON. Cl. 18.
725,277. JET STREAM. Cl. 19.
725,278. AQUAVION. Cl. 19.
725,279. DIPLOMAT II. Cl. 19.
725,280. PACK-KAT. Cl. 19.
725,284. LPI POWER-LUX AND DESIGN. Cl. 21.
725,292. OWL-ITE. Cl. 21.
725,296. DIALTRON. Cl. 21.
725,299. SPIN SECT. Cl. 21.
725,312. O & A LURE. Cl. 22.
725,314. REST 'N CYCLE. Cl. 22.
725,316. CAROLINE KAY. Cl. 22.
725,317. DART-A-MATIC. Cl. 22.
725,319. MAGNAPILOT. Cl. 23.
725,320. PACSET. Cl. 23.
725,321. G.E.M. Cl. 23.
725,325. CLETRAC. Cl. 23.
725,326. BATTENFELD. Cl. 23.
725,329. SMOOTHLINE AND DESIGN. Cl. 23.
725,337. TRANSTRUCTOR. Cl. 26.
725,340. ELWOOD. Cl. 27.
725,342. "KOO-KEY" AND DESIGN. Cl. 28.
725,343. ALLPRO. Cl. 29.
725,360. WESTWOOD. Cl. 37.
725,361. GRANDEE. Cl. 37.
725,362. EO. Cl. 37.
725,365. TEIS AND REPRESENTATION OF HERMES. Cl. 38.
725,367. REDI-FRAME AND DESIGN. Cl. 38.
725,368. WONDERLAND OF HOBBIES. Cl. 38.
725,369. HOLLYWOOD ROMANCE. Cl. 38.
725,373. CURRENTS IN OPHTHALMOLOGY. Cl. 38.
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725,406. VALLEY PARK. Cl. 42.
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725,423. MINVITINE 900. Cl. 46.
725,426. MOUNTIES. Cl. 46.
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725,443. BULLETIN. Cl. 47.

725,457. DERMA-CLAVE. Cl. 52.
725,459. VIEW. Cl. 52.
725,460. SCENT AWAY AND DESIGN. Cl. 52.
725,461. BOZO AND DOG (DESIGN). Cl. 52.
725,464. LE TRAVELEER AND DESIGN. Cl. 200.
725,466. TWIS-TOP. Cl. 2.
725,467. E-Z KART-N-PAK. Cl. 2.
725,468. LONG-LIFE. Cl. 2.
725,469. THE RED CUP WITH THE CONE. Cl. 19.
725,470. GAME OF THE WEEK. Cl. 38.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 4 — Abrasives and Polishing Materials

433,476. Oct. 14, 1947. Metal Textile Corporation, West Orange, N.J. Pub. by General Cable Corporation, New York, N.Y.

NICKLTEX

For Cleaner Devices Made of Knitted Metallic Mesh.

Class 6 — Chemicals and Chemical Compositions

433,500. Oct. 14, 1947. Societe Anonyme des Etablissements Roure-Bertrand Fils et Justin Dupont, Paris, France. Pub. by registrant.



For Synthetic Oils and Aromatic Chemicals Used in the Production of Perfumes.

433,501. Oct. 14, 1947. Societe Anonyme des Etablissements Roure-Bertrand Fils et Justin Dupont, Paris, France. Pub. by registrant.

PRIMABSOLUE

For Concentrated Natural Flower Oils, etc.

434,653. Dec. 2, 1947. The Pennsylvania Salt Manufacturing Company, Philadelphia, Pa. Pub. by Pennsalt Chemicals Corporation, Philadelphia, Pa.

PENCO

For Insecticides.

434,659. Dec. 2, 1947. Scientific Anglers, assignor to Scientific Anglers, Inc., Midland, Mich. Pub. by Scientific Anglers, Inc., Midland, Mich.

HY-FLY

For Silicone Waterproofing Composition Used in Treating Artificial Fishing Flies, etc.

434,660. Dec. 2, 1947. Scientific Anglers, assignor to Scientific Anglers, Inc., Midland, Mich. Pub. by Scientific Anglers, Inc., Midland, Mich.

HY-LINE

For Waterproofing Composition Used for Treating Fishing Lines.

434,946. Dec. 9, 1947. Hercules Powder Company, Wilmington, Del. Pub. by Hercules Incorporated, Wilmington, Del.

RAPITOX

For Active Chemical Ingredient for Use in the Manufacture of Insecticides.

435,095. Dec. 9, 1947. The Pennsylvania Salt Manufacturing Company, Philadelphia, Pa. Pub. by Pennsalt Chemicals Corporation, Philadelphia, Pa.

Penphene

For Insecticides.

437,578. Mar. 30, 1948. Mary F. Cushing, executrix for the estate of Caleb H. Cushing, d.b.a. W. Cushing & Company, Dover-Foxcroft, Maine. Pub. by William H. Burdick, Dover-Foxcroft, Maine.

CUSHING'S PERFECTION DYES

For Powdered Dye Stuffs.

Class 7 — Cordage

236,106. Dec. 6, 1927. Wm. E. Hooper & Sons Co., Baltimore, Md. Pub. by registrant.

STURDEE



For Cotton Rope, Sash Cord, etc.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

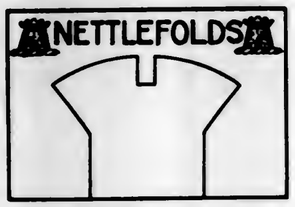
437,599. Mar. 30, 1948. Hercules Powder Company, Wilmington, Del. Pub. by Hercules Incorporated, Wilmington, Del.

HITEMP

For Smokeless Powder.

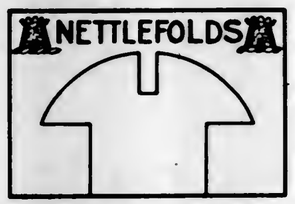
Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

234,338. Oct. 25, 1927. Guest, Keen & Nettlefolds Limited, Smethwick, England. Pub. by G.K.N. Screws & Fasteners Limited, Smethwick, Warley, England.



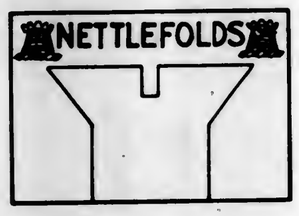
For Screws of Ordinary Metal.

234,339. Oct. 25, 1927. Guest, Keen & Nettlefolds Limited, Smethwick, England. Pub. by G.K.N. Screws & Fasteners Limited, Smethwick, Warley, England.



For Screws of Ordinary Metal.

234,340. Oct. 25, 1927. Guest, Keen & Nettlefolds Limited, Smethwick, England. Pub. by G.K.N. Screws & Fasteners Limited, Smethwick, Warley, England.



For Screws of Ordinary Metal.

Class 18 — Medicines and Pharmaceutical Preparations

435,135. Dec. 9, 1947. Bengue, Inc., Union City, N.J. Pub. by Chas. Pfizer & Co., Inc., New York, N.Y.

Ben-Gay

For Medicinal Preparations To Be Applied Externally for Use in the Treatment of Rheumatism, Muscular Aches and Pains, Neuralgia, Minor Bronchial Irritations, Coughs and Throat Irritations Due to Colds, and Burning, Tired Feet.

436,566. Feb. 10, 1948. John B. Knight, Sr., d.b.a. Old 97 Company, Tampa, Fla. Pub. by Old 97 Company, Tampa, Fla.



For Vitamin Compound and Tonic for Human Consumption.

Class 21 — Electrical Apparatus, Machines, and Supplies

433,425. Oct. 14, 1947. General Molded Products, Inc., Des Plaines, Ill. Pub. by registrant.

GMP

For Molded Plastic Industrial Products, Cases for Electrical Instruments, Supports and/or Bases for Electrical Instruments, and Structural Parts for Electrical Apparatus—Namely, Rotor Shafts, Face Plates, and Dials, for Electrical Apparatus.

Class 34 — Heating, Lighting, and Ventilating Apparatus

361,948. Nov. 8, 1938. Lindberg Engineering Co., Chicago, Ill. Pub. by Sola Basic Industries, Inc., Chicago, Ill.



For Metal Treating Furnaces.

Class 37 — Paper and Stationery

236,953. Dec. 27, 1927. American Sales Book Company, Limited, Toronto, Ontario, Canada, and Niagara Falls, and Elmira, N.Y. Pub. by Moore Business Forms, Inc., Niagara Falls, N.Y.



For Paper Sheets, Strips, Rolls, Pads, and the Like Suitable for Manifolding Use, Printed Forms for All Kinds of Business Transactions, and Other Named Paper and Stationery Items.

Class 39 — Clothing

67,454. Feb. 4, 1908. American Rubber Co., Boston, Mass. Pub. by Uniroyal, Inc., New York, N.Y.



For Rubber Boots and Shoes.

68,186. Mar. 10, 1908. H. C. Cohn & Co., Rochester, N.Y. Pub. by Superba Cravats, Inc., Rochester, N.Y.

SUPERBA

For Neckties.

68,468. Apr. 7, 1908. National India Rubber Co., Bristol, R.I. Pub. by Uniroyal, Inc., New York, N.Y.

CHAMPION

For Rubber Boots and Shoes, and Rubber Soles.

Class 43 — Thread and Yarn

436,101. Jan. 20, 1948. Bernhard Ulmann Co. Inc., New York, N.Y. Pub. by Indian Head Inc., New York, N.Y.

CAPRICE

For Yarns for Art Needlework.

437,255. Mar. 9, 1948. Bernhard Ulmann Co. Inc., New York, N.Y. Pub. by Indian Head Inc., New York, N.Y.

LADYLAINE

For Art Needlework Yarns Made of Wool.

Class 46 — Foods and Ingredients of Foods

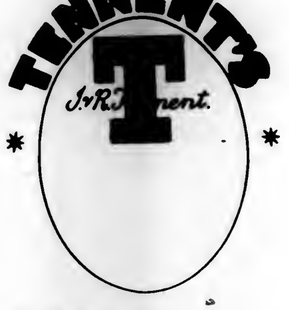
320,287. Dec. 25, 1934. Garland C. Norris & Company, Raleigh, N.C. Pub. by Garland C. Norris, Inc., Lakeland, Fla.



For Canned Fruit Juices for Food Purposes.

Class 48 — Malt Beverages and Liquors

59,886. Jan. 22, 1907. J. & R. Tennent Ltd., Glasgow, Scotland. Pub. by Tennent Caledonian Breweries Limited, Glasgow, Scotland.



For Ale, Stout, and Porter.

Class 51 — Cosmetics and Toilet Preparations

431,807. Aug. 12, 1947. The Norwich Pharmacal Company, Norwich, N.Y. Pub. by registrant.

Amolin

For Toilet Powders and Toilet Creams, etc.

434,707. Dec. 2, 1947. Lightfoot Schuls Co., New York, N.Y., and Hoboken, N.J. Pub. by Philip Morris, Incorporated, New York, N.Y.



For After-Shave Lotion, etc.

Class 52 — Detergents and Soaps

149,179. Dec. 6, 1921. Naamloose Venootschap: Eau de Cologne fabriek Voorheen J. C. Boldoot, Amsterdam, Netherlands. Pub. by Koninklijke Eau de Cologne fabriek Boldoot N.V., Amsterdam, Netherlands.



For Soaps.

435,527. Dec. 30, 1947. Lightfoot Schuls Co., New York, N.Y., and Hoboken, N.J. Pub. by Philip Morris, Incorporated, New York, N.Y.



For Shaving Lotion Adapted for Softening the Beard and Conditioning the Face To Facilitate Shaving, etc.

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(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

AB Smorgasbord, Stockholm, Sweden. 843,694, pub. 11–21–67. Cl. 30.
A & H Doll Mfg. Corp., Woodside, N.Y. 843,633, pub. 11–21–67. Cl. 22.
AMP Inc., Harrisburg, Pa. 843,615, pub. 11–21–67. Cl. 21.
AMP Inc., Harrisburg, Pa. 843,618, pub. 11–21–67. Cl. 21.
Abbott Laboratories, North Chicago, Ill. 500,275, ren. 2–6–68. Cl. 18.
Abbott Laboratories, North Chicago, Ill. 500,401, ren. 2–6–68. Cl. 18.
Abiestik Adhesive Co., Gardena, Calif. 843,452, pub. 9–26–67. Multiple Class (Classes 1, 5, 21, and 23).
Adam-Steven Leather Goods Inc., New York, N.Y. 725,203–4, canc. Cl. 3.
Accountax, Inc., Milwaukee, Wis. 843,848, pub. 11–21–67. Cl. 101.
Acme Markets, Inc., Philadelphia, Pa. 843,851, pub. 11–21–67. Cl. 101.
Action Productions Inc., Atlanta, Ga. 843,861, pub. 11–21–67. Cl. 107.
Adams, Joe B., d.b.a. Buono Burger Food Co., Amarillo, Tex. 843,893. Cl. 46.
Alamo Mfg. Co., Inc., New York, N.Y. 725,378, canc. Cl. 39.
Alewels, Inc., Concordia, Mo. 843,883. Cl. 46.
Alexander, Arthur W., and Elsie M. Alexander, d.b.a. Crank Shaft Co., Los Angeles, Calif. 843,663, pub. 11–21–67. Cl. 23.
Alix of Miami, Inc., Miami, Fla. 725,387, canc. Cl. 39.
Allen Electric and Equipment Co., Kalamazoo, Mich. 843,680, pub. 11–21–67. Cl. 26.
Allen, Layman E., d.b.a. Wff 'N Proof, New Haven, Conn. 843,626–7, pub. 11–21–67. Cl. 22.
Allergan Pharmaceuticals, Santa Ana, Calif. 843,575, pub. 11–21–67. Cl. 18.
Allpro Corp., New Haven, Conn. 725,343, canc. Cl. 29.
Alvin Products, Inc., Worcester, Mass. 843,548, pub. 11–21–67. Cl. 15.
Ambassador: *See*—
Divina Footwear, Inc.
American Aniline Products, Inc., Paterson, N.J. 843,501–8, pub. 11–21–67. Cl. 6.
American Can Co., New York, N.Y. 843,659, pub. 11–21–67. Cl. 23.
American Cholesterol Products, Inc., Edison, N.J. 843,500, pub. 11–21–67. Cl. 6.
American Cyanamid Co., Wayne, N.J. 843,456, pub. 11–21–67. Cl. 1.
American Cyanamid Co., Wayne, N.J. 843,577, pub. 11–21–67. Cl. 18.
American Felt Co., Glenville, Conn. 843,698, pub. 11–21–67. Cl. 31.
American Home Products Corp., New York, N.Y. 843,588, pub. 11–21–67. Cl. 18.
American Home Products Corp., New York, N.Y. 843,822, pub. 11–21–67. Cl. 51.
American Oil Co., The, Chicago, Ill. 843,550–1, pub. 11–21–67. Cl. 15.
American Plant Food Corp., Galena Park, Tex. 843,517–19, pub. 11–21–67. Cl. 10.
American Rubber Co., Boston, Mass., by Uniroyal, Inc., New York, N.Y. 67,454, 12(c) pub. 2–6–68. Cl. 39.
American Sales Book Co., Ltd., Toronto, Ontario, Canada, Niagara Falls and Elmira, N.Y., by Moore Business Forms, Inc., Niagara Falls, N.Y. 236,953, 12(c) pub. 2–6–68. Cl. 37.
American Testing & Engineering Corp., Indianapolis, Ind. 843,840, pub. 11–21–67. Cl. 100.
American Tobacco Co., The, New York, N.Y. 843,561, pub. 11–21–67. Cl. 17.
American Tobacco Co., The, New York, N.Y. 843,564, pub. 11–21–67. Cl. 17.
Ames, Stacy, Inc., New York, N.Y. 843,747, pub. 11–21–67. Cl. 39.
Ampsco Corp., Columbus, Ohio. 725,299, canc. Cl. 21.
Amurol Products Co., Naperville, Ill. 843,782, pub. 11–21–67. Cl. 46.
Anthony Pools, Inc., South Gate, Calif. 843,697, pub. 11–21–67. Cl. 31.
Aquarium Systems, Inc., Wickliffe, Ohio. 843,468, pub. 11–21–67. Cl. 2.
Armour Agricultural Chemical Co., Chicago, Ill. 843,515–16, pub. 11–21–67. Cl. 10.
Armour and Co., Chicago, Ill. 843,831, pub. 11–21–67. Cl. 52.
Armour and Co., d.b.a. Collier Industries, Chicago, Ill. 843,765, pub. 11–21–67. Cl. 46.
Arnold, Schwinn & Co.: *See*—
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Arrow Metal Products Corp., Haskell, N.J. 843,531, pub. 11–21–67. Cl. 12.
Associated Products, Inc., Chicago, Ill., to Richard Hudnut, Morris Plains, N.J. 432,642, ren. 2–6–68. Cl. 51.
Atlantic Research Corp., Alexandria, Va. 843,608, pub. 11–21–67. Cl. 21.
Ault Inc., Minneapolis, Minn. 843,679, pub. 11–21–67. Cl. 26.
Autoclaved Products, Inc., Pawtucket, R.I. 725,457, canc. Cl. 52.
Automation Institute of America, Inc.: *See*—
C-E-I-R, Inc.
Avon Sole Co., Avon, Mass. 843,453, pub. 11–21–67. Multiple Class (Classes 1 and 39).
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B & L Sales Associates, Boston, Mass. 843,482, pub. 11–21–67. Cl. 4.
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Bache & Co. Inc., New York, N.Y. 843,852, pub. 11–21–67. Cl. 102.
Baibolat-Mailiot-Witt, La Courneuve, France. 843,631, pub. 11–21–67. Cl. 22.
Ball, Geo. J., Inc., West Chicago, Ill. 843,473, pub. 11–21–67. Cl. 2.
Banberry Cross Inc., New York, N.Y. 843,738, pub. 11–21–67. Cl. 39.
Barash Co., Inc., The, New York, N.Y. 725,184, canc. Cl. 1.
Barber-Colman Co., Rockford, Ill. 843,660, pub. 11–21–67. Cl. 23.
Barber-Greene Co., Aurora, Ill. 843,656, pub. 11–21–67. Cl. 23.
Barney's Clothes, Inc., New York, N.Y. 434,297, ren. 2–6–68. Cl. 39.
Barrett Hydrostatics Ltd., Galt, Ontario, Canada. 843,639, pub. 11–9–65. Cl. 23.
Barry-Wehmiller Co., St. Louis, Mo. 843,709, 11–21–67. Cl. 34.
Bates Mfg. Co., The, Orange, N.J. 843,646, pub. 11–21–67. Cl. 23.
Battenfeld Corp. of America, Chicago, Ill. 725,326, canc. Cl. 23.
Baxter Laboratories, Inc., Morton Grove, Ill. 843,758, pub. 11–21–67. Cl. 44.
Beatrice Foods Co., Chicago, Ill. 843,894. Cl. 46.
Beauty Counselors, Inc., Grosse Pointe, Mich. 843,807, pub. 11–21–67. Cl. 51.
Becton, Dickinson and Co., East Rutherford, N.J. 843,760, pub. 11–21–67. Cl. 44.
Bemis Bro. Bag Co., St. Louis, Mo. 725,199, canc. Cl. 2.
Bendix Corp., The, Detroit, Mich. 843,645, pub. 11–21–67. Cl. 23.
Bengue, Inc., Union City, N.J., by Chas Pfizer & Co., Inc., New York, N.Y. 435,135, 12(c) pub. 2–6–68. Cl. 18.
Berger, M. Z., & Co., New York, N.Y. 725,340, canc. Cl. 27.
Bernat, Emile, & Sons Co., Jamaica Plain, Mass. 725,410, canc. Cl. 43.
Berry, O. D., d.b.a. Sunshine Cleaners, Deming, N. Mex. 843,494, pub. 4–4–67. Cl. 6.
Bertin et Compagnie, Paris, France. 843,592, pub. 11–21–67. Cl. 19.
Bird Corp.: *See*—
Bird Space Technology, Inc.
Bird Space Technology, Inc., Palm Springs, from Bird Corp., Richmond, Calif. 843,756, pub. 11–21–67. Cl. 44.
Birnbaum, Emil, New York, N.Y. 725,202, canc. Cl. 3.
Blairmoor Knitwear Corp., Brooklyn, N.Y. 843,741, pub. 11–21–67. Cl. 39.
Bond Crown & Cork Co., Wilmington, Del., to Continental Can Co., Inc., New York, N.Y. 437,539, ren. 2–6–68. Cl. 1.
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Borden Co., The, New York, N.Y. 843,514, pub. 10–10–67. Cl. 10.
Bristol-Myers Co., New York, N.Y. 843,879. Cl. 18.
Broadhurst, Arne, d.b.a. Aycock Knives, Salem, Oreg. 843,664, pub. 11–21–67. Cl. 23.
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Brown, C. H., d.b.a. C. C. Brown's, Hollywood, Calif., to Pangburn Co., Inc., Fort Worth, Tex. 438,097, ren. 2–6–68. Cl. 46.
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Brunswick Corp., Chicago, Ill. 843,634, pub. 11–21–67. Cl. 22.
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C-E-I-R, Inc., Washington, D.C., from Automation Institute of America, Inc., San Francisco, Calif. 843,902. Cl. 107.
Calico Printers' Association, Ltd., The, Manchester, England. 843,742, pub. 11–21–67. Cl. 39.
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Calsaturificio di Santo Tessaro: *See*—
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Camp and McInnes, Inc., Reading, Pa. 843,743–4, pub. 11–21–67. Cl. 39.
Cannon, William, Jr., Northridge, Calif. 725,337, canc. Cl. 26.
Canton Textile Mills, Inc., Canton, Ga. 843,751, pub. 11–21–67. Cl. 42.
Capitol Products Corp., Mechanicsburg, Pa. 725,329, canc. Cl. 23.
Cariola, Frank, Brooklyn, N.Y. 843,864, pub. 11–21–67. Cl. 107.
Carnation Co., Los Angeles, Calif. 843,774, pub. 10–17–67. Cl. 46.
Carole Accessories, Inc., Los Angeles, Calif. 725,342, canc. Cl. 28.
Cars, Inc., Elkhart, Ind. 843,901. Cl. 105.
Cascade Woolen Mill, Oakland, Maine. 500,013, ren. 2–6–68. Cl. 42.
Castle & Cooke, Inc., Honolulu, Hawaii. 843,786, pub. 11–21–67. Cl. 46.
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Cemetery Care Investment Fund, Inc., Chicago, Ill. 843,854, pub. 11–21–67. Cl. 102.
Central Soya Co., Inc., Fort Wayne, Ind. 843,772, pub. 8–8–67. Cl. 46.
Chadbourn Gotham, Inc., Charlotte, N.C. 843,492, pub. 11–21–67. Cl. 6.
Charms Co., Asbury Park, N.J. 843,887. Cl. 46.
Chatham Garment Co., Inc., New York, N.Y. 725,385, canc. Cl. 39.
Chatham Mfg. Co., Elkin, N.C. 843,749, pub. 11–21–67. Cl. 42.
Chesebrough-Pond's Inc., New York, N.Y. 843,817–19, pub. 11–21–67. Cl. 51.
Chesebrough-Pond's Inc., d.b.a. Erno Laszlo Institute, New York, N.Y. 843,809, pub. 11–21–67. Cl. 51.
Chesebrough-Pond's Inc., d.b.a. Prince Matchabelli, New York, N.Y. 843,820, pub. 11–21–67. Cl. 51.
Chicago Carton Co., Chicago, Ill. 725,468, canc. Cl. 2.
Chicago Tribune-New York News Syndicate, Inc., New York, N.Y. 438,573, ren. 2–6–68. Cl. 38.
Chronetics, Inc., Mount Vernon, N.Y. 843,604, pub. 11–21–67. Cl. 21.
Cisirol Inc., New York, N.Y. 843,815, pub. 11–21–67. Cl. 51.
Clark, Charles F., Inc., Menominee, Mich. 843,624, pub. 11–21–67. Cl. 22.
Cletrac Corp., from The Oliver Corp., Chicago, Ill. 725,325, canc. Cl. 23.
Clifton, William H., d.b.a. Orbit Pest Control, Jacksonville, Fla. 843,856, pub. 10–10–67. Cl. 103.
Clynol Ltd., London, England. 843,823, pub. 11–21–67. Cl. 51.
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Collier Industries: *See*—
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Colmac Industries, Inc., Colville, Wash. 843,668, pub. 11–21–67. Cl. 24.
Colonel Dixie Systems, Inc., Mobile, Ala. 843,839, pub. 10–24–67. Cl. 100.
Colonial Plastics Mfg. Co., Cleveland, Ohio. 843,542, pub. 11–21–67. Cl. 13.
Columbian Hog & Cattle Powder Co., Kansas City, Mo. 843,569, pub. 6–27–67. Cl. 18.
Commander Publishing, Inc., Hartford, Conn. 843,721, pub. 11–21–67. Cl. 38.
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Compax Corp., Woodside, N.Y. 725,320, canc. Cl. 23.
Components, Inc., Biddeford, Maine. 843,617, pub. 11–21–67. Cl. 21.
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Conwed Corp., from Wood Conversion Co., St. Paul, Minn. 843,526, pub. 11–21–67. Cl. 12.
Coors Porcelain Co., Golden, Colo. 843,695, pub. 11–21–67. Cl. 30.
Copolymer Rubber & Chemical Corp., Baton Rouge, La. 843,459, pub. 11–21–67. Cl. 1.
Corral, Wodiska y Ca., Tampa, Fla. 843,563, pub. 11–21–67. Cl. 17.
Courtaulds, Ltd., to Courtaulds, Ltd., London, England. 237,082, ren. 2–6–68. Cl. 43.
Courtaulds, Ltd., London, England. 725,188, canc. Cl. 1.
Craig, Marshall & Co.: *See*—
McNish, Robert, & Co. Ltd.
Crank Shaft Co.: *See*—
Alexander, Arthur W., and Elsie M. Alexander.
Crawford Fitting Co., Solon, Ohio. 843,543, pub. 11–21–67. Cl. 13.
Creative Merchandising, Inc., Denver, Colo., from J. D. Heikes, d.b.a. John Heikes & Associates, Inc., Corona Del Mar, Calif. 843,850, pub. 11–21–67. Cl. 101.
Critchely's Candies, Tenafly, N.J. 843,773, pub. 11–21–67. Cl. 46.
Crucible Steel Co. of America: *See*—
Trent Tube Mfg. Co.
Crucible Steel Co. of America, Pittsburgh, Pa. 237,489, ren. 2–6–68. Cl. 14.
Cruit's Replacement Parts, Inc., Sacramento, Calif. 843,549, pub. 11–21–67. Cl. 15.
Crusellas: *See*—
Martí, Jose S.
Culligan, Inc., Northbrook, Ill. 843,696, pub. 11–21–67. Cl. 31.
Cushing, Mary F., executrix for the estate of C. H. Cushing, d.b.a. W. Cushing & Co., by W. H. Burdick, Dover-Foxcroft, Maine. 437,578, 12(c) pub. 2–6–68. Cl. 6.
Cushing, W., & Co.: *See*—
Cushing, Mary F.
Custom Drapery Cleaners Division of Fresh Cleaners: *See*—
Rachefsky, Daniel.
Cutter Laboratories, Berkeley, Calif. 725,259, canc. Cl. 18.
D.M.R., Inc., Lakewood, Colo. 843,761, pub. 11–21–67. Multiple Class (Classes 44 and 100).
Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany. 843,590, pub. 11–21–67. Cl. 19.
Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany. 843,598, pub. 11–21–67. Cl. 19.
Danbar Products: *See*—
Pest-Guard Products, Inc.
Dart Container Corp., Mason, Mich. 843,470, pub. 11–21–67. Cl. 2.
Dazey Products Co., Kansas City, Mo. 843,602, pub. 11–21–67. Cl. 21.
Dealers Service Specialty Corp., Philadelphia, Pa. 843,486, pub. 11–21–67. Multiple Class (Classes 6 and 15).
Dearborn, Howard, Inc., Berea, Ohio. 843,859, pub. 11–21–67. Cl. 106.
Deering Milliken, Inc., New York, N.Y. 843,752, pub. 11–21–67. Cl. 42.
Delapenha, Robert S., Jersey City, N.J. 843,794, pub. 4–25–67. Cl. 49.
Dell Publishing Co., Inc., New York, N.Y. 725,369, canc. Cl. 38.
Del-Mar Industries, Inc.: *See*—
U.S. Plywood-Champion Papers Inc.
Demert & Dougherty, Inc., Chicago, Ill. 843,813, pub. 11–21–67. Cl. 51.
Denison Laboratories, Inc., Providence, R.I. 843,584, pub. 11–21–67. Cl. 18.
Design Built Exhibits, Inc., Long Island City, N.Y. 843,841, pub. 11–21–67. Cl. 101.
Detroit-Star Grinding Wheel Co., Detroit, Mich., to Louis Sponholtz, d.b.a. Honeycomb Grinding Wheel Co., Grand Rapids, Mich. 437,769, ren. 2–6–68. Cl. 4.
DeWine & Hamma Seed Co., Inc., Yellow Springs, Ohio. 843,457, pub. 11–21–67. Cl. 1.
Dialtron Corp., Brooklyn, N.Y. 725,296, canc. Cl. 21.
Diamond Alkali Co., Cleveland, Ohio. 843,512, pub. 11–21–67. Cl. 6.
Diamond-Ite International Inc., New York, N.Y. 843,690, pub. 11–21–67. Cl. 28.
Dianlyce, Inc., Ridgefield, N.J. 843,693, pub. 11–21–67. Cl. 29.
Distillerie Fratelli Ramazzotti, S.p.A.: *See*—
Fratelli Ramazzotti, Societa Anonima.
Distributors' Promotions, Inc., Philadelphia, Pa. 725,368, canc. Cl. 38.
Divina Footwear, Inc., d.b.a. Ambassador, St. Louis, Mo. 843,880. Cl. 39.
Dixie Wax Paper Co., Dallas, Tex. 725,466, canc. Cl. 2.
Doubek Cookie Co., d.b.a. Broadview Baking Co., Broadview, Ill. 725,416, canc. Cl. 46.
Doughton, Ella G., d.b.a. Ella Gale, Troy, Mich. 843,845, pub. 11–21–67. Cl. 101.
Dow Chemical Co., The, Midland, Mich. 843,687, pub. 11–21–67. Cl. 26.
Draco, Inc., Greenville, Del. 843,846, pub. 11–21–67. Cl. 101.
Drago Operating Corp., New York, N.Y. 843,855, pub. 11–21–67. Cl. 103.
Dubarry Perfumery Co., Ltd., The, Hove, England, to Richard Hudnut, Morris Plains, N.J. 236,279, ren. 2–6–68. Cl. 51.
Duddleston, Wayne B., Houston, Tex. 843,838, pub. 7–4–67. Cl. 100.
Dunbar-Dukate Co., Inc., to Southern Shell Fish Co., New Orleans, La. 241,350, ren. 2–6–68. Cl. 46.
Dunbar-Dukate Co., Inc., to Southern Shell Fish Co., New Orleans, La. 241,615, ren. 2–6–68. Cl. 46.
Dunham Brothers Co., Brattleboro, Vt. 843,731, pub. 11–21–67. Cl. 39.
Durex Products, Inc., Luck, Wis. 843,538, pub. 11–21–67. Cl. 13.
Dynasurf Chemical Corp., Baltimore, Md. 843,479, pub. 11–21–67. Cl. 4.
Eagle Ottawa Leather Co., Grand Haven, Mich. 725,183, canc. Cl. 1.
Eastman Kodak Co., to Eastman Kodak Co., Rochester, N.Y. 67,137, ren. 2–6–68. Cl. 26.
Echlin Mfg. Co., The, Branford, Conn. 843,844, pub. 11–21–67. Cl. 101.
Eldorado Tool & Mfg. Corp., Milford, Conn. 843,685, pub. 11–21–67. Cl. 26.
Electro Medical Research Associates, Schenectady, N.Y. 725,413, canc. Cl. 44.
Eloesser-Heynemann Co., San Francisco, Calif. 725,393, canc. Cl. 39.
Equipment Co. of America, Hialeah, Fla. 843,593, pub. 11–21–67. Multiple Class (Classes 19 and 50).
Ermey Vineyards, Inc., Wapato, Wash. 843,763, pub. 11–21–67. Multiple Class (Classes 45 and 46).
Ernst, Inc., San Francisco, Calif. 843,691, pub. 11–21–67. Cl. 28.
Ernst Patzak-Poor, Munich, Germany. 725,379, canc. Cl. 39.
Evr-Gard Coatings Corp., Los Angeles, Calif. 843,554, pub. 11–21–67. Cl. 16.
Exquisite Form Industries, Inc., New York, N.Y. 843,739, pub. 11–21–67. Cl. 39.
FMC Corp., New York, N.Y. 843,460, pub. 11–21–67. Cl. 1.
"FO-WE" Forschungs- und Verwertungs-Anstalt, Vaduz, Liechtenstein. 725,256–7, canc. Cl. 18.

Fairfield Distillery Co.: *See*—
Old Boone Distillery Co.
Family Life Products, Inc., Cleveland, Ohio. 843,481, pub. 11–21–67. Cl. 4.
Farah Mfg. Co., Inc., El Paso, Tex. 843,736, pub. 11–21–67. Cl. 39.
Farrar, Straus and Giroux, Inc., New York, N.Y. 843,722–3, pub. 11–21–67. Cl. 38.
Feisty Bloomers By Camille: *See*—
Jones, H. Frank.
Fenway Coats, Inc., New York, N.Y. 725,396, canc. Cl. 39.
Fermodyl Laboratories, Inc., Los Angeles, Calif. 843,802, pub. 11–21–67. Cl. 51.
Fiber Industries, Inc., Charlotte, N.C. 843,462–3, pub. 11–21–67. Cl. 1.
Firestone Tire & Rubber Co., The: *See*—
Seiberling Rubber Co.
Firestone Tire & Rubber Co., The, Akron, Ohio. 843,712, pub. 11–21–67. Cl. 35.
First Federal Savings & Loan Assn. of Detroit, Detroit, Mich. 843,900. Cl. 102.
Fisher Feeds: *See*—
Fisher, Harry.
Fisher, Harry, d.b.a. Fisher Feeds, Portland, Oreg. 725,253, canc. Cl. 18.
Fitger Brewing Co., Duluth, Minn. 437,231, ren. 2–6–68. Cl. 48.
Flavor Corp. of America, Northbrook, Ill. 843,784, pub. 11–21–67. Cl. 46.
Florasynth, Inc., Bronx, N.Y. 843,764, pub. 11–21–67. Cl. 45.
Foremost Chemicals, Inc., St. Petersburg, Fla. 843,496, pub. 11–21–67. Cl. 6.
Foremost-McKesson, Inc., from McKesson & Robbins, Inc., d.b.a. McKesson Laboratories, New York, N.Y. 843,578, pub. 11–21–67. Cl. 18.
40-Fathom Seafoods, Inc., Chestnut Hill, Mass. 843,768, pub. 11–21–67. Cl. 46.
Frank, Joe, Inc., Houston, Tex. 843,733, pub. 11–21–67. Cl. 39.
Frank, Joe, Inc., Houston, Tex. 843,737, pub. 11–21–67. Cl. 39.
Fraser, Hugh M.: *See*—
Hodgson & Fraser Ltd.
Fratelli Ramazzotti, Societa Anonima, to Distillerie Fratelli Ramazzotti, S.p.A., Milan, Italy. 236,435, ren. 2–6–68. Cl. 18.
French, R. T., Co., The, Rochester, N.Y. 843,886. Cl. 46.
Fujiya Electric Co., Ltd., Tokyo, Japan. 843,714, pub. 11–21–67. Cl. 36.
Fuller Brush Co., The, East Hartford, Conn. 843,803, pub. 11–21–67. Cl. 51.
Fulton, Loyd R., Seattle, Wash. 843,650, pub. 11–21–67. Cl. 23.
G.B. Importing Co., Boston, Mass. 843,812, pub. 11–21–67. Cl. 51.
G.K.N. Screws & Fasteners Ltd.: *See*—
Guest, Keen & Nettlefolds Ltd.
Gale, Ella: *See*—
Doughton, Ella G.
Galter, William R., Chicago, Ill. 725,367, canc. Cl. 38.
Gammon Technical Products, Inc., Newark, N.J. 843,682, pub. 11–21–67. Cl. 26.
Gast, P. J., & Sons Bakery, Inc., Wheeling, W. Va. 843,892. Cl. 46.
Geigy Chemical Corp., Ardsley, N.Y. 725,265, canc. Cl. 18.
Geigy Chemical Corp., from Geigy Chemical Corp., Ardsley, N.Y. 843,488–9, pub. 11–21–67. Cl. 6.
General Aniline & Film Corp., New York, N.Y. 843,715, pub. 11–21–67. Cl. 37.
General Cable Corp.: *See*—
Metal Textile Corp.
General Felt Industries, Inc., Chicago, Ill. 843,798, pub. 11–21–67. Cl. 50.
General Molded Products, Inc., Des Plaines, Ill. 433,425, 12(c) pub. 2–6–68. Cl. 21.
General Motors Corp., Detroit, Mich. 843,614, pub. 11–21–67. Cl. 21.
General Pool Corp.: *See*—
General Pools Corp.
General Pools Corp., from General Pool Corp., Addison, Ill. 843,524, pub. 11–21–67. Cl. 12.
General Radio Co., West Concord, Mass. 843,612, pub. 11–21–67. Cl. 21.
General Refractories Co., Philadelphia, Pa. 843,520, pub. 11–29–66. Cl. 12.
Geneva Preserving Co., Geneva, to The Borden Co., New York, N.Y. 67,494, ren. 2–6–68. Cl. 46.
Georgia-Pacific Corp.: *See*—
La Monte, George, & Son.
Germain's, Inc., Los Angeles, Calif. 843,513, pub. 11–21–67. Cl. 7.
Gilbert & Barker Mfg. Co., New York, N.Y. 435,019, ren. 2–6–68. Cl. 26.
Gillette Co., The, d.b.a. The Toni Co., Boston, Mass. 843,814, pub. 11–21–67. Cl. 51.
Giolitti, Joseph V., d.b.a. Giolitti Ranches, Reedley, Calif. 843,776, pub. 11–21–67. Cl. 46.
Giolitti Ranches: *See*—
Giolitti, Joseph V.
Gladen Enterprises, Inc., Bay City, Mich. 843,454–5, pub. 11–21–67. Multiple Class (Classes 1 and 50).
Gladwin Corp., Southgate, Mich. 843,640, pub. 11–21–67. Cl. 23.
Glanzrock, Charles, & Co., Inc., New York, N.Y. 843,740, pub. 11–21–67. Cl. 39.
Glasshouse Co., The, Wytheville, Va. 725,459, canc. Cl. 52.
Glen Ellyn Mower & Marine: *See*—
Larson, Earl.
Glidden Co., The: *See*—
SCM Corp.
Goerlich's, Inc., Toledo, Ohio. 843,539, pub. 11–21–67. Cl. 13.
Grace, W. R., & Co., New York, N.Y. 843,473, pub. 11–21–67. Cl. 4.
Graham Products Ltd., Inglewood, Ontario, Canada. 843,600, pub. 11–21–67. Cl. 19.
Grand Union Co., The, d.b.a. Stake Your Claim Co., East Paterson, N.J. 843,629, pub. 11–21–67. Cl. 22.
Gray Pharmaceutical Co., Yonkers, N.Y. 843,572, pub. 10–17–67. Cl. 18.
Green, A. P., Refractories Co., Mexico, Mo. 843,525, pub. 11–21–67. Cl. 12.
Greene, Harry G., Chicago, Ill. 437,715, ren. 2–6–68. Cl. 44.
Guest, Keen & Nettlefolds Ltd., Smethwick, by G.K.N. Screws & Fasteners Ltd., Smethwick, Warley, England. 234,338–40, 12(c) pub. 2–6–68. Cl. 13.
Gulf States Paper Corp., Tuscaloosa, Ala. 725,467, canc. Cl. 2.
H & K Distributors: *See*—
Kissock, John R., and William Haslett.
Hagelstein, Alfred, Maschinenfabrik, Lubeck-Travemunde, Germany. 843,642, pub. 10–24–67. Cl. 23.
Harris-Intertype Corp., Cleveland, Ohio. 843,643, pub. 12–20–66. Cl. 23.
Harshaw Chemical Co., The: *See*—
Kewanee Oil Co.
Harts Mountain Products Corp., New York, N.Y. 843,498, pub. 11–21–67. Cl. 6.
Hartzell Mfg., Inc., d.b.a. Wright Products, St. Paul, Minn. 843,533, pub. 11–21–67. Multiple Class (Classes 13 and 25).
Havatampa Cigar Corp., Tampa, Fla. 843,560, pub. 11–21–67. Cl. 17.
Havatampa Cigar Corp., Tampa, Fla. 843,562, pub. 11–28–67. Cl. 17.
Heering, Peter F.: *See*—
Heerink, Peter F. S.
Heering, Peter F. S., d.b.a. Peter F. Heering, Copenhagen, Denmark. 843,793, pub. 11–21–67. Cl. 47.
Heikes, John, & Associates, Inc.: *See*—
Creative Merchandising, Inc.
Heikes, John D.: *See*—
Creative Merchandising, Inc.
Hendon Construction Co., Little Ferry, N.J. 843,527, pub. 11–21–67. Cl. 12.
Henri's Food Products Co., Inc., Milwaukee, Wis. 843,781, pub. 11–21–67. Cl. 46.
Hercules Inc.: *See*—
Hercules Powder Co.
Hercules Powder Co., by Hercules Inc., Wilmington, Del. 434,946, 12(c) pub. 2–6–68. Cl. 6.
Hercules Powder Co., by Hercules Inc., Wilmington, Del. 437,599, 12(c) pub. 2–6–68. Cl. 9.
Heyman, Fannie R., New York, N.Y. 843,801, pub. 11–21–67. Cl. 51.
Hickory & Tweed, Inc., Armonk, N.Y. 843,620, pub. 11–21–67. Cl. 22.
Hillyard Enterprises, Inc., St. Joseph, Mo. 843,497, pub. 11–21–67. Cl. 6.
Hodgson & Fraser Ltd., from Hugh M. Fraser, North Vancouver, Canada. 843,490, pub. 11–21–67. Cl. 6.
Hoeganaes Corp., New York, N.Y. 843,546, pub. 11–21–67. Cl. 14.
Holland Herring Fisheries Association, Vlaardingen, Holland. 843,766, pub. 11–21–67. Cl. 46.
Honeycomb Grinding Wheel Co.: *See*—
Detroit-Star Grinding Wheel Co.
Hooper, Wm. E., & Sons Co., Baltimore, Md. 236,106, 12(c) pub. 2–6–68. Cl. 7.
Horst, E. Clemens, Co., to E. Clemens Horst Co., San Francisco, Calif. 438,105, ren. 2–6–68. Cl. 1.
House of Sessions: *See*—
Sessions Co., Inc.
Hubbard Milling Co., Mankato, Minn. 843,574, pub. 11–21–67. Cl. 18.
Hubley Mfg. Co., The, Lancaster, Pa. 725,317, canc. Cl. 22.
Hudnut, Richard: *See*—
Associated Products, Inc.
Dubarry Perfumery Co., Ltd., The.
Hudson National, Inc., d.b.a. Hudson Vitamin Products, New York, N.Y. 843,570, pub. 11–21–67. Multiple Class (Classes 18 and 44).
Hudson Vitamin Products: *See*—
Hudson National, Inc.
Hughes, Eugene, Cincinnati, Ohio. 843,863, pub. 11–21–67. Cl. 107.
Hull Traders Ltd., London, England. 843,701, pub. 11–21–67. Cl. 32.
Humphreys Medicine Co., Inc., Rutherford, N.J. 843,805–6, pub. 11–21–67. Cl. 51.
Huntec Ltd., Toronto, Ontario, Canada. 843,684, pub. 11–21–67. Cl. 26.
Hydraulic Power Equipment Corp., Milwaukee, Wis. 843,644, pub. 10–11–66. Cl. 23.
Illinois Canning Co., Camden, N.J., and Hoopeston, Ill., to The Illinois Canning Co., Hoopeston, Ill. 67,052, ren. 2–6–68. Cl. 46.
Illinois Canning Co., The: *See*—
Illinois Canning Co.
Independent Bank, The, Anaheim, Calif. 843,853, pub. 11–21–67. Cl. 102.
Independent Nail Corp., The: *See*—
Independent Nail, Inc.
Independent Nail, Inc., from The Independent Nail Corp., Bridgewater, Mass. 843,540, pub. 11–21–67. Cl. 18.
Indian Head Inc.: *See*—
Native Laces & Textiles, Inc.
Ullmann, Bernhard, Co., Inc.
Inland Marine Corp., Minneapolis, Minn. 725,277, canc. Cl. 19.

International Latex Corp.: *See*—
International Playtex Corp.
International Playtex Corp., from International Latex Corp., Dover, Del. 843,730, pub. 11–21–67. Cl. 39.
Interplex, Arcadia, Calif. 843,466, pub. 11–21–67. Cl. 1.
Interstate Dental Co., Inc., New York, N.Y. 843,755, pub. 11–21–67. Cl. 44.
Invenex Pharmaceuticals, San Francisco, CaHf. 843,576, pub. 11–21–67. Cl. 18.
Ionics, Inc., Watertown, Mass. 843,464, pub. 11–21–67. Cl. 1.
Irwin, Harry, Inc., New York, N.Y. 843,881. Cl. 39.
Italiano Food Products, Inc., Lebanon, Pa. 843,884. Cl. 46.
Jacobs, Samuel B., Hoboken, N.J. 843,559, pub. 11–21–67. Cl. 17.
Jergens, Andrew, Co., The, Cincinnati, Ohio. 843,816, pub. 11–21–67. Cl. 51.
Johnson, Smith, Motor Corp., d.b.a. Smith Corner Motors, Portsmouth, Va. 843,899. Cl. 101.
Jones, H. Frank, d.b.a. Feisty Bloomers By Camille, North Hollywood, Calif. 843,796, pub. 11–21–67. Cl. 50.
Jung Arch Brace Co., The, to Jung Products, Inc., Cincinnati, Ohio, 435,147, ren. 2–6–68. Cl. 44.
Jung Arch Brace Co., The, to Jung Products, Inc., Cincinnati, Ohio. 438,526, ren. 2–6–68. Cl. 22.
Jung Products, Inc.: *See*—
Jung Arch Brace Co., The.
Kellogg Co., Battle Creek, Mich. 843,790–2, pub. 11–21–67. Cl. 46.
Kenlin Enterprises, Inc., Highland Park, Ill. 843,535, pub. 11–21–67. Cl. 13.
Kewanee Oil Co., from The Harshaw Chemical Co., Cleveland, Ohio. 843,678, pub. 11–21–67. Cl. 26.
Keystone Computer Associates, Inc., Willow Grove, Pa. 843,849, pub. 11–21–67. Cl. 101.
Kissock, John R., and William Haslett, d.b.a. H & K Distributors, Butte, Mont. 725,280, canc. Cl. 19.
Klein Chocolate Co., Elizabethtown, Pa. 843,787, pub. 11–21–67. Cl. 46.
Klick, Inc., New York, N.Y. 725,200, canc. Cl. 3.
Knight, John B., Sr., d.b.a. Old 97 Co., by Old 97 Co., Tampa, Fla. 436,566, 12(c) pub. 2–6–68. Cl. 18.
Knudsen Creamery Co. of Calif., d.b.a. The Calresin Co., Los Angeles, Calif. 725,232, canc. Cl. 12.
Koninklijke Eau de Cologne fabriek Boldoot N.V.: *See*—
Naamlooze Venootschap; Eau de Colognefabriek Voorheen J. C. Boldoot.
Kosy Mfg. Co., Exira, Iowa. 439,051, ren. 2–6–68. Cl. 12.
Kurashiki Rayon Co., Ltd., Kurashiki, Japan. 725,411, canc. Cl. 43.
Kurtz & Wolfe Chemical Co., Inc., Bronx, N.Y. 843,828, pub. 11–21–67. Cl. 52.
Kyanize Paints, Inc., Everett, Mass. 843,555–7, pub. 11–21–67. Cl. 16.
Kyanize Paints, Inc., Everett, Mass. 843,832, pub. 11–21–67. Cl. 52.
Laboratory For Electronics, Inc., Waltham, Mass. 843,671, pub. 11–21–67. Cl. 26.
La Monte, George, & Son, Nutley, N.J., and New York, N.Y., to Georgia-Pacific Corp., Multnomah, Oreg. 66,452, ren. 2–6–68. Cl. 37.
Lane Ltd., New York, N.Y. 843,565, pub. 11–21–67. Cl. 17.
Lane Ltd., New York, N.Y. 843,872. Cl. 8.
Lanvin-Charles of the Ritz, Inc., New York, N.Y. 843,746, pub. 11–21–67. Cl. 39.
Larson, Earl, d.b.a. Glen Ellyn Mower & Marine, from Glen Ellyn Mower & Marine, Glen Ellyn, Ill. 725,321, canc. Cl. 23.
Laszlo, Erno, Institute: *See*—
Chesebrough-Pond's Inc.
Leclabart, Jean, Paris, France. 725,414, canc. Cl. 44.
Leeds & Northrup Co., Philadelphia, Pa. 843,674, pub. 11–21–67. Cl. 26.
Legge, Walter G., Co., Inc., New York, N.Y. 843,826, pub. 11–21–67. Cl. 52.
Le Traveleer, Inc., Albuquerque, N. Mex. 725,464, canc. Cl. 200.
Lever Bros. Co., New York, N.Y. 843,824, pub. 11–21–67. Cl. 51.
Lever Bros. Co., New York, N.Y. 843,837, pub. 11–21–67. Cl. 52.
Lewis Bolt & Nut Co., Minneapolis, Minn. 725,235, canc. Cl. 13.
Lewis-Shepard Products, Inc., Watertown, Mass. 437,424, ren. 2–6–68. Cl. 23.
Lightfoot Schultz Co., New York, N.Y., and Hoboken, N.J., by Philip Morris, Inc., New York, N.Y. 434,707, 12(c) pub. 2–6–68. Cl. 51.
Lightfoot Schultz Co., New York, N.Y., and Hoboken, N.J., by Philip Morris, Inc., New York, N.Y. 435,527, 12(c) pub. 2–6–68. Cl. 52.
Lighting Products, Inc., Highland Park, Ill. 725,284, canc. Cl. 21.
Lindberg Engineering Co., by Sola Basic Industries, Inc., Chicago, Ill. 361,948, 12(c) pub. 2–6–68. Cl. 34.
Link-Belt Co., Chicago, Ill. 843,658, pub. 11–21–68. Cl. 23.
Liqui-Box Corp., Columbus, Ohio. 843,647, pub. 11–21–67. Cl. 23.
Lockheed Aircraft Corp., Burbank, Calif. 843,601, pub. 2–21–61. Cl. 21.
Lockheed Aircraft Corp., Burbank, Calif. 843,670, pub. 2–21–61. Cl. 26.
London Chemical Co., Inc., Melrose Park, Ill. 843,835–6, pub. 11–21–67. Cl. 52.
London City Clothing Corp., Miami, Fla. 843,729, pub. 11–21–67. Cl. 39.
L'Oreal, Paris, France. 843,897. Cl. 51.
Louis, Roger, & Co.: *See*—
Myers, Roger L.
Louisiana Paper Co., Ltd., Shreveport, La. 843,717, pub. 11–21–67. Cl. 37.
Lufkin Rule Co., The, Saginaw, Mich. 843,681, pub. 11–21–67. Cl. 26.
Lujan, Inc., New York, N.Y. 725,382, canc. Cl. 39.
Lundquist, Wilbur V., d.b.a. Marvic Co., Winona, Minn. 725,193, canc. Cl. 2.
Lyon Metal Products, Inc., Aurora, Ill. 843,704, pub. 11–21–67. Cl. 32.
Macartney, R. J., Co., Lawrence, Mass. 237,849, ren. 2–6–68. Cl. 39.
Machinale Glasfabriek de Maas N.V., Tiel, Netherlands. 843,595, pub. 10–31–67. Cl. 19.
Mallinckrodt Chemical Works, St. Louis, Mo. 500,195, ren. 2–6–68. Cl. 6.
Marble Institute of America, Inc., Washington, D.C. 843,868, pub. 11–21–67. Cl. 200.
Marcal Paper Mills, Inc., East Paterson, N.J. 843,719, pub. 11–21–67. Cl. 37.
Marine & Ship Supply, Inc., San Francisco, Calif. 843,827, pub. 11–21–67. Cl. 52.
Martí, Jose S. d.b.a. Cruselias, Miami, Fla. 843,800, pub. 11–21–67. Cl. 51.
Martin, J. B., Co., Norwich, Conn. 843,750, pub. 11–21–67. Cl. 42.
Marvic Co.: *See*—
Lundquist, Wilbur V.
Maschinenbau "Wam" M. Osterhof, Berlin, Germany. 843,651, pub. 11–21–67. Cl. 23.
Master Industries, Inc., Santa Ana, Calif. 843,637, pub. 11–21–67. Cl. 22.
McKesson Laboratories: *See*—
Foremost-McKesson, Inc.
McKesson & Robbins, Inc.: *See*—
Foremost-McKesson, Inc.
McNish, Robert, & Co. Ltd., d.b.a. Craig, Marshall & Co., Glasgow, Scotland. 843,896. Cl. 49.
Mead Johnson & Co., Evansville, Ind. 843,589, pub. 11–21–67. Cl. 18.
Mead Johnson & Co., Evansville, Ind. 843,789, pub. 11–21–67. Cl. 46.
Medical Products Division: *See*—
Vernitron Corp.
Melville Shoe Corp., New York, N.Y. 843,745, pub. 11–21–67. Cl. 39.
Mennen Co., The, Morristown, N.J. 843,808, pub. 11–21–67. Cl. 51.
Mennen Co., The, Morristown, N.J. 843,829, pub. 11–21–67. Cl. 52.
Metal Textile Corp., West Orange, N.J., by General Cable Corp., New York, N.Y. 433,476, 12(c) pub. 2–6–68. Cl. 4.
Midland Laboratories, Dubuque, Iowa. 434,813, ren. 2–6–68. Cl. 52.
Milgram Food Stores, Inc., Kansas City, Mo. 843,842, pub. 11–21–67. Cl. 101.
Minette Mills, Inc., Grover, N.C. 725,405, canc. Cl. 42.
Mittan Inc., d.b.a. Zip Aerosol Products, North Hollywood, Calif. 843,547, pub. 11–21–67. Cl. 15.
Modena Paper Mills, Inc., New York, N.Y. 725,360, canc. Cl. 37.
Monarch Pool Corp., White Plains, N.Y. 843,521, pub. 9–12–67. Cl. 12.
Monarchs, The, Tucker, Ga. 843,860, pub. 11–21–67. Cl. 107.
Mondotoy Establishment, Vadus, Liechtenstein. 843,635, pub. 11–21–67. Cl. 22.
Moore Business Forms, Inc.: *See*—
American Sales Book Co., Ltd.
Moore, L. H., Canning Co., McAllen, Tex. 843,778, pub. 11–21–67. Cl. 46.
Morkap Publishing Co., Rockville, Md. 843,725, pub. 11–21–67. Cl. 38.
Morton Foods, Inc., Dallas, Tex. 843,785, pub. 11–21–67. Cl. 46.
Movenpick A.G., Zurich, Switzerland. 843,788, pub. 11–21–67. Multiple Class (Classes 46, 47, and 49).
Murphy Products Co., Inc., Burlington, Wis. 843,585, pub. 11–21–67. Cl. 18.
Myer, Roger L., d.b.a. Roger Louis & Co., Epernay, France. 725,439, canc. Cl. 47.
Naamloose Venootschap; Eau de Colognefabriek Voorheen J. C. Boldoot, by Koninklijke Eau de Colognefabriek Boldoot N.V., Amsterdam, Netherlands. 149,179, 12(c) pub. 2–6–68. Cl. 52.
Napco Industries, Inc., Hopkins, Minn. 843,591, pub. 11–21–67. Multiple Class (Classes 19 and 23).
National Automotive Parts Association, Chicago, Ill. 843,638, pub. 2–2–65. Cl. 23.
National Can Corp., Chicago, Ill. 843,469, pub. 11–14–67. Cl. 2.
National India Rubber Co., Bristol, R.I., by Uniroyal, Inc., New York, N.Y. 68,468, 12(c) pub. 2–6–68. Cl. 39.
National Presto Industries, Inc.: *See*—
Presto Products Co.
National TV Log, Inc., Los Angeles, Calif. 843,724, pub. 11–21–67. Cl. 38.
Native Laces & Textiles, Inc., to Indian Head Inc., New York, N.Y. 435,764, ren. 2–6–68. Cl. 42.
Nebel Machine Tool Corp., Cincinnati, Ohio. 725,319, canc. Cl. 23.
Nestlé Co., Inc., The, White Plains, N.Y. 843,775, pub. 11–21–67. Cl. 46.
Newana Mills, Inc., Newnan, Ga. 725,400, canc. Cl. 42.
New Century Beverage Co., d.b.a. The Rite-Fresh Juice Co., San Francisco, Calif. 843,890. Cl. 46.
New York Air Brake Co., The, New York, N.Y. 843,607, pub. 11–21–67. Cl. 21.
Nicholl Brothers, Inc., Kansas City, Mo. 843,616, pub. 11–21–67. Cl. 21.
Norcross, Inc., New York, N.Y. 843,718, pub. 11–21–67. Cl. 37.

Norris, Garland C., & Co., Raleigh, N.C., by Garland C. Norris, Inc., Lakeland, Fla. 320,287, 12(c) pub. 2–6–68. Cl. 46.
Norris, Garland C., Inc.: *See*—
Norris, Garland C., & Co.
Norwich Pharmacal Co., The, Norwich, N.Y. 431,807, 12(c) pub. 2–6–68. Cl. 51.
Norwich Pharmacal Co., The, Norwich, N.Y. 435,001, ren. 2–6–68. Cl. 18.
Nuclear Research Associates, Inc., Long Island City, N.Y. 843,757, pub. 11–21–67. Cl. 44.
O & A Lure Mfg.: *See*—
Stone, Oscar L.
Office Equipment Mfg. Co., Inc., Dallas, Tex. 843,706, pub. 11–21–67. Cl. 32.
Ohio Pacific Corp., Canton, Ohio. 725,246, canc. Cl. 16.
Old Boone Distillery Co., d.b.a. Fairfield Distillery Co., Louisville, Ky. 843,895. Cl. 49.
Old 97 Co.: *See*—
Knight, John B., Sr.
Oliver Corp., The: *See*—
Cletrac Corp.
Omega Phi Alpha-Voluntary Assn., Bowling Green, Ohio. 843,867, pub. 11–21–67. Cl. 200.
Omega, Simmon, Inc., Woodside, N.Y. 843,683, pub. 11–21–67. Cl. 26.
Orbit Pest Control: *See*—
Clifton, William H.
Ortho Diagnostics: *See*—
Ortho Pharmaceutical Corp.
Ortho Pharmaceutical Corp., d.b.a. Ortho Diagnostics, Raritan, N.J. 843,509, pub. 11–21–67. Cl. 6.
Outward Bound, Inc., Andover, Mass. 843,865, pub. 11–21–67. Cl. 200.
Ovaltine Food Products: *See*—
Wander Co., The.
Overmyer, D. H., Co., Inc., New York, N.Y. 843,847, pub. 11–21–67. Cl. 101.
Panel-Clip Co., The, Farmington, Mich. 843,874. Cl. 12.
Pangburn Co., Inc.: *See*—
Brown, C. H.
Pantsmaker, Inc., New York, N.Y. 843,732, pub. 11–21–67. Cl. 39.
Panzier Associates, Inc., New York, N.Y. 843,727, pub. 11–21–67. Cl. 39.
Parke, Davis & Co., Detroit, Mich. 843,587, pub. 11–21–67. Cl. 18.
Pastene & Co., Inc.: *See*—
Pastene, P., & Co.
Pastene, P., & Co., Boston, Mass., to Pastene & Co., Inc., New York, N.Y. 67,037, ren. 2–6–68. Cl. 46.
Pastene, P., & Co., Boston, Mass., to Pastene & Co., Inc., New York, N.Y. 67,074, ren. 2–6–68. Cl. 46.
Peerless Confection Co., Chicago, Ill. 843,779, pub. 11–21–67. Cl. 46.
Pennsalt Chemicals Corp.: *See*—
Pennsylvania Salt Mfg. Co., The.
Pennsalt Chemicals Corp., Philadelphia, Pa. 843,871. Cl. 6.
Pennsylvania Electronics Technology, Inc., Pittsburgh, Pa. 843,611, pub. 11–21–67. Cl. 21.
Pennsylvania Salt Mfg. Co., The, by Pennsalt Chemicals Corp., Philadelphia, Pa. 434,653, 12(c) pub. 2–6–68. Cl. 6.
Pennsylvania Salt Mfg. Co., The, by Pennsalt Chemicals Corp., Philadelphia, Pa. 435,095, 12(c) pub. 2–6–68. Cl. 6.
Pest-Guard Products, Inc., d.b.a. Danbar Products, Dallas, Tex. 843,797, pub. 11–21–67. Cl. 50.
Peyser, David, Sportswear, Inc., New York, N.Y. 843,726, pub. 11–21–67. Cl. 39.
Pfizer, Chas., & Co., Inc.: *See*—
Bengue, Inc.
Pharmaco, Inc., Kenilworth, N.J. 843,804, pub. 11–21–67. Cl. 51.
Morris, Philip, Inc.: *See*—
Lightfoot Schultz Co.
Morris, Philip, Inc., New York, N.Y. 843,566, pub. 11–21–67. Cl. 17.
Phoenix Products Co., Inc., Milwaukee, Wis. 843,476, pub. 11–21–67. Cl. 2.
Piefer Co.: *See*—
Viejo, Miguel.
Pillsbury Co., The, Minneapolis, Minn. 843,777, pub. 11–21–67. Cl. 46.
Playland Toy Corp., New York, N.Y. 725,316, canc. Cl. 22.
Pool Mfg. Co., Sherman, Tex. 236,938, ren. 2–6–68. Cl. 39.
Porter, H. K., Co., Inc., Pittsburgh, Pa. 843,710, pub. 11–21–67. Cl. 34.
Prentiss Drug & Chemical Co., Inc., New York, N.Y. 843,830, pub. 11–21–67. Cl. 52.
Presto Products Co., New York, N.Y., to National Presto Industries, Inc., Eau Claire, Wis. 236,795, ren. 2–6–68. Cl. 21.
Primrose Confectionery Co., Ltd., Slough, England. 725,426, canc. Cl. 46.
Prince Matchabelli: *See*—
Chesebrough-Pond's Inc.
Procter & Gamble Co., The, Cincinnati, Ohio. 725,417, canc. Cl. 46.
Professional Basketball Association Corp., Worthington, Ohio. 843,632, pub. 11–21–67. Cl. 22.
Professional Golf Co., Chattanooga, Tenn. 843,636, pub. 11–21–67. Cl. 22.
Pryor Mfg. Co., Mansfield, Ohio. 434,741, ren. 2–6–68. Cl. 14.
Purdue Frederick Co., The, Yonkers, N.Y. 843,579, pub. 11–21–67. Cl. 18.
Purex Corp. Ltd., Lakewood, Calif. 843,834, pub. 11–21–67. Cl. 52.
Purex Corp., Ltd., Lakewood, Calif. 843,870. Cl. 4.
Quaker Oats Co., The, Chicago, Ill. 843,783, pub. 11–21–67. Cl. 46.
Quest, Inc., Charlotte, N.C. 843,882. Cl. 45.
Raab, Andrea, Corp., Brooklyn, from Select Beauty Brands, Great Neck, N.Y. 843,898. Cl. 51.
Rachefsky, Daniel, d.b.a. Custom Drapery Cleaners Division of Fresh Cleaners, Washington, D.C. 843,857, pub. 11–21–67. Cl. 103.
Rain-Flow Systems, Inc., Indianapolis, Ind. 843,530, pub. 11–21–67. Cl. 12.
Raytheon Co., Lexington, Mass. 843,672, pub. 11–21–67. Cl. 26.
Realistic Co., The, Cincinnati, Ohio. 843,799, pub. 11–21–67. Cl. 51.
Redken Laboratories, Inc., Van Nuys, Calif. 843,821, pub. 11–21–67. Cl. 51.
Reef-Baker Corp.: *See*—
Wright, Evan H.
Reliance Universal Inc., Louisville, Ky. 843,552, pub. 3–30–65. Cl. 16.
Republic Steel Corp., Cleveland, Ohio. 843,677, pub. 11–21–67. Cl. 26.
Ressel, O. O., d.b.a. Woodrow Wilson Co., Corona Del Mar, Calif. 843,720, pub. 8–3–65. Cl. 38.
Reuter, Harold, & Co., Inc., New York, N.Y. 843,688, pub. 11–21–67. Cl. 26.
Revere Copper & Brass Inc., New York, N.Y. 843,875–6. Cl. 13.
Rexall Drug Co.: *See*—
Rexall Drug & Chemical Co.
Rexall Drug & Chemical Co., d.b.a. Rexall Drug Co., Los Angeles, Calif. 843,567, pub. 3–23–65. Cl. 18.
Rexall Drug & Chemical Co., d.b.a. Riker Laboratories, Los Angeles, Calif. 843,586, pub. 11–21–67. Cl. 18.
Reynolds Metals Co., Richmond, Va. 843,522, pub. 11–21–67. Cl. 12.
Riker Laboratories: *See*—
Rexall Drug & Chemical Co.
Rite-Fresh Juice Co., The: *See*—
New Century Beverage Co.
Robaire, Raymond, d.b.a. Robaire's French Restaurant, Sherman Oaks, Calif. 843,770, pub. 11–21–67. Cl. 46.
Robaire's French Restaurant: *See*—
Robaire, Raymond.
Robertson, J. A., & Sons (Dumfries) Ltd., Dumfries, Scotland. 239,122, ren. 2–6–68. Cl. 39.
Robins, A. H., Co., Inc., Richmond, Va. 843,568, pub. 11–14–67. Cl. 18.
Rose of Latakia Mfg. Co., Inc., New York, N.Y. 725,247, canc. Cl. 17.
Rose Patch & Label Co., Grand Rapids, Mich. 843,649, pub. 11–21–67. Cl. 23.
Rosemount Engineering Co., Minneapolis, Minn. 843,610, pub. 11–21–67. Multiple Class (Classes 21, 22, 26, and 39).
Ross, M. C., Mfg. Co. Inc., New York, N.Y. 434,350, ren. 2–6–68. Cl. 39.
Ross, M. C., Mfg. Co. Inc., New York, N.Y. 434,352, ren. 2–6–68. Cl. 39.
Rubinstein, Helena, Inc., New York, N.Y. 436,493, ren. 2–6–68. Cl. 51.
S-B Mfg. Co., Milwaukee, Wis. 843,532, pub. 11–21–67. Multiple Class (Classes 13 and 50).
SCM Corp., New York, N.Y., from The Glidden Co., Cleveland, Ohio. 843,461, pub. 11–21–67. Cl. 1.
SCM Corp., New York, N.Y., from The Glidden Co., Cleveland, Ohio. 843,495, pub. 11–21–67. Cl. 6.
SCM Corp., New York, N.Y., from The Glidden Co., d.b.a. Durkee Famous Foods, Cleveland, Ohio. 843,767, pub. 10–24–67. Cl. 46.
SCM Corp., New York, N.Y., from The Glidden Co., Cleveland, Ohio. 843,877. Cl. 16.
S & D Products, Inc., Prairie du Chien, Wis. 843,873. Cl. 10.
S-P Mfg. Corp., The, Cleveland, Ohio. 843,534, pub. 11–21–67. Multiple Class (Classes 13 and 23).
Salzenbrodt & Co. G.m.b.H., Berlin-Wittenau, Germany. 725,205. canc. Cl. 4.
Sama & Etani, Inc., Groton, Mass. 843,673, pub. 11–21–67. Cl. 26.
Samson Plastics, Inc., Cherry Hill, N.J. 843,474–5, pub. 11–21–67. Multiple Class (Classes 2, 32, and 44).
San Lorenzo Nursery Co., Los Angeles, Calif. 843,465, pub. 11–21–67. Cl. 1.
Sargent Paint Mfg. Co., The, Indianapolis, Ind. 843,558, pub. 11–21–67. Cl. 16.
Schenley Industries, Inc., d.b.a. Weston Winery, New York, N.Y. 725,443. canc. Cl. 47.
Schieffelin & Co., New York, N.Y. 725,373, canc. Cl. 38.
Schwinn Bicycle Co., from Arnold, Schwinn & Co., Chicago, Ill. 843,594, pub. 11–21–67. Cl. 19.
Scientific Anglers, assor. to Scientific Anglers, Inc., by Scientific Anglers, Inc., Midland, Mich. 434,659–60, 12(c) pub. 2–6–68. Cl. 6.
Scientific Anglers, Inc.: *See*—
Scientific Anglers.
Scientific Anglers Inc., Midland, Mich. 843,621, pub. 11–21–67. Cl. 22.
Scott, H. H., Inc., Maynard, Mass. 843,605. pub. 11–21–67. Cl. 21.
Scovill Mfg. Co., Racine, Wis. 843,603, pub. 2–14–67. Cl. 21.
Sears, Roebuck & Co., Chicago, Ill. 725,279, canc. Cl. 19.
Seiberling Rubber Co., to The Firestone Tire & Rubber Co., Akron, Ohio. 172,503, ren. 2–6–68. Cl. 35.
Select Beauty Brands: *See*—
Raab, Andrea, Corp.
Selfix, Inc., Chicago, Ill. 843,700, pub. 11–21–67. Cl. 32.
Selmer, H. & A., Inc., Elkhart, Ind. 843,713, pub. 11–21–67. Cl. 36.
Sessions Co., Inc., d.b.a. House of Sessions, Enterprise, Ala. 843,885. Cl. 46.

Shell Oil Co.: *See*—
Shell Oil Co., Inc.
Shell Oil Co., Inc., San Francisco, Calif., to Shell Oil Co., New York, N.Y. 435,115, ren. 2–6–68. Cl. 6.
Sherry, Louis, Inc., Long Island City, N.Y. 843,780, pub. 11–21–67. Cl. 46.
Siebert, Lee S., Kansas City, Mo., from Stanray Corp., Chicago, Ill. 843,596, pub. 10–31–67. Cl. 19.
Sileps, Inc., Charlotte, N.C. 843,536, pub. 11–21–67. Cl. 13.
Simcoe: *See*—
Simpson, Alden H.
Simonsen Radio A/S, Oslo, Norway. 843,609, pub. 11–21–67. Multiple Class (Classes 21 and 26).
Simpson, Alden H., d.b.a. Simcoe, Springfield, Mass. 843,623, pub. 11–21–67. Cl. 22.
Sisler Enterprises: *See*—
Sisler, Robert L.
Sisler, Robert L., d.b.a. Sisler Enterprises, Bothell, Wash. 843,795, pub. 11–21–67. Cl. 50.
Sleepmaster Products Co., Inc., Newark, N.J. 843,705, pub. 11–21–67. Cl. 32.
Smith-Berger Mfg. Corp., d.b.a. Smith Berger Mfg. Corp., Seattle, Wash. 843,661–2, pub. 11–21–67. Cl. 23.
Smith Corners Motors: *See*—
Johnson, Smith, Motor Corp.
Snark Products, Inc., Fort Lee, N.J. 843,597, pub. 11–21–67. Cl. 19.
Societe Anonyme des Etablissements Roure-Bertrand Fils et Justin Dupont, Paris, France. 433,500–1, 12(c) pub. 2–6–68. Cl. 6.
Societe Belge de l'Azote et des Produits Chimiques Du Marly, Piercot, Liege, Belgium. 843,582, pub. 11–21–67. Cl. 18.
Societe des Fabriques de Spiraux Reunies, Geneva, Switzerland. 843,545, pub. 11–21–67. Multiple Class (Classes 14 and 27).
Society of American Florists & Ornamental Horticulturists, Washington, D.C. 843,866, pub. 11–21–67. Cl. 200.
Sola Basic Industries, Inc.: *See*—
Lindberg Engineering Co.
Solitron Devices, Inc., Tappan, N.Y. 843,619, pub. 11–21–67. Cl. 21.
Sondra Mfg. Co., Inc., New York, N.Y. 843,748, pub. 11–21–67. Cl. 42.
Southern Shell Fish Co.: *See*—
Dunbar-Dukate Co., Inc.
Southwestern Drug Corp., d.b.a. Tru-Lab Products, Dallas, Tex. 843,878. Cl. 18.
Southwestern Drug Corp., d.b.a. Truett Laboratories, Dallas, Tex. 843,888. Cl. 46.
Sponholtz, Louis: *See*—
Detroit-Star Grinding Wheel Co.
Staff Supermarket Associates, Inc., Jericho, N.Y. 843,480, pub. 11–21–67. Cl. 4.
Stake Your Claim Co.: *See*—
Grand Union Co., The.
Stanray Corp.: *See*—
Siebert, Lee S.
Stayton Canning Co. Cooperative, Stayton, Oreg. 438,239, ren. 2–6–68. Cl. 46.
Sterling Drug Inc.: *See*—
Winthrop Chemical Co., Inc.
Stetson China Co., Lincoln, Ill. 725,196, canc. Cl. 2.
Stevens, J. P., & Co., Inc., New York, N.Y. 843,728, pub. 11–21–67. Cl. 39.
Stone Conveyor Co., Inc., Honeoye, N.Y. 843,641, pub. 10–17–67. Cl. 23.
Stone, Oscar L., d.b.a. O & A Lure Mfg., Kansas City, Mo. 725,312, canc. Cl. 22.
Stors Broadcasting Co., Omaha, Nebr. 843,862, pub. 11–21–67. Cl. 107.
Strathmore Paper Co., West Springfield, Mass. 725,361, canc. Cl. 37.
Sunshine Cleaners: *See*—
Berry, O. D.
Superba Cravats, Inc.: *See*—
Cohn, H. C., & Co.
Superior Foods, Inc., Dallas, Tex. 843,771, pub. 11–21–67. Cl. 46.
Superweld Corp., North Hollywood, Calif. 725,292, canc. Cl. 21.
Surelock Mfg. Co., Inc., Brooklyn, N.Y. 725,469, canc. Cl. 19.
Sweep Systems Inc., Indianapolis, Ind. 843,689, pub. 11–21–67. Cl. 26.
Sweetheart Paper Products Co., Inc., Chelsea, Mass. 437,193, ren. 2–6–68. Cl. 2.
Swingline Inc., Long Island City, N.Y. 843,484, pub. 11–21–67. Multiple Class (Classes 5, 12, and 14).
Synterra Corp., Sacramento, Calif. 843,529, pub. 11–21–67. Cl. 12.
Takasago Koryo Kogyo Kabushiki Kaisha, Tokyo, Japan. 843,487, pub. 11–21–67. Cl. 6.
Talon, Inc., Meadville, Pa. 500,156–61, ren. 2–6–68. Cl. 40.
Talon, Inc., Meadville, Pa. 500,497–9, ren. 2–6–68. Cl. 8.
Tangent Products Corp., Poughkeepsie, N.Y. 843,528, pub. 11–21–67. Cl. 12.
Techni Electronics, Inc., Orange, N.J. 725,314, canc. Cl. 22.
Teis Medical Services Directories: *See*—
Topp, William L.
Tennent Caledonian Breweries Ltd.: *See*—
Tennent, J. & R., Ltd.
Tennent, J. & R., Ltd., by Tennent Caledonian Breweries Ltd., Glasgow, Scotland. 59,886, 12(c) pub. 2–6–68. Cl. 48.
Terry, Addison, Co., Inc., The, Covington, Ga. 843,622, pub. 11–21–67. Cl. 22.
Tescom Corp., Minneapolis, Minn. 843,707–8, pub. 11–21–67. Cl. 34.
Tessaro, Santo, d.b.a. Calzaturificio di Santo Tessaro, and Calzaturificio Di Sante Tessaro, Treviso, Italy. 843,625, pub. 11–21–67. Cl. 22.
Texas Refinery Corp., Fort Worth, Tex. 843,833, pub. 11–21–67. Cl. 52.
Textiles Phenix Ltee.—Phenix Textiles Ltd., St. Hyacinthe, Quebec, Canada. 843,753–4, pub. 11–21–67. Cl. 43.
Textron, Inc., Providence, R.I. 843,759, pub. 11–21–67. Cl. 44.
Theodor Mfg. Corp., Los Angeles, Calif. 725,201, canc. Cl. 3.
Thunderhead Laboratories, Inc., Dewitt, N.Y. 843,571, pub. 11–21–67. Cl. 18.
Tillamook County Creamery Association, Tillamook, Oreg. 843,769, pub. 4–4–67. Cl. 46.
Toneall Corp., Ltd., Paris, Ontario, Canada. 843,628, pub. 11–21–67. Cl. 22.
Toni Co., The: *See*—
Gillette Co., The.
Toole Canning Industries, Inc., La Grange, Ga. 725,461, canc. Cl. 52.
Tootsie Roll Industries, Inc., Hoboken, N.J. 843,891. Cl. 46.
Topp, William L., d.b.a. Teis Medical Services Directories, Seattle, Wash. 725,365, canc. Cl. 38.
Toussanint Sinibaldi, Paris, France. 843,648, pub. 11–21–67. Cl. 23.
Toyota Motor Co., Ltd., Aichi-ken, Japan. 843,599, pub. 11–21–67. Cl. 19.
Trent Tube Mfg. Co., East Troy, Wis., to Crucible Steel Co. of America, Pittsburgh, Pa. 435,444, ren. 2–6–68. Cl. 13.
Trent Tube Mfg. Co., East Troy, Wis., to Crucible Steel Co. of America, Pittsburgh, Pa. 436,791, ren. 2–6–68. Cl. 13.
Triangle Chemical Co., Macon, Ga. 843,499, pub. 11–21–67. Cl. 6.
Trina, Inc., Fall River, Mass. 843,825, pub. 12–27–66. Cl. 52.
Tronic Corp., Belmont, Calif. 843,665–6, pub. 11–21–67. Cl. 23.
True Temper Corp., Cleveland, Ohio. 843,630, pub. 11–21–67. Cl. 22.
Truett Laboratories: *See*—
Southwestern Drug Corp.
Tru-Lab Products: *See*—
Southwestern Drug Corp.
Tulsa Fittings Corp., Tulsa, Okla. 843,541, pub. 11–21–67. Cl. 13.
Ulmann, Bernhard, Co., Inc., by Indian Head Inc., New York, N.Y. 436,101, 12(c) pub. 2–6–68. Cl. 43.
Ulmann, Bernhard, Co., Inc., by Indian Head Inc., New York, N.Y. 437,255, 12(c) pub. 2–6–68. Cl. 43.
Union Carbide Corp., New York, N.Y. 843,472, pub. 11–21–67. Cl. 2.
Union Carbide Corp., New York, N.Y. 843,653, pub. 11–21–67. Cl. 23.
Union Fork and Hoe Co., The, Columbus, Ohio. 843,652, pub. 11–21–67. Cl. 23.
Union Steel Chest Corp., Leroy, N.Y. 843,471, pub. 11–21–67. Multiple Class (Classes 2, 22, and 25).
Uniroyal, Inc.: *See*—
American Rubber Co.
National India Rubber Co.
Uniroyal, Inc., from United States Rubber Co., New York, N.Y. 843,711, pub. 8–29–67. Cl. 35.
Uni-Tech Chemical Mfg. Co., Sun Valley, Calif. 843,510–11, pub. 11–21–67. Cl. 6.
United Cabinet Corp., Jasper, Ind. 843,702, pub. 11–21–67. Cl. 32.
United Control Corp., from United Control Corp., Redmond, Wash. 843,675–6, pub. 11–21–67. Cl. 26.
United Development Laboratories, Austin, Tex. 725,460, canc. Cl. 52.
United Industrial Corp., Los Angeles, Calif. 725,238, canc. Cl. 14.
United Newspaper Magazine Corp., New York, N.Y. 725,470, canc. Cl. 38.
U.S. Plywood-Champion Papers Inc., from United States Plywood Corp., New York, N.Y. 843,483, pub. 11–21–67. Multiple Class (Classes 5, 6, 12, 16, 22, and 32).
U.S. Plywood-Champion Papers Inc., New York, N.Y., from Del-Mar Industries, Inc., Fulton, Ga. 843,699, pub. 11–21–67. Cl. 32.
United States Plywood Corp.: *See*—
U.S. Plywood-Champion Papers Inc.
United States Rubber Co.: *See*—
Uniroyal, Inc.
United States Steel Corp., Pittsburgh, Pa. 843,485, pub. 11–21–67. Cl. 5.
Universal Metal Hose Co., Chicago, Ill. 843,537, pub. 11–21–67. Cl. 13.
Vajtay, Leslie, Perth Amboy, N.J. 843,869. Cl. 2.
Van Geuns, Jacob, The Hauge, Netherlands. 725,278, canc. Cl. 19.
Van Gorp Mfg., Inc., Pella, Iowa. 843,655, pub. 11–21–67. Cl. 23.
Vaughan & Bushnell Mfg. Co., Chicago, Ill. 843,657, pub. 11–21–67. Cl. 23.
Vectron Laboratories, Inc., Stamford, Conn. 843,613, pub. 11–21–67. Cl. 21.
Vernitron Corp., d.b.a. Medical Products Division, Farmingdale, N.Y. 843,762, pub. 11–21–67. Cl. 44.
Vernon, S. E. & M., Inc., New York, N.Y. 725,362, canc. Cl. 37.
Viejo, Miguel, d.b.a. Piefer Co., New York, N.Y. 843,491, pub. 11–21–67. Cl. 6.
Viro Innocenti S.p.A., Zola Predosa, Bologna, Italy. 843,669, pub. 11–21–67. Cl. 25.
Vita Elixir Co., Inc., Atlanta, Ga. 843,583, pub. 11–21–67. Cl. 18.

Waldorf Paper Products Co., St. Paul, Minn. 843,467, pub. 11–21–67. Cl. 2.
Walter, Louis, & Co., Inc., Kansas City, Mo. 725,389, canc. Cl. 39.
Wander Co., The, d.b.a. Ovaltine Food Products, Chicago, Ill. 725,423, canc. Cl. 46.
Warner Electric Co., Inc., Chicago, Ill. 843,810–11, pub. 11–21–67. Cl. 51.
Warren-Teed Pharmaceuticals Inc., Columbus, Ohio. 843,580–1, pub. 11–21–67. Cl. 18.
Weight Watchers International, Inc., Forest Hills, N.Y. 843,477, pub. 11–21–67. Cl. 3.
Wellcome Foundation Ltd., The, London, England. 843,573, pub. 11–21–67. Cl. 18.
Westbury Fashions, Inc., New York, N.Y. 843,734–5, pub. 11–21–67. Cl. 39.
Western Supply Co.: *See*—
Wood, Clifton.
Western Technology, Inc., Santa Ana, Calif. 843,667, pub. 11–21–67. Cl. 23.
Weston Winery: *See*—
Schenley Industries, Inc.
Wff 'N Proof: *See*—
Allen, Layman E.
Whitmoyer Laboratories, Inc., to Whitmoyer Laboratories, Inc., Myerstown, Pa. 434,873, ren. 2–6–68. Cl. 18.
Wickhen Products, Inc., Port Jervis, N.Y. 843,493, pub. 11–21–67. Cl. 6.
Wieszeck, Emil S., Salem, N.H. 843,716, pub. 11–21–67. Cl. 37.
Wight Nurseries, Inc., Cairo, Ga. 843,458, pub. 11–21–67. Cl. 1.
Wilson, Woodrow, Co.: *See*—
Ressel, O. O.
Winthrop Chemical Co., Inc., assor. to Winthrop-Stearns Inc., to Sterling Drug Inc., New York, N.Y. 435,101, ren. 2–6–68. Cl. 18.
Wisconsin Drill Head Co., Butler, Wis. 843,653, pub. 11–21–67. Cl. 23.
Wisconsin Wire Works, Appleton, Wis. 843,544, pub. 11–21–67. Multiple Class (Classes 13 and 14).
Wolf, John, Textiles, Inc., New York, N.Y. 725,406, canc. Cl. 42.
Wood, Clifton, d.b.a. Western Supply Co., Ardmore, Okla. 725,376, canc. Cl. 39.
Wood Conversion Co.: *See*—
Conwed Corp.
Wright, Evan H., Birmingham, Mich., to Reef-Baker Corp., East Detroit, Mich. 434,868, ren. 2–6–68. Cl. 21.
Wright Products: *See*—
Hartzell Mfg., Inc.
Wunda-Brush, Inc., Roosevelt, N.Y. 843,692, pub. 11–21–67. Cl. 29.
Ziebart Process Corp., Detroit, Mich. 843,858, pub. 11–21–67. Cl. 106.
Zip Aerosol Products: *See*—
Mittan Inc.

U.S. GOVERNMENT PRINTING OFFICE: 0—1968

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
February 13, 1968 Volume 847 Number 2

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of December 1967

Examiner affirmed	172
Examiner affirmed in part	25
Examiner reversed	46
Total	243

Claim Interpretation

A number of applications have been found to include statements attempting to restrict the use of the abstract in interpreting the scope of the claims. Although Rule 72(b) expressly states this prohibition, statements of this type should not appear in the printed patent.

Restrictive statements or express limitations relating to the scope of the invention claimed should be omitted from the application. If the limitations are only intended as statements designed to have no effect in the interpretation of the claims, the language is wholly unnecessary and should be cancelled as surplusage. On the other hand, if the statements are to be used in the interpretation of claims, said statements are clearly improper and should be deleted. Title 35 U.S.C. 112 requires that an applicant shall particularly point out and distinctly claim the subject matter, or combination which he claims as his invention or discovery.

Whenever any restricting statement concerning the claims appears in an application, cancellation will be required; in this regard the cancellation shall be effected by Examiner's amendment if the application is otherwise ready for allowance.

RICHARD A. WAHL,
Jan. 15, 1968. *Assistant Commissioner.*

Brackets and Rule 121—Amendment of Claims

In view of the number of inquiries requesting an interpretation of the word "brackets" appearing in amended Rule 121 concerned with the amendment of claims, it is thought that clarification is desirable.

The term brackets [ ] as set forth in the amendment to Rule 121 and first announced in 843 O.G. 373 does not encompass and is to be distinguished from parentheses ( ). Therefore, any amendment using parentheses to indicate cancelled matter in a claim rewritten under Rule 121(b) may be held non-responsive in accordance with Rule 121(c).

RICHARD A. WAHL,
Jan. 15, 1968. *Assistant Commissioner.*

Joint United States-Republic of the Philippines Program

I am pleased to announce the availability of an exchange program on examination results between the United States and the Republic of the Philippines. The program involves patent applications filed in the United States which are subsequently followed by corresponding applications filed in the Republic of the Philippines and patent applications filed in the Philippines subsequently followed by corresponding applications filed in the United States.

The program would operate as follows:

The applicant would file his application in the U.S. Patent Office which would process the application in the normal manner and examine the application in the usual time sequence.

If the applicant should later file a corresponding application in the Philippines Patent Office, he may elect to use the special filing procedure. Under this special filing procedure, applicant files his application in the Philippines accompanied by a notice of election to participate in the special procedure; which notice of election contains a certification that the description (excluding references to related applications), claims and drawings are identical to those of the corresponding application originally filed in the United States. The earlier filed application must be fully identified; and, in applications without a claim of priority, a certified copy of the earlier filed U.S. application must be submitted to the Philippines Patent Office. In addition, applicant must also agree that all amendments to his U.S. application will also be made with respect to his application filed in the Philippines.

In the U.S. Patent Office, applicant will regularly file two copies of each amendment, one copy must be marked "Copy for Philippines Patent Office." Upon termination of proescution the U.S. Patent Office shall remove all copies so marked from the U.S. file and promptly forward the same to the Philippines Patent Office.

Election forms for participation in this special program must be signed in duplicate and simultaneously accompany the application to be filed in the Philippines.

Upon receipt of properly filed notice of election, the Philippines Patent Office would notify the U.S. Patent Office of the election by forwarding one copy of the election forms to the U.S. Patent Office. The Philippines Office would defer action on the Philippines application pending receipt of information as to the disposition of the application by the U.S. Patent Office. If no such information is received by the Philippines Office within a reasonable amount of time from the date of filing in the Philippines, the Philippines Office may, either on its own initiative, or at applicant's request, inquire as to the status of the U.S. application and, if desired, proceed with its own independent examination.

Upon disposal of the application by the U.S. Patent Office, appropriate information will be sent to the Philippines Patent Office which will include all necessary identifying data, whether allowed or abandoned, notice of allowance, copies of documents cited during examination, a copy of the last office action and, when necessary, any earlier actions which may be included by reference in the last action. The Philippines Office would then make their own complete office action based upon the claims as amended with the U.S. Patent Office, performing whatever checks desired and search for copending interfering applications. Alternatively, the Philippines may request applicant to show cause why the results of the U.S.

New Applications Received During December 1967

Patents	7654
Designs	396
Plant Patents	12
Reissues	35
Total	8097

Issue—February 13, 1968

Patents	1035	No. 3,368,220	to No.	3,369,254, incl.
Designs	76	No. 210,113	to No.	210,188, incl.
Plant Patents	1	No. 2,796		
Reissues	3	No. 26,342	to No.	26,344, incl.
Total	1115			

examination should not be accepted in the Philippines. All avenues of appeal would remain open to the applicant.

Where copending applications are cited and applied during examination in the U.S. Patent Office, full examination would not be forwarded to the Philippines Patent Office, and the fact that a U.S. copending application was cited would be noted as a matter of information, since such references would be inapplicable in the Philippines.

Where the application originates in the Philippines Patent Office and is subsequently filed in the U.S. Patent Office, a similar procedure as outlined above consonant with U.S. Law will be followed.

It is believed that this program will facilitate the handling of U.S. origin applications filed in the Republic of the Philippines resulting in a savings in time and expense of prosecution to U.S. applicants.

Election forms for participation in this special program are now available from The Foreign Exchange Section, Office of Patent Services.

GERALD D. O'BRIEN,
Assistant Commissioner.

Adjudicated Patents

(D.C.N.J.) Rickes and Wood Patent No. 2,563,794 (167—81), for VITAMIN B-12. Claim 1 *Held* valid and infringed. *Merck and Co., Inc.* v. *Chase Chemical Co.*, 273 F. Supp. 68; 155 USPQ 139.

(D.C. Wis.) Leach, Manthie and Clapp Patent No. 2,580,306 (306—56), for SILO UNLOADER. *Held* valid. *Leach* v. *Badger Northland, Inc.*, 272 F. Supp. 750; — USPQ —.

(D.C. Mich.) Thomson Patent No. 2,610,910 (51—298), for NEOPRENE-PHENOLIC ADHESIVE CEMENT, *Held* invalid. *Minnesota Mining & Mfg. Co.* v. *Kent-Industries, Inc.*, 274 F. Supp. 993; 155 USPQ 211.

(D.C.N.J.) Rickes and Wood Patent No. 2,703,302 (167—81), for ACTIVE COMPOSITION AND PROCESS OF PREPARING SAME. Claims 1 to 3 *Held* invalid and infringed; claims 4 to 6, 11 and 12 *Held* invalid. *Merck & Co. Inc.* v. *Chase Chemical Co.*, 273 F. Supp. 68; 155 USPQ 139.

(D.C. Md.) Bruck and Mittins Patent No. 2,842,170 (143—68), for SABER SAW STRUCTURE. Claims 1 to 3 *Held* valid and infringed. *Porter-Cable Mach. Co.* v. *Black & Decker Mfg. Co.*, 284 F. Supp. 905; 155 USPQ 491.

(D.C. Dist. of Columbia) Ploeger Patent No. 3,010,559 (197—172), for PRINTING RIBBON, *Held* invalid. *Filmon Process Corp.* v. *Spellright Corp.*, 155 USPQ 635.

(D.C.N.C.) Sarbo Patent No. 3,059,458 (66—171), for FOOT COVER AND METHOD OF MANUFACTURING SAME. Claim 3 *Held* valid and infringed. *Wayne Knitting Mills* v. *Russell Hosiery Mills, Inc.*, 274 F. Supp. 934; 155 USPQ 577.

(D.C. Pa.) Niles Patent No. 3,050,186 (206—59), for PACKAGING FOR SMALL UNIFORM ARTICLES, *Held* unpatentable. *Allen Bradley Co.* v. *Air Reduction Co.*, 273 F. Supp. 930; — USPQ —.

(D.C. Ill.) Edward Patent No. 3,061,139 (220—44), for SELF-VENTING PACKAGE. Claims 1 and 3 to 13 *Held* valid and infringed. *Illinois Tool Works, Inc.* v. *Continental Can Co.*, 273 F. Supp. 94; 154 USPQ 401.

(D.C. Ill.) Edward Patent No. 3,139,213 (220—97), for NESTABLE CUP. Claims 1, 5, 6 and 9 *Held* valid and infringed. *Id.*

(D.C. Mass.) Tichmor Patent No. 3,259,304 (229—92.8), for POSTCARDS, *Held* invalid but infringed if valid. *Colourpicture Publishers, Inc.* v. *Mike Roberts Color Publications, Inc.*, 272 F. Supp. 280; 155 USPQ 505.

Disclaimers and Dedications

2,750,885.—*Marcel Schlumberger*, Paris France. ALIGNING MEANS FOR SHAPED CHARGE PERFORATING APPARATUS. Patent dated June 19, 1956. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,764,937.—*Marcel Schlumberger*, Paris, France. APPARATUS FOR PERFORATING WELL CASINGS BY MEANS OF SHAPED CHARGES. Patent dated Oct. 2, 1956. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,764,938.—*Robert Traill Harcus*, Long Beach, Calif. OPEN HOLE CARRIER. Patent dated Oct. 2, 1956. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,766,690.—*Maurice P. Lebourg*, Houston, Tex. SYSTEM FOR SETTING OFF EXPLOSIVE CHARGES. Patent dated Oct. 16, 1956. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,779,278.—*Robert L. Klotz, Jr.*, Haselton, Pa. APPARATUS FOR PERFORATING WELL CASINGS. Patent dated Jan. 29, 1957. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,782,715.—*John J. Udry*, South Gate, Calif. WELL PERFORATOR. Patent dated Feb. 26, 1957. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,785,631.—*André Blanchard*, Houston, Tex. SHAPED EXPLOSIVE-CHARGE PERFORATING APPARATUS. Patent dated Mar. 19, 1957. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,792,783.—*Jacques Delacour*, Paris, France. SHAPED CHARGE PERFORATOR. Patent dated May 21, 1957. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,796,022.—*Jacques Delacour*, Paris, France. SHAPED CHARGE PERFORATING APPARATUS FOR USE IN WELLS AND THE LIKE. Patent dated June 18, 1957. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,811,921.—*Glen R. Hodgson*, Houston, Tex. SHAPED EXPLOSIVE CHARGE APPARATUS WITH ADJUSTABLE CHARGE SPACING. Patent dated Nov. 5, 1957. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

Patents Available for Licensing or Sale

3,334,285. CONSTANT PRESSURE PUMP CONTROL FOR SUPPLY SYSTEM. F. H. Blake, 5712 Rutgers Road, La Jolla, Calif., 92037.

3,358,850. MOBILE MANIPULATIVE TOY FOR CHILD PARTICIPATION. Kenneth G. Neils. Correspondence to: Berman, Davidson and Berman, O.F.C. Building, 1730 Rhode Island Ave. NW., Washington, D.C., 20036.

3,363,794. ARTICLE LIFT FOR CONTAINERS. Joseph L. Dearing, Rte. 2, W. Crabtree Road, Hixson, Tenn., 37343.

The following 2 patents are offered by: Th. Kieserling & Albrecht. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,350,920. APPARATUS FOR TESTING TUBULAR WORKPIECES.

3,350,921. APPARATUS FOR TESTING TUBES.

The Kearney & Trecker Corporation offers to grant nonexclusive licenses on reasonable terms and conditions under the following patent.

Inquiries respecting licenses should be addressed to: Patent Counsel, Kearney & Trecker Corporation, 11000 Theodore Trecker Way, Milwaukee, Wis., 53214.

Re. 25,812. AUTOMATIC MACHINE TOOL.

The Waltemata Company, Ltd. is prepared to grant nonexclusive licenses under the following patent upon reasonable terms to domestic manufacturers.

Applications for license should be directed to: McCarthy & McCarthy, P.O. Box 48, Toronto Dominion Centre, Toronto 1, Ontario, Canada.

3,234,026. PROCESS FOR THE MANUFACTURE OF BEER, ALE AND THE LIKE.

The Procter & Gamble Company will grant irrevocable, royalty-free, non-exclusive licenses under the following patents.

Requests for license should be addressed to: T. F. Waters, Director, Patent Division, The Procter & Gamble Company, Ivorydale Technical Center, Cincinnati, Ohio, 45217.

3,272,634. CONTINUOUS BREAD MAKING PROCESS WITH NORMALLY LIQUID SHORTENING.

3,350,207. CONTINUOUS BREAD MAKING PROCESS WITH PUMPABLE SHORTENING CONTAINING A HIGH LEVEL OF FATTY TRIGLYCERIDE SOLIDS.

The Radio Corporation of America offers to grant nonexclusive licenses on reasonable terms and conditions under the following patents.

Inquiries respecting licenses under these patents should be addressed to: Radio Corporation of America, Staff Vice President, Domestic Licensing, 30 Rockefeller Plaza, New York, N.Y., 10020.

3,356,373. TONE ARM LATCHING DEVICE.

3,356,374. SUSPENSION SYSTEM FOR STEREOPHONIC PICKUPS.

3,356,543. METHOD OF DECREASING THE MINORITY CARRIER LIFETIME BY DIFFUSION.

3,356,959. WIDE BAND TRANSISTOR VIDEO SIGNAL AMPLIFIER.

3,356,998. MEMORY CIRCUIT USING CHARGE STORAGE DIODES.

3,357,533. PRINTER HAVING PRINT BARS WITH ZIG-ZAG STRUTS OUT OF PHASE.

3,358,175. CATHODE RAY TUBE WITH MOSAIC TYPE PHOSPHOR SCREEN.

3,358,214. FREQUENCY MULTIPLIERS UTILIZING SELF-RESONANT DIODE MOUNTS.

3,359,375. SWITCHING SYSTEM.

3,359,427. BISTABLE CIRCUIT WITH NEGATIVE RESISTANCE DIODE.

3,360,111. TONER FEED CARTRIDGE.

3,360,480. PROCESS FOR PREPARING YTTRIUM VANADATE PHOSPHORS.

3,360,688. THIN FILM RESISTOR COMPOSED OF CHROMIUM AND VANADIUM.

3,360,696. FIVE-LAYER SYMMETRICAL SEMI-CONDUCTOR SWITCH.

3,360,742. TEMPERATURE COMPENSATED TRANSISTOR BLOCKING OSCILLATOR.

The General Electric Company is prepared to grant nonexclusive licenses under the following 74 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patent may be addressed to: General Electric Company, Patent Counsel, Silicone Products Department, Chemical and Medical Division, Waterford, N.Y., 12188.

3,083,219. INTERCONDENSATION OF TETRAHYDROFURAN WITH ORGANOHALOSILANES.

Applications for license under the following 3 patents may be addressed to: Patent Counsel, Heavy Military Electronics Department, General Electric Company, Legal Section Building, Room 36, Court Street Plant, Syracuse, N.Y., 13201.

2,960,744. EQUILIBRIUM ATMOSPHERE TUNNEL KILNS FOR FERRITE.

3,027,327. PREPARATION OF FERROMAGNETIC FERRITE MATERIALS.

3,243,592. LASER PULSE COMMUNICATION SYSTEM.

Applications for license under the following 8 patents may be addressed to: Patent Counsel, Power Generation Division, General Electric Company, 1 River Road, Bldg. #28, Schenectady, N.Y.

3,206,381. DROPWISE CONDENSATION DISTILLATION APPARATUS.

3,307,419. QUIET GEAR.

3,344,296. ADJUSTABLE RETAINING STRAP FOR DYNAMOELECTRIC MACHINE WINDING.

3,348,081. GAP PICKUP ROTOR WITH GAS SEGREGATING BAFFLES.

3,348,085. SPRING TIGHTENED GENERATOR END TURN SUPPORT CONSTRUCTION.

3,349,264. FIELD COIL CONNECTION FOR FOUR-POLE ROTORS.

3,353,043. CONDUCTOR COOLING SYSTEM FOR DYNAMOELECTRIC MACHINE ROTOR.

3,354,331. HIGH VOLTAGE GRADING FOR DYNAMOELECTRIC MACHINE.

Applications for license under the following 8 patents may be addressed to: General Electric Company, Component Products Division, 1635 Broadway, Fort Wayne, Ind., Attention: Patent Counsel.

Re.26,208. CONTACT TERMINAL AND LAMINATION SECURING ARRANGEMENT FOR ELECTRIC DEVICES AND METHOD OF ASSEMBLING SAME.

2,975,311. SHADED POLE MOTOR.

3,348,109. ELECTRIC MOTOR WINDING ARRANGEMENTS.

3,349,478. METHOD OF MANUFACTURING A ROTOR ASSEMBLY.

3,350,586. DYNAMOELECTRIC MACHINE ELECTRICAL COMPONENT MOUNTING AND LEAD SECURING ARRANGEMENT.

3,350,614. MULTISPEED INDUCTION TYPE ELECTRIC MOTOR.

3,353,251. APPARATUS FOR EFFECTING CONDUCTOR-PLACING OPERATIONS ON ELECTRICAL COILS IN INDUCTIVE DEVICES.

3,355,309. METHOD AND APPARATUS FOR APPLYING COATINGS ONTO ARTICLES OF MANUFACTURE.

Applications for license under the following 11 patents may be addressed to: Patent Counsel, Major Appliance & Hotpoint Division, General Electric Company, Appliance Park, Louisville, Ky., 40225.

3,335,970. FOOD WASTE DISPOSER.

3,339,587. DISCHARGE DEVICE FOR AN AUTOMATIC WASHING MACHINE.

3,343,565. DOMESTIC APPLIANCE.

3,346,000. ANTI-SIPHON DEVICE FOR AN AUTOMATIC WASHER.

3,346,083. SPRING CLUTCH.

3,347,167. IMPELLER FOR CENTRIFUGAL PUMP.

3,347,250. DISHWASHER WITH IMPROVED LIQUID INLET SYSTEM.

3,347,612. RACK SUPPORT SYSTEM.

3,347,613. RACK SLIDE STOP.

3,352,615. CONNECTING STRUCTURE.

3,353,377. WASHING MACHINE WITH IMPROVED POWER CONTROL MEANS.

Applications for license under the following 43 patents may be addressed to: Patent Counsel, Contractor Equipment Division, General Electric Company, 1285 Boston Ave., Bldg. 21ES, Bridgeport, Conn., 06602.

2,552,137. TIME-DELAY RELAY SYSTEM.

2,591,463. MAGNETIC TORQUE DEVICE.
2,614,240. ELECTRIC SEQUENCE AND TIMING CIRCUITS.
2,646,535. ELECTRICAL COIL.
2,659,788. CIRCUIT BREAKER SWITCH UNIT.
2,676,297. ELECTRONIC CONTROL CIRCUITS.
2,721,302. FREQUENCY AND PHASE CONVERTING CONTROL CIRCUIT.
2,733,306. RAPID RESPONSE SELF-SATURATING MAGNETIC AMPLIFIER.
2,740,044. RESISTANCE WELDING MONITOR CONTROL.
2,784,050. CURRENT AND FORCE MEASURING INSTRUMENT FOR WELDING MACHINES.
2,820,861. CIRCUIT CONTROLLER.
2,827,527. NON-BOUNCING MAGNETIC CONTACTOR.
2,836,989. CONTROL DEVICE.
2,856,545. MAGNETIC CONTROL APPARATUS.
2,859,298. ELECTROMAGNETIC APPARATUS.
2,864,049. UNDERVOLTAGE PROTECTING CONTROL SYSTEM.
2,897,293. MAGNETIC AMPLIFIERS WITH BIASED RECTIFIERS.
2,914,705. ILLUMINATED OIL-TIGHT PUSHBUTTON.
2,923,914. PLASTIC-SUPPORTED TERMINAL ASSEMBLY.
2,926,246. SYNCHRONOUS PRECISION SEQUENCE TIMER.
2,926,250. SYNCHRONOUS PRECISION SEQUENCE CONTROL.
2,935,621. ELECTRIC TIME DELAY APPARATUS.
2,938,159. MAGNETIC AMPLIFIERS.
2,958,044. VOLTAGE MEASURING SYSTEM.
2,975,338. COLD CATHODE COUNTING TUBE SEQUENCE CONTROL SYSTEM.
2,976,463. MOTOR-PROTECTING RELAY.
2,983,804. MANUAL MOTOR STARTER.
2,987,593. MAGNETIC SWITCHES.
2,995,735. LOGIC CIRCUITS.
2,999,188. FAIL-SAFE OVERLOAD PROTECTIVE SYSTEM.
3,009,033. LIMIT SWITCHES.
3,014,159. CONDITION RESPONSIVE CONTROL CIRCUITS.
3,022,401. ELECTRICAL SWITCHING DEVICE AND METHOD EMPLOYING LIQUID CONDUCTOR.
3,042,900. SHIFT REGISTERS.
3,046,370. ELECTROMAGNETIC RELAY.
3,046,449. CONDITION RESPONSIVE APPARATUS.
3,047,745. SEMICONDUCTOR TIME DELAY CIRCUITS UTILIZING THE SWITCHING CHARACTERISTICS OF UNIJUNCTION TRANSISTORS.
3,112,385. MANUALLY AND THERMALLY OPERABLE SWTCHING DEVICE HAVING REMOVABLE HEATER ELEMENT.
3,122,615. INTERLOCK MECHANISM FOR ENCLOSED SWITCHING APPARATUS.
3,122,681. ENCLOSED SWITCHING APPARATUS.
3,175,124. ELECTRICAL CONTROL CIRCUITS.
3,182,242. MOTOR STARTER.
3,290,560. ELECTRICAL WIRING SYSTEM.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF DECEMBER 4, 1967

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action: New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	6-22-64	6-19-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	11-27-64	7-23-62
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Manager. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping and Treating Processes.	2-23-65	5-15-62
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	10-19-64	6-28-62
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	5-15-64	9-25-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—E. J. SAX, Manager. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	12-23-64	9-9-63
SECURITY, GROUP 220—S. BOYD, Manager. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	10-5-64	7-30-64
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	5-7-64	5-17-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	4-3-64	3-12-62
PHYSICS, GROUP 280—R. L. EVANS, Manager. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	3-18-65	6-24-63
DESIGNS, GROUP 290—S. BOYD, Manager. Industrial Arts; Household, Personal and Fine Arts.	11-2-66	12-8-65

Total number of pending applications (excluding Designs)	177,245
Total number of Design applications pending	3,740
Total number of applications awaiting action (excluding Designs)	127,040
Total number of Design applications awaiting action	1,746
Date of oldest new application awaiting action	April 3, 1964
Date of oldest amended application awaiting action	March 12, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during February 1968, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1965*.

Patents ..... Numbers 2,540,074 to 2,543,743, inclusive
Plant Patents ..... Numbers 1,003 to 1,006, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	3-3-66	11-12-64
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders; Woodworking; Tools; Cutlery; Jacks; Fasteners.	9-10-65	3-18-63
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	6-28-65	5-12-64
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	5-16-66	4-22-65
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports: Cabinet Structures.	4-20-66	10-21-63
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	10-23-65	2-13-63

DECISIONS IN PATENT AND TRADEMARK CASES

In the United States Patent Office Before the Board of Patent Interferences

RALPH D. ORMSBY AND THE BENDIX CORPORATION
v.
THE ADMINISTRATOR OF THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Patent Interference No. 7/64. Decided October 28, 1965

1. NATIONAL AERONAUTICS AND SPACE ACT OF 1958, SECTION 305—MEANING OF "MADE."

"Section 305(a) of the act [National Aeronautics and Space Act of 1958] relates to any invention 'made' in the performance of any work under any contract of the Administration and section 305(j)(3) states that 'made' when used in relation to any invention, means 'the conception or first actual reduction to practice of such invention.'"

2. SAME—REDUCTION TO PRACTICE—EVERY LIMITATION OF CLAIM MATERIAL.

"Claim 3 begins with the words 'Apparatus for direction control of a vehicle * * *' and concludes with the limitation that a part of the apparatus is 'connected to the vehicle frame so that an equal and opposite torque is applied to said vehicle to control the attitude of said vehicle' * * * These limitations * * * can not be applied to the proofs since there was no vehicle associated with the devices relied upon, unless the earth could be considered a vehicle * * * There is no proof such a device controlled the attitude of the earth and there was no measurement of any torque applied to the earth * * * Since every limitation of the claims must be deemed material, it follows that no actual reduction to practice of the invention defined has been established."

3. SAME—SAME—LABORATORY TESTS.

"Moreover, while the design requirements for actual use of the invention call for a something on the order of a twelve inch diameter rotor, the tests referred to in the evidence were laboratory tests involving models with rotors of less than half that size * * * Ormsby himself stated that the feasibility unit 'did not conform to the ultimate operational unit that JPL would use,' admitting 'It was not big enough primarily * * *' Even in those cases when tests of an article have been considered unnecessary to establish a reduction to practice, it has been held that the device relied on for reduction to practice must be capable of actual use * * * While information could be obtained from the feasibility model, what is required for an actual reduction to practice is 'not a mere basis for prediction but an actual demonstration' * * * For these further reasons it is held that no actual reduction to practice of the invention * * * has been established."

4. SAME—SAME—ACTUAL.

"* * * the brief for the petitioners submits, 'If actual reduction to practice is an element in the "making" of an invention, then the effective date of such making should be no later than the date on which the invention is fully "made," viz, no later than the filing date.' However section 305(j)(3) of the act [National Aeronautics and Space Act of 1958] recites the word 'actual' in referring to reduction to practice, and the suggested principle would in effect read the term 'actual' out of the act, which we are not justified in doing."

5. SAME—SAME.

"Since we have held that no actual reduction to practice of the invention of claims 3 to 12 has been established, there obviously has not been established an actual reduction to practice of that invention under any contract of the [National Aeronautics and Space] Administration. In view of this and our prior holding as to conception of the invention, we hold that it was not 'made

in the performance of any contract of Administration,' and that the Administrator is not entitled to receive a patent containing these claims 3 to 12."

Before CASANOVA, WILLNER and WILLIAMS, *Examiners of Interferences*

CASANOVA, *Examiner of Interferences.*

On June 17, 1960, Ralph D. Ormsby filed an application for patent, Serial No. 36,774, for Space Vehicle Directing Apparatus, which has been assigned to The Bendix Corporation. Under the provisions of section 305(c) of the National Aeronautics and Space Act of 1958, he filed therein on October 14, 1963 a statement of the character required by that section. A request that the patent on the application be issued to the Administrator of the National Aeronautics and Space Administration, on behalf of the United States, was filed in the application on February 7, 1964. In a paper filed March 20, 1964 in the application, the applicant requested a hearing before a Board of Patent Interferences on the question of whether the Administrator is entitled to receive the patent to be issued on the application. Accordingly on April 29, 1964 the present proceeding was declared. Both parties have taken testimony, and both have filed briefs for, and appeared at, final hearing.

The invention disclosed in the application relates to directional control apparatus for a vehicle such as a satellite, and comprises what is in essence a three dimensional motor having a spherical conducting rotor and three stators, in mutually perpendicular planes, connected to the vehicle frame. When power is applied to any stator, a reaction torque will be experienced by that stator which will tend to move the vehicle in a corresponding plane. In like manner, power may be applied to one of the other two stators to tend to move the vehicle in another plane, or power may be applied to any combination of stators. The application specifically discloses electrostatic means for supporting the rotor but also refers to suspension of the spherical rotor by air pressure. The first two of the twelve claims in the application read upon an air bearing support, while the remaining claims are specific to the electrostatic support.

During the interlocutory period the party Ormsby filed a motion to dissolve urging that the proceedings be dissolved as to claims 1 and 2 of the Ormsby application, and a motion to establish the burden of proof. Both were originally dismissed without prejudice to the right of Ormsby to urge the matters therein at final hearings. At the request of Ormsby the motion to dissolve was further considered (paper 11; see particularly page 2, lines 4 to 12) and on November 5, 1964 it was stated by us (paper 13):

On October 21, 1964, in response to the order of October 8, 1964, respondent NASA filed a statement that "there is no contest with respect to claims 1 and 2 of patent application Serial No. 36,774 filed June 17, 1960." This will be regarded in this proceeding as an admission that petitioners reduced to practice the invention defined in claims 1 and 2 of the involved Ormsby application prior to the establishment of any contractual relationship relating to that subject matter between respondent NASA and either of the petitioners Ormsby or the Bendix Corporation * * *

In the brief for the respondent, it is stated (paper 32, page 6)

* * * Claims 1 and 2 of this application read on an air bearing support and are outside of the requirements and specifications of the contract * * *

In the above quotation "this application" is the Ormsby application and "the contract" is the contract relied upon by the respondent,

previously set forth in the brief. From these matters, it is apparent that the administrator is not entitled to receive a patent containing claims 1 and 2, granted upon the application involved herein, and it is so held.

On March 23, 1965 the parties filed a stipulation as to the following facts (paper 22):

1. Bendix was a party of a contract designated N-21447 with the Jet Propulsion Laboratories of the California Institute of Technology (JPL), a copy of which is appended hereto as Exhibit 1, which contract constituted a subcontract under prime contract NASw-6 of the National Aeronautics and Space Administration.

2. Contract N-21447 was signed by Bendix on June 14, 1960, and mailed to JPL under cover of a letter dated June 16, 1960, a copy of which is appended hereto as Exhibit 2.

3. Bendix and JPL entered into Modification No. 1, a supplementary agreement to Contract N-21447 which was executed by Bendix on December 23, 1960, a copy of Modification No. 1 is appended as Exhibit 3.

4. Modifications 2 and 3 to Contract N-21447 are attached as Exhibits 4 and 5 respectively.

5. Modification No. 1 to Contract N-21447 was returned to JPL under cover of a letter dated January 4, 1961, a copy of which is attached hereto as Exhibit 6.

6. Prior to the earliest effective date of Contract N-21447, Ormsby, a Bendix employee and the applicant in U.S. patent application Serial No. 36,774, filed June 17, 1960, conceived the invention covered by the claims of said application.

[1] Section 305(a) of the act relates to any invention "made" in the performance of any work under any contract of the Administration and section 305(j)(3) states that "made" when used in relation to any invention, means "the conception or first actual reduction to practice of such invention." In view of paragraph 6 of the stipulation quoted above, we hold that the invention was not conceived in the performance of any work under any contract of the administration. A primary matter remaining for our consideration is whether there has been established an actual reduction to practice of the invention defined in claims 3 to 12.

The first sentence of the brief for respondent states that "The Respondent does hereby withdraw its request" that the application issue as a patent to the Administrator. It is then stated that after a review of the evidence available, the Administrator has concluded that there was no conception or actual reduction to practice of the invention in the performance of work under the contract. At the top of page 2, the brief for respondent states:

Under the provisions of section 305(d) of the National Aeronautics and Space Act of 1958 (hereinafter referred to as the "Act") the Administrator may withdraw at any time; however, in order to afford the Petitioner an opportunity to be heard in this case, we are submitting pleadings in the alternative so that the Patent Office Board of Interferences may consider the issue of whether an actual reduction to practice has occured if it so desires.

We so desire. The petitioners in their brief urge that the "Respondent should be denied the opportunity to withdraw unless the Administrator wishes to do so with prejudice" (paper 36, page 2). Since the option has been submitted to us as a matter of choice and we choose not to accept the withdrawal, we believe that it is unnecessary to determine, as a matter of law, whether or not the Administrator may withdraw at any time. In making the choice indicated we merely state that, in the circumstances presented here with testimony and other evidence presented, we deem it desirable to consider the evidence and base our disposition of the controversy thereon.

The alternative proposed, however, urges that there was an actual

reduction to practice, and under a NASA subcontract (paper 32, pages 13 et seq.). No detailed factual proof of the alleged reduction to practice is set forth but statements of conclusion of a general nature such as "The complete assembly * * * has been successfully operated" are relied upon. In view of the earlier statement "after a review of the testimony and evidence available" (paper 32, last four lines of page 1) it appears that such statements are used to create a sort of estoppel in support of the alternative proposed (note "estopped" in line 2 of page 15). Since estoppels are not favored as they preclude a party from showing the truth (*Sachs* v. *Wadsworth*, 18 CCPA 1284, 48 F(2) 928, 1931 C.D. 515, 411 O.G. 545) and since mere conclusions have been criticised as to their evidentiary weight concerning an actual reduction to practice (*Marden et al.* v. *Braselton*, 28 CCPA 1077, 119 F(2) 174, 1941 C.D. 461, 529 O.G. 251 quoted and followed in *Chandler* v. *Mock*, 32 CCPA 1183, 150 F(2) 563, 1945 C.D. 467, 580 O.G. 159) we believe our rulings should be based upon the facts, as established by the evidence submitted.

[2] Claim 3 begins with the words "Apparatus for direction control of a vehicle * * *" and concludes with the limitation that a part of the apparatus is "connected to the vehicle frame so that an equal and opposite torque is applied to said vehicle to control the attitude of said vehicle." Claims 4 to 8 are dependent, directly or indirectly, from claim 3. Claims 9 to 12 are dependent, directly or indirectly, from claim 1 which has the same quoted language. These limitations of claims 3 to 12 can not be applied to the proofs since there was no vehicle associated with the devices relied upon, unless the earth could be considered a vehicle (Record for Petitioner, vol. 1, pages 19 and 20, Peltzer Q. 60). There is no proof such a device controlled the attitude of the earth and there was no measurement of any torque applied to the earth (pages 26 and 27, XQ's 79 and 80). Since every limitation of the claims must be deemed material, it follows that no actual reduction to practice of the invention defined in claims 3 to 12 has been established (*Bijur* v. *Rushmore*, 46 App.D.C. 395, 1918 C.D. 122, 246 O.G. 301; *Henderson* v. *Gilpin*, 39 App.D.C. 428, 1913 C.D. 310, 187 O.G. 231; *Akers* v. *Papst*, 27 CCPA 1400, 113 F(2) 136, 1940 C.D. 738, 521 O.G. 1105).

[3] Moreover, while the design requirements for actual use of the invention call for a something on the order of a twelve inch diameter rotor, the tests referred to in the evidence were laboratory tests involving models with rotors of less than half that size (Record for Respondent, page 19, XQ 24; Exhibit 8, second paragraph on page 1–1). Ormsby himself stated that the feasibility unit "did not conform to the ultimate operational unit that JPL would use," admitting, "It was not big enough primarily * * *" (Q. 43). Even in those cases when tests of an article have been considered unnecessary to establish a reduction to practice, it has been held that the device relied on for reduction to practice must be capable of actual use (*Lindemeyer* v. *Hoffman*, 18 App.D.C. 1, 1901 C.D. 353, cited and followed in *Birmingham* v. *Randall*, 36 CCPA 780, 171 F(2) 957, 1949 C.D. 66 in the discussion of 5 by 10 inch "samples"). While information could be obtained from the feasibility model, what is required for an actual reduction to practice is "not a mere basis for prediction but an actual demonstration" (*Elmore* v. *Schmitt*, 47 CCPA 958, 278 F(2) 510, 1960 C.D. 296; see also *Burns* v. *Curtis*, 36 CCPA 860, 172 F(2) 588, 1949 C.D. 146). For these further reasons it is held that no actual

reduction to practice of the invention of claims 3 to 12 has been established.

In view of the above holdings it is deemed unnecessary to pursue the matter of reduction to practice further by considering additional matters urged by the respondent as showing there was no actual reduction to practice (paper 32, pages 7 to 11, Exhibits 10 and 11, etc.).

[4] After quoting at length from *Automatic Weighing Machine Co.* v. *Pneumatic Scale Co.*, 166 F. 288, 1909 C.D. 498, 139 O.G. 991, the brief for the petitioners submits, "If actual reduction to practice is an element in the 'making' of an invention, then the effective date of such making should be no later than the date on which the invention is fully 'made,' viz, no later than the filing date." However section 305(j)(3) of the act recites the word "actual" in referring to reduction to practice, and the suggested principle would in effect read the term "actual" out of the act, which we are not justified in doing.

[5] Since we have held that no actual reduction to practice of the invention of claims 3 to 12 has been established, there obviously has not been established an actual reduction to practice of that invention under any contract of the Administration. In view of this and our prior holding as to conception of the invention, we hold that it was not "made in the performance of any work under any contract of Administration," and that the Administrator is not entitled to receive a patent containing these claims 3 to 12.

Since the facts in this case appear to have been fully developed by stipulation and testimony, it appears unnecessary to determine herein which party would otherwise have had the burden of proving them.

It is hereby held that the Administrator of the National Aeronautics and Space Administration, on behalf of the United States, is not entitled to receive a patent upon the application involved herein.

United States Court of Appeals
District of Columbia Circuit

PHILLIPS PETROLEUM COMPANY
v.
EDWARD J. BRENNER, COMMISSIONER OF PATENTS
No. 20,626. Decided June 29, 1967

PHILLIPS PETROLEUM COMPANY
v.
GOODRICH-GULF CHEMICALS, INC. AND MONSANTO COMPANY
No. 20,677. Decided June 29, 1967

[— U.S.App.D.C. —; — F.2d —; — USPQ —]

1. INTERFERENCE—JUDICIAL REVIEW—35 U.S.C., SECTIONS 141 AND 146.
"Congress has not only provided for judicial review of Patent Office action in interference proceedings, it has provided two possible avenues: by appeal to the Court of Customs and Patent Appeals (35 U.S.C. § 141), or by 'civil action' (35 U.S.C. § 146). However, the civil action remedy is available only to an applicant 'who has been *finally* denied a patent because of a Patent Office decision against him and in favor of his adversary on the question of priority.' *Sanford* v. *Kepner*, 344 U.S. 13, 15 (1952) [Emphasis added]."

2. SAME—SAME—INTERLOCUTORY RULING IN PATENT OFFICE—MOTION TO DISSOLVE.
"Appellant has not even had a determination of its motion to dissolve the interference proceeding. The mere disposition of that motion, one way or the

other, is interlocutory, and the applicant cannot protest this action directly either by appeal to the Court of Customs and Patent Appeals or by a civil action under section 146. The only final order in an interference proceeding is a determination of priority."

3. MANDAMUS—INTERLOCUTORY RULING IN PATENT OFFICE—ADMINISTRATIVE PROCEDURE ACT—35 U.S.C. 146.

"Appellant says its action is brought under the Administrative Procedure Act. To the extent that other statutory review provisions are inadequate there may be leeway to proceed under the Administrative Procedure Act for review of final Patent Office actions. We so held in *Sikora* v. *Brenner*, and the propriety of that ruling has been fortified by the Supreme Court's recent exposition in *Abbott Laboratories* v. *Gardner*. But even if review under 35 U.S.C. § 146 proves inadequate, the only action provided under the Administrative Procedure Act is by review of final action, not by review of a procedural order."

4. SAME—ADMINISTRATIVE PROCEDURE ACT—TITLE 35, UNITED STATES CODE.

"The Supreme Court has reiterated that the generous review provisions of that act [the Administrative Procedure Act] must be given a hospitable interpretation and has approved the view that only on a showing of clear and convincing evidence of a contrary legislative intention should the courts restrict access to judicial review. We think this principle applies not only where a specific statute is claimed to preclude judicial review, but also where it is invoked as delimiting the scope of judicial review. Meaningful judicial review embraces authority adequate to cope with and excise the aftermath of arbitrary rulings of the Patent Office, if any, that taint its final action and affect individual rights. In general, judicial review provisions of Title 35 marked an effort by Congress to assure, not to restrict, adequacy of judicial review of the Patent Office."

5. CIVIL ACTION IN CASE OF INTERFERENCE—ACTION MAY BE STAYED FOR PROCEEDINGS IN PATENT OFFICE—35 U.S.C. 146.

"However, the scope of remedy available in an action under 35 U.S.C. § 146 is not as limited as appellant says. Action under Title 35 may be decided so as to result in further proceedings in the Patent Office. Without deciding whether the District Court may order a remand as such, it can provide equivalent relief by staying its proceeding pending further proceedings in the Patent Office."

6. MANDAMUS—POLICING OF INTERLOCUTORY RULING.

"Appellant's case [Interlocutory denial of motions to dissolve in an interference proceeding] is a far cry from those exceptional cases where a court may consider the validity of what is in form an interlocutory administrative order but is in substance a final determination of individual rights or a deprivation of a substantive statutory right. Such exceptional authority is available only if the court is clearly convinced that review of final action would be completely unable to vindicate the statutory or substantive right. Courts have generally not found themselves powerless to fashion remedies needed to correct injustice. Just as equity developed the mandatory injunction, as courts unable to revise a jury verdict developed the remittitur, as courts confronted with invalid administrative action fashioned the conditional injunctive decree, so courts reviewing arbitrary Patent Office final action will generally be able to fashion remedies they deem needful to correct injustices."

APPEALS from the United States District Court for the District of Columbia.

AFFIRMED.

Mr. Sidney Neuman, with whom *Mr. Paul L. Gomory* was on the brief for appellant.

Mr. Joseph Schimmel, Solicitor, United States Patent Office, with whom *Mr. George C. Roeming*, Attorney, United States Patent Office, was on the brief, for appellee in No. 20,626.

Mr. R. W. Furlong, of the bar of the Supreme Judicial Court of Massachusetts, pro hac vice, by special leave of court, with whom *Mr. Dos T. Hatfield* was on the brief, for appellee, Goodrich-Gulf Chemicals, Inc.

Messrs. Ellsworth H. Mosher, John D. Upham and *L. Bruce Stevens, Jr.*, were on the brief, for appellee, Monsanto Company.

Before EDGERTON, *Senior Circuit Judge*, LEVENTHAL and ROBINSON, *Circuit Judges*

LEVENTHAL, *Circuit Judge*.

Appellant Phillips Petroleum Corporation (Phillips) brought an action against the Commissioner of Patents, and an accompanying action against two corporations, Goodrich-Gulf Chemicals, Inc., and Monsanto Company. The three companies are assignees of patent applications which were placed in interference by the Patent Office in July 1964. The alleged invention involves a process for producing polybutadiene polymers, used as a synthetic rubber. When the preliminary statements were opened the Patent Office noted that the Phillips inventors had sworn to conception date subsequent to the April 1955 filing dates of the other inventors. In October 1964 the Patent Interference Examiner issued an order to show cause why judgment should not be entered against the Phillips inventors. Phillips countered by filing motions to dissolve the interference on the ground that the apparently senior applicants had no right to make their claim because of lack of adequate disclosure in the applications.[1]

The Phillips motion was denied by the Primary Examiner to whom it had been referred, but the Patent Interference Examiner granted Phillips' request to consider this motion at the final hearing on the interference. If its motion is granted Phillips will of course have a victory over the other companies.

Meanwhile, however, the Monsanto and Goodrich-Gulf priority dispute has proceeded on its course without Phillips. Phillips has been excluded from the sessions where evidence was taken, has been denied access to the records and briefs of the other companies, and will not be permitted to attend the final hearing. Its motion to dissolve will in effect be the subject of a separate presentation.

Phillips complains that it will be foreclosed from ascertaining and using admissions by the Monsanto and Goodrich-Gulf employees that support Phillips' position on the motion to dissolve. It says the Patent Office has arbitrarily changed in the middle of the game the rules of the Patent Office which provide, e.g., that testimony in interference proceedings shall be taken on notice to opposing parties (Rule 273). The Board of Patent Interferences held that the order restricting Phillips, while not specifically provided for in the rules of practice, is in accordance with logic and the equities.[2] The Commissioner denied reconsideration.

Phillips' complaint in the District Court against appellee Commissioner sought a decree declaring its right to participate fully in the interference proceeding, including the portion restricted by the Patent Office to the other two parties.[3]

The District Court dismissed appellant's complaint, ruling that it

[1] They did not lay claim to a process involving the specific catalyst involved in the interference, says Phillips, until after the Phillips invention became public in 1963, when it successfully brought action to compel issuance of a product patent (not directly involved in this appeal). *Phillips Petroleum Co.* v. *Ladd*, 219 F.Supp. 366 (D.D.C. 1963).

[2] The Board decided from analogy to other rules preserving secrecy of Patent Office files unless disclosure is required, and specifically to Rule 227(b), providing that junior party is not even entitled to the preliminary statements of others. Phillips was considered a stranger to the controversy of the others, without any necessity for being present at the hearing thereon.

[3] A companion action was also brought against the other companies seeking declaratory and injunctive relief.

should not interfere with a pending proceeding in the Patent Office until it is brought to a conclusion, at which time it may review interlocutory rulings in an action to review the final order. *Anderson* v. *Watson*, 103 U.S.App.D.C. 99, 254 F.2d 956 (1958).

Appellant urges upon us that its case lies within an exception to the general rule invoked by the District Judge because substantial rights will be lost inevitably if the Patent Office proceeds on its present course. Appellant suggests it would have an adequate remedy if court proceedings after the final order were conducted in the Court of Customs and Patent Appeals under 35 U.S.C. § 141 (1964), because that court has authority to remand the case to the Patent Office. What appellant fears is that the other companies may elect under 35 U.S.C. § 141 "to have all further proceedings conducted as provided in section 146." Appellant says that 35 U.S.C. § 146 (1964) contains no authority for the District Court to remand to the Patent Office.

We begin our discussion by disclaiming any intention of boring the non-patent bar, and amusing or mystifying the patent bar, by discussing at this juncture the Patent Office rules. The idiosyncrasies of Patent Office practice, and the unusual terminology of the practitioners, reinforce customary doctrines of judicial restraint.

While the Patent Office is unique in many ways, certain fundamental characteristics it shares with the other agencies of Government. First, it has the authority to act in accordance with fundamental principles of justice, by appropriate issuance and application of rules and use of good judgment on matters not covered by rules. Second, it is subject to judicial review and restraint in case of arbitrary rules or rulings that infringe on private rights.

[1] Congress has not only provided for judicial review of Patent Office action in interference proceedings, it has provided two possible avenues: by appeal to the Court of Customs and Patent Appeals (35 U.S.C. § 141), or by "civil action" (35 U.S.C. § 146). However, the civil action remedy is available only to an applicant "who has been *finally* denied a patent because of a Patent Office decision against him and in favor of his adversary on the question of priority." *Sanford* v. *Kepner*, 344 U.S. 13, 15 (1952)[4] [Emphasis added].

[2] Appellant has not even had a determination of its motion to dissolve the interference proceeding. The mere disposition of that motion, one way or the other, is interlocutory, and the applicant cannot protest this action directly either by appeal to the Court of Customs and Patent Appeals[5] or by a civil action under section 146.[6] The only final order in an interference proceeding is a determination of priority.

[3] Appellant says its action is brought under the Administrative Procedure Act. To the extent that other statutory review provisions are inadequate there may be leeway to proceed under the Administrative Procedure Act for review of final Patent Office actions. We so held in *Sikora* v. *Brenner*,[7] and the propriety of that ruling has been fortified by the Supreme Court's recent exposition in *Abbott Laboratories* v. *Gardner*.[8] But even if review under 35 U.S.C. § 146 proves inadequate, the only action provided under the Administrative Procedure Act is by review of final action, not by review of a procedural order.[9]

[4] The court was construing the former section 63, predecessor of section 146.

[5] *Tenney* v. *Nordmeyer*, 94 F.2d 396 (C.C.P.A. 1938).

[6] *Ellis-Foster Co.* v. *Union Carbide & Carbon Corp.*, 284 F.2d 917, 926–27 (3d Cir. 1960), cert. denied, 3655 U.S. 813 (1961); *American Cable Co.* v. *John A. Roebling's Sons, Co.*, 62 App.D.C. 168, 169, 65 F.2d 801, 802 (1933); *Carlin* v. *Goldberg*, 45 App.D.C. 540 (1917).

[7] — U.S.App.D.C. —, —, — F.2d —, — (No. 20634, May 8, 1967, slip op. 3–4).

[5] However, the scope of remedy available in an action under 35 U.S.C. § 146 is not as limited as appellant says. Actions under Title 35 may be decided so as to result in further proceedings in the Patent Office.[10] Without deciding whether the District Court may order a remand as such it can provide equivalent relief by staying its proceeding pending further proceedings in the Patent Office.[11]

The prematurity of the present action plainly appears from consideration of the successive possibilities that may lie ahead: Appellant may prevail in the Patent Office on the motion to dissolve. The corporate appellees may acquiesce in review by the Court of Customs and Patent Appeals. Appellant may persuade the Patent Office that its practice of withholding issuance of patent when appeal has been taken to the Court of Customs and Patent Appeals should be extended so as to avoid giving an extra benefit to the patentee who elects to require that such appeal be displaced by a new court action.[12]

[6] Appellant's case is a far cry from those exceptional cases where a court may consider the validity of what is in form an interlocutory administrative order but is in substance a final determination of individual rights or a deprivation of a substantive statutory right.[13] Such exceptional authority is available only if the court is clearly convinced that review of final action would be completely unable to vindicate the statutory or substantive right. Courts have generally not found themselves powerless to fashion remedies needed to correct injustice. Just as equity developed the mandatory injunction, as courts unable to revise a jury verdict developed the remittitur, as courts confronted with invalid administrative action fashioned the conditional injunctive decree, so courts reviewing arbitrary Patent Office final action will generally be able to fashion remedies they deem needful to correct injustices.[14]

To obviate any possible misunderstanding we add that our comments on the availability of remedies in a court review of a final Patent Office order in no way imply that we have concluded the Patent Office has acted improperly vis a vis appellant.

AFFIRMED.

[8] — U.S. —, 35 U.S.L.W. 4433 (U.S. May 22, 1967).

[9] The Supreme Court has reiterated that the generous review provisions of that act must be given a hospitable interpretation and has approved the view that only on a showing of clear and convincing evidence of a contrary legislative intention should the courts restrict access to judicial review. We think this principle applies not only where a specific statute is claimed to preclude judicial review, but also where it is invoked as delimiting the scope of judicial review. Meaningful judicial review embraces authority adequate to cope with and excise the aftermath of arbitrary rulings of the Patent Office, if any, that taint its final action and affect individual rights. In general, judicial review provisions of Title 35 marked an effort by Congress to assure, not to restrict, adequacy of judicial review of the Patent Office.

[10] See 5 U.S.C. § 704 (Supp. II 1965–66):

> Agency actions made reviewable by statute and final agency action for which there is no other adequate remedy in a court are subject to judicial review. A preliminary, procedural, or intermediate agency action or ruling not directly reviewable is subject to review on the review of the final agency action.

[11] *Hoover Co.* v. *Coe*, 325 U.S. 79, 89 (1945).

[12] *California Research Corp.* v. *Ladd*, 123 U.S.App.D.C. 60, 65, 356 F.2d 813, 818 (1966); *Int'l Standard Elec. Corp.* v. *Ooms*, 81 U.S. App.D.C. 215, 157 F.2d 73 (1946).

[13] See the reference in *Hoover Co.* v. *Coe*, supra note 10, 325 U.S. at 84, to the two statutory review provisions as "alternative remedies resulting in the same sort of relief." See also note 11 above. The customary Patent Office practice as related on argument in the District Court, is to issue the patent in due course, within a few months, if recourse is had to a District Court under 35 U.S.C. § 146.

[14] Cf., *Leedom* v. *Kyne*, 358 U.S. 184 (1958); *Skinner & Eddy Corp.* v. *United States*, 249 U.S. 557 (1919); *Delta Air Lines* v. *CAB*, 97 U.S.App.D.C. 46, 49, 228 F.2d 17, 20 (1955); *Deering Milliken, Inc.* v. *Johnston*, 295 F.2d 856 (4th Cir. 1961).

[15] There is a complication of sorts, since the Commissioner has general discretion to decline to intervene in an action under 35 U.S.C. § 146. *Ellis-Foster Co.* v. *Union Carbide & Carbon Corp.*, supra note 6, 284 F.2d at 925. We need not consider to what extent there may be limitations on that discretion. The courts may issue appropriate orders to the private defendants.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

1,396,678, C. H. Cromwell, BED HINGE FOR AUTOMOBILE TRUCKS, filed Sept. 15, 1967, D.C., E.D. Ill. (Danville), Doc. CV67–138–D, *Florence B. Cromwell et al. v. Ford Motor Company et al.*

2,441,960, P. Eisler, MANUFACTURE OF ELECTRIC CIRCUIT COMPONENTS; **2,706,697**, same; **Re. 24,165**, same, filed Oct. 10, 1967, D.C., M.D.N.C. (Greensboro), Doc. C–202–WS–67, *The Foxboro Company v. Technograph, Inc.*

2,587,532, E. L. Schmidt, SYSTEM FOR MAGNETIC STORAGE OF DATA, filed Oct. 3, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67–1451–F, *The Bunker-Ramo Corporation v. Sperry Rand Corporation.*

2,604,359, F. L. Zybach, SELF-PROPELLED SPRINKLING IRRIGATING APPARATUS, filed Oct. 10, 1967, D.C. Nebr. (Omaha), Doc. C–02874, *Valmond Industries Inc., formerly Valley Mfg. Co. et al. v. Reinke Manufacturing Co., Inc.*

2,650,745, W. H. Oberwortman, FEEDER FOR FODDER CUTTER, filed Oct. 10, 1967, D.C. S. Dak. (Sioux Falls), Doc. C–67–102W, *W.H.O. Alfalfa Milling Company v. Charles Moeller, doing business as Moeller Manufacturing.*

2,706,697. (See 2,441,960.)

2,724,720, Berger and Ludwig, DICARBAMATES OR SUBSTITUTED PROPANE DIOLS, filed Sept. 14, 1967, Ct. Cl., Doc. 322–67, *Carter-Wallace, Inc. v. United States of America.*

2,870,710, R. E. Miedel, COMPOUND PROJECTILE WITH SEPARABLE SECTIONS, filed Oct. 11, 1967, D.C., E.D. Pa. (Philadelphia), Doc. 43772, *Roland E. Miedel v. Communications Satellite Corp. et al.*

2,967,315, Heibig and Warner, HAND-PROPELLED POLISHING MACHINE, filed July 19, 1967, D.C., E.D.N.Y. (Brooklyn), Doc. 67C–699, *Polymatic Industries, Inc. v. Martin S. Berkowitz.* Same, Doc. 67C–700, *Polymatic Industries, Inc. v. Rich Haven Automobile.* Same, Doc. 67C–701, *Polymatic Industries, Inc. v. 35th Avenue Car Wash.* Same, Doc. 67C–702, *Polymatic Industries, Inc. v. Hollywood Auto Laundry.* Same, Doc. 67C–703, *Polymatic Industries, Inc. v. Nachman Cadillac Corp.* Same, filed July 20, 1967, D.C., S.D.N.Y., Doc. 67C–2795, *Polymatic Industries, Inc. v. Polo Grounds Car Wash.* Same, filed Aug. 2, 1967, D.C., E.D.N.Y. (Brooklyn), Doc. 67C–749, *Polymatic Industries, Inc. v. Robert Spinner, et al.*

3,058,627, H. E. Eskridge, COMBINED SUCTION PUMP, STORAGE CONTAINER AND DISPENSER, filed Sept. 18, 1963, D.C., E.D.N.Y. (Brooklyn), Doc. 63C–1053, *H. E. Eskridge v. Kravex Mfg. Corp.* Order that defendant have judgment on its counterclaim declaring the patent invalid, Oct. 16, 1967.

3,066,247, P. Robinson, ELECTRICAL CAPACITORS, filed Oct. 10, 1967, D.C., S.D. Fla. (Miami), Doc. 67–1025–C, *Sprague Electric Co. v. National Capacitors, Inc. et al.*

3,111,234, Bower and Freeman, RACK STRUCTURE AND FREIGHT VEHICLES, filed Oct. 11, 1967, D.C., W.D.N.C. (Charlotte), Doc. 2285, *Commercial Automotive Corporation v. Thurston Motor Lines, Inc.*

3,122,114, Kringel and Wilk, CONTINUOUS TUBE FORMING AND GALVANIZING, filed Feb. 27, 1964, D.C., S.D. Ill. (Peoria), Doc. P–2687, *Allied Tube & Conduit Corporation v. Fairbury Industries, Inc. and International Nikoh Corporation.* Consent judgment; dismissed without prejudice, Oct. 2, 1967.

3,152,592, F. E. B. Foley, SELF-INFLATING BAG CATHETER, filed Oct. 11, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1741, *Selflate Corporation v. The Kendall Company.*

3,158,687, G. F. Long, RECORDING TRAFFIC ANALYZER, filed Nov. 22, 1965, D.C., Nev. (Las Vegas), Doc. 848, *Universal Controls Corporation v. Central Telephone Co., Inc., doing business as Southern Nevada Telephone Division.* Filed judgment, defendants have used certain telephone traffic analyzing equipment infringing on patent, Oct. 13, 1967.

3,163,864, H. Greenberg, END FIRE PLANAR ARRAY OF V-SHAPED MULTI-BAND DIPOLES, filed Jan. 8, 1965, D.C., S.D.N.Y., Doc. 65–C–58, *Channel Master Corp. v. RMS Electronics, Inc.* Final judgment, defendants enjoined, Oct. 10, 1967.

3,189,918, Hiatt and King, VISOR HELMET; **D. 200,757**, same, HELMET, filed Oct. 12, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67–1490–AAH, *Bates Industries, Inc. v. Daytona Sports Co. and Daytona Products, Inc.*

3,196,122, R. M. Evans, CEMENTITIOUS COMPOSITIONS CONTAINING ACRYLIC ESTER POLYMERS, filed Oct. 12, 1967, D.C., N.D. Ohio (Cleveland), Doc. C67–726, *The Master Mechanics Co. v. The Cleveland Marble Mosaic Co.*

3,214,823, O. Hendrickson, FLUID ACTUATED FILING MACHINE, filed Oct. 4, 1967, D.C., E.D. Mich. (Detroit), Doc. 30444, *Air Tool Corp. of America v. King Air Tool Corp. et al.*

3,218,757, E. Benkoe, POWERED WHEEL VEHICLE AND TRACK ASSEMBLY, filed Dec. 14, 1965, D.C., S.D.N.Y., Doc. 65–C–3797, *Transogram Co., Inc. v. Child Guidance Toys, Inc.* Order discontinuing action, Oct. 9, 1967.

3,298,976, M. H. Reinhart, CELLULAR POLYURETHANE CONTAINING BARYTES AND METHOD OF MAKING SAME, filed Oct. 10, 1967, D.C., M.D.N.C. (Greensboro), Doc. C–203–G–67, *E. R. Carpenter Company v. Phillips-Foscue Corporation.*

3,314,386, A. F. Kopaska, MINIMUM TILLAGE IMPLEMENT, filed Oct. 16, 1967, D.C., N.D. Ohio (Cleveland), Doc. C67–743, *Emmert Mfg. Co., Inc. and Arnold F. Kopaska v. McCune & Company, Inc.*

Re. 24,165. (See 2,441,960.)

D. 200,757. (See 3,189,918.)

REISSUES

FEBRUARY 13, 1968

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

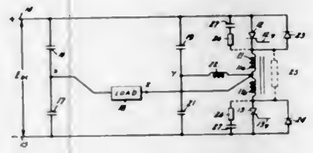
26,342

POWER CIRCUITS WHICH ARE INHERENTLY CAPABLE OF INVERTER OPERATION

Burnice D. Bedford, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Original No. 3,303,406, dated Feb. 7, 1967, Ser. No. 237,065, Nov. 13, 1962. Application for reissue June 29, 1967, Ser. No. 651,641

42 Claims. (Cl. 321—44)



A family of power circuits using a pair of conductivity controlled current switching devices interconnected in series circuit relationship with a tapped first linear inductor across a pair of power supply terminals that are adapted to be connected across a source of electric potential. A load circuit is operatively coupled across the power supply terminals in series circuit relationship with at least one of the pair of devices through a part of the tapped inductor. The circuits also include commutation circuit means formed by at least one commutating capacitor and series connected second linear inductor operatively connected between the tap point of the first inductor and at least one of the power supply terminals. The series circuit comprised by the commutating capacitor and second inductor is tuned to series resonance at a commutating frequency having a period which is substantially shorter than the load current conducting periods of the power circuit. With this arrangement, one of the pair of current switching devices is adapted to be intermittently conductive for discharging the commutating capacitor through the tapped first inductor and thereby terminating the conduction of the other of the pair of current switching devices. Bridge type power circuits comprising the same basic circuit configurations are also provided.

26,343

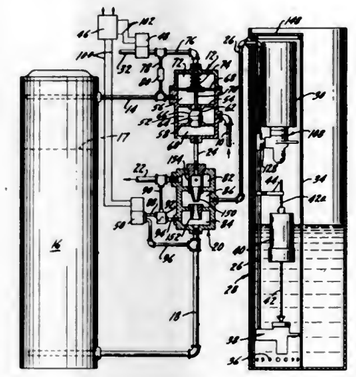
WATER CONDITIONING SYSTEM

Roland R. Reid, Brooklyn Park, and Edward G. Gressman, St. Paul, Minn., assignors to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey

Original No. 3,255,106, dated June 7, 1966, Ser. No. 325,122, Nov. 20, 1963. Application for reissue Apr. 27, 1967, Ser. No. 646,742

22 Claims. (Cl. 210—32)

A water softening system using brine and iron contaminant solvent to regenerate ion exchange resin. A softening tank containing the resin is connected through an aspirator and valveless piping to the brine and solvent. The solvent



is stored at a higher level than the brine so that the solvent passes through the resin before the brine.

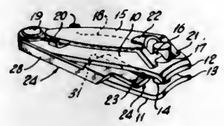
26,344

COMBINED NAIL CLIPPER AND KNIFE

James B. Reswick, Gates Mills, Ohio, assignor to The W. E. Bassett Company, Derby, Conn., a corporation of Connecticut

Original No. 3,261,093, dated July 19, 1966, Ser. No. 405,339, Oct. 21, 1964. Application for reissue Oct. 14, 1966, Ser. No. 595,548

8 Claims. (Cl. 30—142)



The invention contemplates an improved combined tool featuring a conventional lever-actuated nail clipper with a cutting-blade element pivotally secured thereto, in such manner that the cutting edge of said element is secured in a safe protected position when the tool is in inoperative condition, and in such manner that the cutting edge is positively referenced to the handle when the cutting-blade element is extended for use. The foregoing is achieved by relying upon relative proportions of the parts and their change of shape, as between conditions existing at the open and at the closed position of the clipper.

PLANT PATENTS

GRANTED FEBRUARY 13, 1968

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,796
STRAWBERRY PLANT
Harold A. Johnson, Jr., and Harold E. Thomas, Morgan Hill, Calif., assignors, by mesne assignments, to Driscoll Strawberry Associates, Inc., Gilroy, Calif., a corporation of California
Filed Feb. 23, 1966, Ser. No. 529,621
1 Claim. (Cl. Plt.—49)

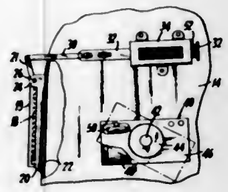
1. The new and distinct variety of strawberry plant herein described and illustrated, and identified by the characteristics enumerated above.

PATENTS

GRANTED FEBRUARY 13, 1968

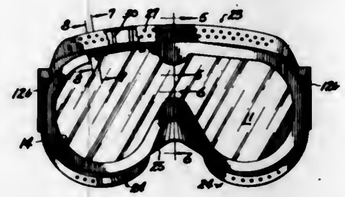
GENERAL AND MECHANICAL

3,368,220
WELDER'S MASK
Thomas C. Wenzel, 600 Woodbury Road, Plainview, N.Y. 11803
Substituted for abandoned application Ser. No. 241,678, Dec. 3, 1962. This application Oct. 21, 1965, Ser. No. 506,436
2 Claims. (Cl. 2—8)



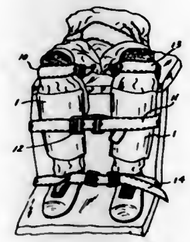
A welder's mask having a hinged light-filtering window movable between operative and inoperative positions to respectively shield the welder's eyes from intense radiation and to permit him to view and set up the work prior to striking the arc, the window being movable under an automatic control so that when the head of the welder is nodded to effect a slight attitude change the window is opened and closed automatically, with a wide-angle adjustment being provided in the form of a rotatably adjustable switch enabling the switch to be conditioned for operation at any angle of the welder's head.

3,368,221
EYE-PROTECTING DEVICE
Marshall N. Anderson, Grayslake, Ill., assignor to Sellstrom Manufacturing Company, Palatine, Ill., a corporation of Illinois
Filed Apr. 1, 1966, Ser. No. 539,576
7 Claims. (Cl. 2—14)



An eye-protecting device utilizing a holder at the forward end of which there is provided lens holding means for removably accommodating and retaining a lens piece in spaced relation with respect to the face of the wearer. The lens holding means cooperates with the periphery of said lens piece to form a plurality of spaced ventilating passages which circumvent the periphery of the accommodated lens and permit ventilation of the space formed between the lens and the face of the wearer. The inner portion of the holder is provided with a face-engaging peripheral portion which includes an outer segment extending laterally outwardly from the holder, and an inner segment which is connected to the upper edge of the outer segment and extends resiliently laterally inwardly therefrom. The inner segment is of pliable material and is capable of conforming substantially to the facial configuration of the wearer. Stop means is provided between the inner and outer segments so as to limit the extent to which the inner segment may move or flex towards the outer segment. The outer segment may be perforated and communicate with the space between the lens and the face of the wearer and permit further ventilation therefor.

3,368,222
PRESSURE CONTOUR HUMAN RESTRAINT
Robert E. Van Patten, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 10, 1966, Ser. No. 526,634
1 Claim. (Cl. 2—22)

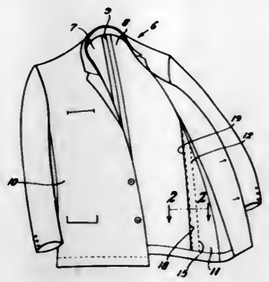


A protective restraint for the knee and lower leg sections of an astronaut to protect him from strain imparted by straps and increased gravitational stress. The restraint constitutes a covering having a fiberglass shell fitted to the front part of the leg but spaced therefrom at varying distances depending on the thinness of tissue overlying the sensitive bone structure. The less the tissue, the greater this distance. The space between the shell and the leg is filled with a padding formed of foamy material which will compress at a fast rate but will be restored to its original shape quite slowly. Thus any stresses set up over the tibia bone or other sensitive areas by straps, etc. are distributed over the entire surface of the leg. The shell is held in place at the rear by attaching nylon mesh sections each of which are fitted to a zipper unit.

3,368,223
ALTERABLE SIDE SEAM FOR COATS
Jerome Giuseffi, Cincinnati, Ohio, assignor to The Palm Beach Company, Cincinnati, Ohio, a corporation of Ohio
Filed June 24, 1965, Ser. No. 466,681
1 Claim. (Cl. 2—93)

1. A side seam construction for coats composed of light weight fabrics especially treated to secure wrinkle free, crease retaining characteristics comprising a coat back panel, a coat side panel having a flat side portion, an outturned, permanently creased hem on the edge of said flat

side portion, the side portion of the coat back panel overlying the flat side portion of the coat side panel and having an inturned, permanently creased terminal end formed thereon, a line of stitches connecting together the terminal end of the coat back panel and an intermediate part of the flat side portion of the coat side panel with the finished



faces of said panels brought together in the seam, and the end edge on the outturned hem of the coat side panel and the terminal end edge of the coat back panel being spaced apart in confronting relationship in the seam whereby the seam may be "let out" by moving the terminal end edge of the back panel closer to the hem of the coat side panel.

3,368,224
TOILET TANK FLUSH VALVE
Myron J. Ament, Adrian, Pa., assignor to Wallace-Murray Corporation, Pittsburgh, Pa., a corporation of Delaware
Filed Nov. 4, 1965, Ser. No. 506,323
10 Claims. (Cl. 4—57)



1. An outlet flush valve assembly for a toilet flush tank comprising

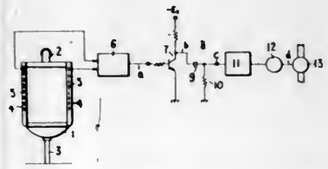
a valve body insertable into the outlet opening in the bottom wall of a flush tank to provide an outlet passage for the flush water with the upper end of said body including a valve seat, said body further having an overflow tube in communication with and offset from said outlet passage below said valve seat,

a flush valve member engageable with said valve seat to close said outlet passage,

retaining wall means on said body extending laterally outwardly therefrom to engage the underside of the bottom wall of the flush tank; and

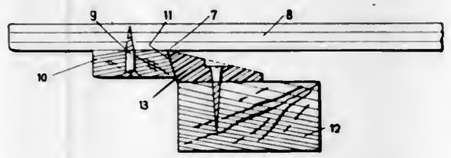
resilient retaining means secured to said body to engage the tank bottom wall, said resilient retaining means being resiliently compressed toward said body as said body is inserted through the outlet opening whereby said retaining means engage the bottom wall to retain said valve body within the outlet opening in the flush tank.

3,368,225
AUTOMATIC WASHING APPARATUS FOR FLUSH LAVATORIES
Saburo Takechi, Kyoto-shi, Masuo Ichimori, Kyoto-fu, Yuuichi Saita, Kameoka-shi, and Nobuyuki Wada, Hiraoka-shi, Japan, assignors to Tateisi Electronics Co., Kyoto-shi, Japan, a corporation of Japan
Filed May 7, 1965, Ser. No. 453,964
Claims priority, application Japan, May 12, 1964, 26,641/64
2 Claims. (Cl. 4—249)



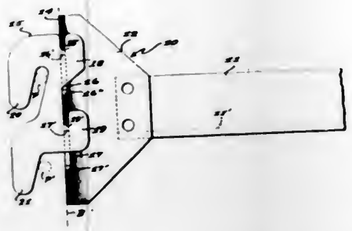
An automatic lavatory flushing apparatus responding to a change in the static capacitance of an antenna located at the lavatory due to the presence of a user. An electromagnetic valve releases a set amount of flushing water for a set amount of time. A delay circuit controlling the operation of the valve delays the flushing until after the user has departed.

3,368,226
WOOD SLAT MATTRESS
Josef Köppel, Widnau, Saint Gall, Switzerland, assignor to North American Import Bedding Inc., New York, N.Y., a corporation of New York
Filed Oct. 21, 1965, Ser. No. 500,391
4 Claims. (Cl. 5—236)



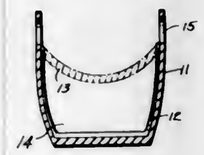
A wood slat mattress comprising a continuous frame with a cross-piece secured on each of the adjacent end portions of the frame, and having a plurality of substantially parallel resilient slats supported on said cross-piece to form a support surface for a mattress. The slats at their sides are provided with inclined surfaces which form with the slats an acute angle, and which abut in the unloaded state because of the resilent nature of the slats in a tight or clamping fashion against the corresponding inclined or tapered surfaces of the cross-pieces lying opposite them. The cross-pieces are constructed in two sections, a lower section secured to the frame, and an inclined section removably connected therewith. The slats carry at their surfaces, directed toward the cross-pieces, stops constructed to correspond with the cross-pieces. The slats in nonuse are tightly and firmly positioned on the two cross-pieces, and in use, lie loosely thereon.

3,368,227
BED RAIL STRUCTURE
Parks C. Underdown, Jr., Hickory, N.C., assignor to Hickory Springs Manufacturing Co., Inc., Hickory, N.C., a corporation of North Carolina
Continuation-in-part of application Ser. No. 212,626, July 26, 1962. This application Dec. 11, 1962, Ser. No. 244,241
7 Claims. (Cl. 5—296)



1. A bed rail structure for assembly on crosspins in a slotted bed post, said bed rail structure comprising a bracket member having a flange portion disposed for bearing in face to face relation with said bed post at the cross pin slot therein, said flange portion having a plurality of apertures spaced therein and formed for defining at least two load imposing points in lengthwise relation to said crosspin slot and for additionally defining at least two laterally spaced positions for said load imposing points, and a hook plate having spaced arm portions for removably engaging said spaced flange portion apertures at all of said load imposing points and selectively at one of said laterally spaced positions and having hook portions for engaging said bed post crosspins.

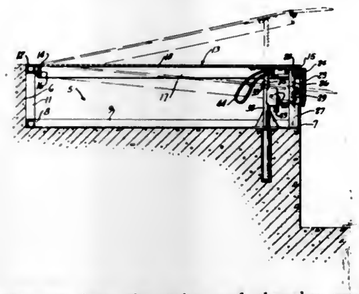
3,368,228
FLOATABLE TOY
Grace A. Heckathorn, Rte. 1, Box 55A, Kennewick, Wash. 99336
Filed Jan. 6, 1967, Ser. No. 607,682
5 Claims. (Cl. 9—1)



A tire-like floatable toy having an inner liner for a person to sit on.

3,368,229
ADJUSTABLE MECHANICAL DOCKBOARD WITH IMPROVED SAFETY LEGS
Robert H. Pfleger, Milwaukee, Wis., assignor to Kelley Company, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Jan. 13, 1966, Ser. No. 520,518
9 Claims. (Cl. 14—71)

A ramp having its rear edge hinged to a loading dock has a hinged extension lip at its front end to project beyond the front of the dock when the lip is its raised position, and rest upon the bed of a carrier in position in front of the dock. The ramp rises and falls with changes in height of the carrier bed. Legs hinged to the underside of the ramp support the ramp against descent when the extension lip is in its pendent position, but not when the lip is in its raised operative position. An upright tube supported on the dock under the ramp has a strut which moves up and down with the ramp slidable therein. The strut has downwardly facing ratchet teeth to coact with the pawl of an escapement device on the tube to support the strut



against descent into the tube and thereby prevent accidental descent of the ramp. An inertia responsive control for the escapement device keeps the pawl from supportingly engaging a ratchet tooth during gradual descent of the ramp, but an initial small increment of sudden downward motion of the strut causes the pawl to supportingly engage a ratchet tooth.

3,368,230
CLEANING IMPLEMENTS
Hyman Kramer, 2764 E. 16th St., Brooklyn, N.Y. 11235
Filed Mar. 24, 1966, Ser. No. 537,157
9 Claims. (Cl. 15—105)



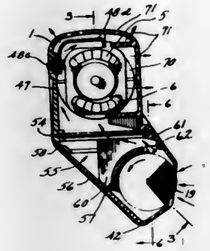
1. A cleaning implement of the character described comprising, in combination: a T-shaped head member; at least one cleaning element carried by the cross bar portion of said head member; and a handle affixed to and extending from the vertical leg portion of said head member; the head member being of one-piece construction and the cross-bar portion thereof comprising a pair of generally parallel, spaced-apart, flat-faced, elongate wings extending integrally from and being connected to one another at their middle-length portions by a shorter length, flat, connecting web, and the vertical leg portion of said head member comprising a pair of spaced-apart legs integral with and each depending substantially at a right angle from an end of said web, the free ends of said legs being shaped to and connected to said handle.

3,368,231
PORTABLE ELECTRIC CLOTHES CLEANER
Joseph F. Kravos, Chesterland, and George A. Fortnam, South Euclid, Ohio, assignors to General Electric Company, a corporation of New York
Filed Aug. 19, 1964, Ser. No. 390,548
12 Claims. (Cl. 15—344)

7. A hand-held electric clothes cleaner comprising:

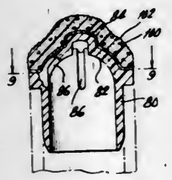
(a) a molded housing:

(b) a detachable unitary nozzle on the forward end of said housing, said nozzle having a front wall, a rear wall, and two side walls, spaced openings formed in the front wall of said nozzle and including means thereon for ready detachment thereof from said housing;
(c) a dirt-collecting chamber, the rear wall and two side walls of said nozzle forming side walls of said dirt collecting chamber;



(d) a filter received in opposed grooves in said housing and forming another side of said chamber;
(e) said filter comprising a planar frame having transverse bars spaced along the length thereof and a reticulated screen on said frame;
(f) a motor mounted within said housing; and
(g) a fan driven by said motor for drawing air through said opening in said nozzle, through said filter, and over said motor.

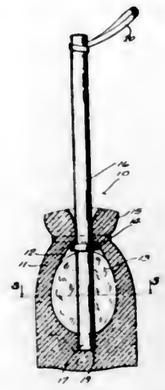
3,368,232
APPLICATOR HAVING A POROUS COVERING INTEGRAL WITH A SLITTED WEB
Gilbert Schwartzman, 20 Wilmot Circle, Scarsdale, N.Y. 10583
Filed June 28, 1965, Ser. No. 467,780
7 Claims. (Cl. 401—206)



An applicator comprising a retainer ring having a dome-shaped web of circular cross section. A covering of porous material is integral with the web and the ring and extends over the web. The web is resilient and has a plurality of slits therethrough which extend normal to the radii of the web. The slits are annularly spaced from each other.

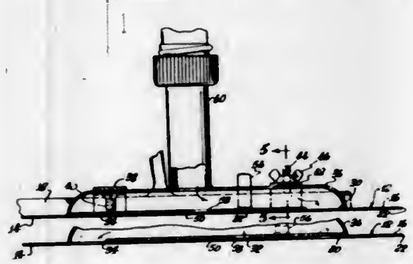
3,368,233
BATH SPONGE SOAP HOLDER
Anton J. Lemberger, Whitelaw, Wis. 54247
Filed Nov. 9, 1966, Ser. No. 593,115
2 Claims. (Cl. 401—196)

1. A bath sponge soap receptacle including a resilient sponge body portion having a central longitudinal aperture open at one end, said aperture having a reduced portion at the dead end thereof, a handle member, one end thereof cemented within said reduced portion, the other end thereof extending well beyond the open end of said sponge body, and a resilient means for gathering the sponge adjacent to the open end thereof and retaining



securely a portion or portions of soap held within said longitudinal aperture.

3,368,234
SELF-FEEDING TROWEL
Edgar Earl Edens, Jr., La Puente, Calif., assignor to Trowel Fast, Inc., Azusa, Calif., a corporation of California
Filed Aug. 8, 1966, Ser. No. 570,796
10 Claims. (Cl. 401—263)

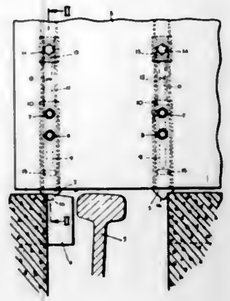


A plasterer's trowel the troweling surface of which is provided with plaster discharge openings located different distances from the forward edge of the trowel, and having a selector valve for delivering plaster to such discharge openings selectively. When troweling adjacent an edge of a wall, such as adjacent a ceiling, plaster may be fed to a discharge opening adjacent the forward edge of the trowel. When troweling away from the edges of the wall, the plaster may be delivered to one or more discharge openings adjacent the center of the troweling surface. Thus, plaster can be delivered to that portion of the troweling surface which best meets the requirements of the particular troweling operation being performed.

3,368,235
FOLDING LEAF DOORS
Frank McClenan, Radcliffe, England, assignor to Mather & Platt Limited, Manchester, England, a British company
Filed Feb. 10, 1966, Ser. No. 526,536
Claims priority, application Great Britain, Feb. 11, 1965, 5,926/65
6 Claims. (Cl. 16—90)

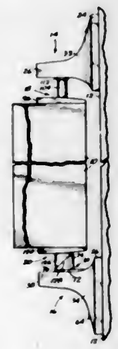
A folding leaf door arrangement in which the bottom of the door arrangement is provided with guide lugs

adapted to run in a guide channel and pass an impediment or obstacle such as a rail which must break the guide channel, the lugs being displaceable upwardly against a



restoring force and the lower end of each lug being such that the lugs raise upon coming into contact with the impediment or obstacle.

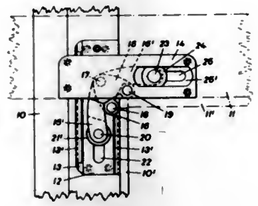
3,368,236
PIVOTING DOOR MOUNTING ASSEMBLY
Charles A. Kirby, Gig Harbor, Wash., assignor to Allied Building Components Inc., Tacoma, Wash., a corporation of Washington
Filed Aug. 16, 1965, Ser. No. 479,781
2 Claims. (Cl. 16—131)



A socket member for mounting swinging doors having upper and lower pivot pin members comprises a case formed in two sections, a pair of tracks on one of the sections, a socket slide formed in two parts, and engaging means releasably interengaging the socket slide parts in clamping relation to the tracks in selected positions of the slide. The socket member thereby is rendered universally applicable as either an upper or lower socket member for mounting the door.

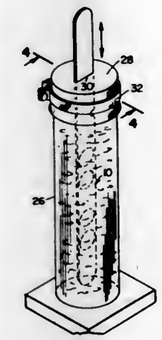
3,368,237
CONCEALED HINGE FOR DOOR, WINDOW AND SIMILAR TURNABLE FRAMES
Johannes Harald Bierlich, Oresundsboj 15, Charlottenlund, Denmark
Filed Mar. 25, 1965, Ser. No. 442,676
2 Claims. (Cl. 16—164)

A concealed hinge including relatively movable mounting plates and a pair of two-armed levers, each slidably connected to one of the plates, pivotally connected to



each other, and pivotally connected to the other of the plates.

3,368,238
CEMENT APPLICATOR AND CONTAINER THEREFOR
Edwin M. Burger, Walnut Creek, Calif., assignor to Oliver Tire & Rubber Company, Oakland, Calif., a corporation of California
Filed Dec. 9, 1966, Ser. No. 600,483
7 Claims. (Cl. 401—119)

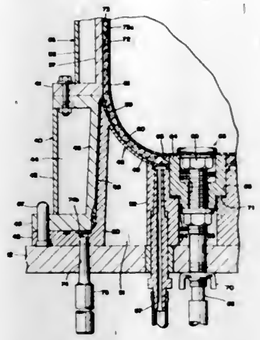


A flat, paddle-like applicator is disclosed for applying a viscous cement to the ends of articles to be spliced, having spaced apart recessed areas which retain a quantity of cement and release it when engaged by an article; and a container having a top that removes excess cement from the surface of the applicator but leaves the desired amount of cement within its recesses when the applicator is withdrawn from the container.

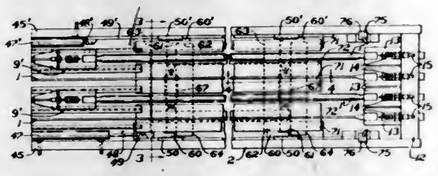
3,368,239
APPARATUS FOR MOLDING IMPREGNATED GLASS FIBER ARTICLES
Arthur J. Wiltshire, Cleveland, Ohio, assignor to Structural Fibers, Inc., Chardon, Ohio, a corporation of Ohio
Filed Apr. 28, 1965, Ser. No. 451,427
7 Claims. (Cl. 18—5)

1. A molding press for producing molded resin articles comprising a fixed lower platen and upper platen means, means to move said upper platen means along a predetermined path, mold cavity means fixed on said lower platen and defining a portion of the outside surface of the article to be produced, mold cavity means on said upper platen means defining the remainder of the outside surface of the article to be produced, a first conduit means

extending through one of said cavity means, an inflatable bag fixed to said first conduit means inside said mold cavity means whereby said bag may be inflated through said conduit means by pressurized fluid so that the inflated bag will define the inside surface of the article to be produced, and a second conduit means extending through one of said cavity means for injecting a measured amount of resin into the cavity means.



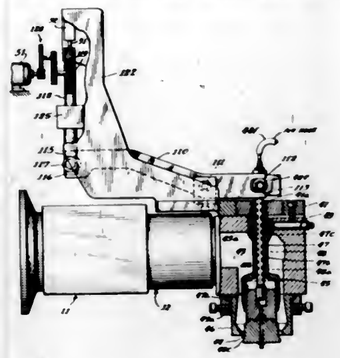
3,368,240
HOSE CURING UNIT
Paul J. Lister, Akron, Ohio, and Alexander Krynytzky, Buffalo, N.Y., assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Original applications Mar. 2, 1964, Ser. No. 348,629, now Patent No. 3,241,181, dated Mar. 22, 1966, and Ser. No. 510,912, Dec. 1, 1965. Divided and this application Aug. 3, 1967, Ser. No. 658,169
3 Claims. (Cl. 18—6)



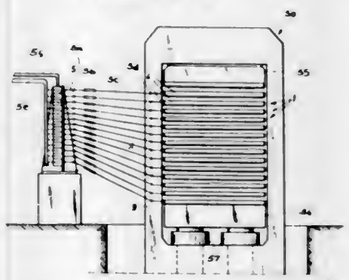
A hose curing apparatus simultaneously curing a plurality of hoses in round cross-sectional form and a plurality of hoses in the oblong cross-sectional form wherein such round form is a partial cure followed by final curing of such hose in oblong or flat cross-sectional form without further handling of the hose.

3,368,241
FUNCTIONALLY CONTROLLED ELECTRO-SERVO VARIABLE EXTRUSION APPARATUS
Henry R. Williams, Fullerton, Calif., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Jan. 18, 1966, Ser. No. 521,361
7 Claims. (Cl. 18—14)

The invention relates to an extrusion apparatus for extending material such as plastic for molding articles such as bottles having walls of varied cross section. The apparatus includes electronic control circuitry which is energized by a function generator in accordance with preselected parameters to activate a driving means for moving the die core and orifice means relative to one another as the material is being extruded. Feedback means are provided for generating feedback signals in response to the activation of the driving means and for coupling the feedback signals to the control circuitry to control the driving means and thereby provide the desired, precise and variable wall thickness for the article being extruded.



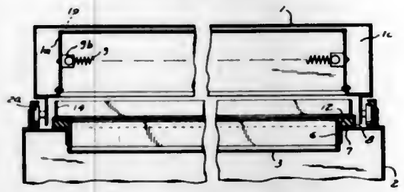
3,368,242
MULTIPLATEN PRESS SYSTEM WITH INDIVIDUAL CHARGING SHEETS
Kurt Loewenfeld and Wolfgang Reiners, Krefeld, Germany, assignors to Firma G. Siempelkamp & Co., a corporation of Germany
Filed Nov. 19, 1965, Ser. No. 508,653
Claims priority, application Germany, Aug. 10, 1965, S 98,570
7 Claims. (Cl. 18—17)



1. In a multiplaten press system for the production of pressed board and the like and including a multiplaten press having a plurality of superposed vertically displaceable press platens adapted to receive mats of a material to be pressed, the improvement which comprises:
- a respective flexible sheet-transporting layer overlying each of said platens, said platens each having a side for the discharge of a respective pressed board from the press;
- respective roller means mounted on each of said platens along said side for winding up the respective layer;
- extending means engaging a free end of each of said layers for drawing same across the respective platen for receiving a respective mat to be compressed and thereafter carrying said mat off the respective platen over said side;
- a respective continuously energized fluid motor coupled with each of said roller means for continuously applying torque thereto in a layer-winding sense tending to draw said layers in the direction of said sides; and

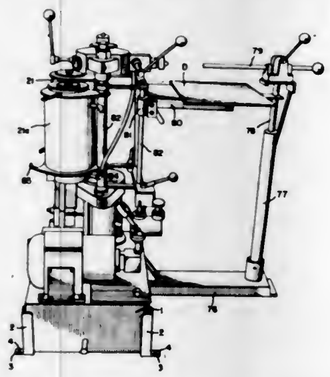
- locking means on each of said platens engageable with the free end of the respective layer for retaining it in an unwound position overlying the respective platen at least during the compression stroke of the press.

3,368,243
VACUUM FORMING APPARATUS
Nuri Kohen, Jackson Heights, N.Y., assignor to Yardney International Corp., New York, N.Y., a corporation of New York
Filed Oct. 22, 1965, Ser. No. 502,163
10 Claims. (Cl. 18—19)



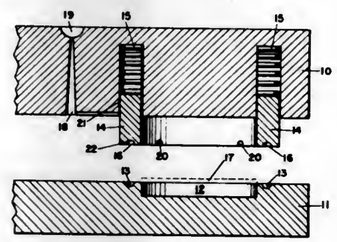
A vacuum-forming apparatus includes a nesting plate having flange means in operative communication with a vacuum source. An unattached gasket is disposed on the flange means extending upwardly from the nesting plate whereby the thermoplastic material is disposed between the angle frame member and the gasket. A coiled Nichrome heating element is horizontally reciprocally mounted to uniformly apply heat to the thermoplastic blank just prior to the application thereto of a vacuum force to thereby insure the desired uniform preselected deformation of the thermoplastic material.

3,368,244
WAX INJECTION PRESS
Hans Mueller, South Road, Poughkeepsie, N.Y. 12601
Filed Apr. 4, 1966, Ser. No. 540,032
11 Claims. (Cl. 18—30)



1. In a wax injection apparatus, a hydraulic oil reservoir and anchoring means therefor, a hydraulic cylinder mounted on the reservoir and having its base portion extending into said reservoir, a piston in said hydraulic cylinder, a pump for pumping fluid under pressure from the hydraulic oil reservoir into said hydraulic cylinder, means for controlling the flow and pressure of the fluid from said pump to said hydraulic cylinder, a piston rod connected to said piston and extending vertically upward from said hydraulic cylinder, a vertical wax cylinder having a closing at its upper end with a central passageway therethrough, a piston structure forming a bottom closure for said wax cylinder, means for limiting the downward movement of said piston structure, sealing means between the piston structure and the wax cylinder, mans for detachably connecting the piston structure in the wax cylinder to the upper end of the piston rod in said hydraulic cylinder, a heating drum enclosing said wax cylinder, means providing friction between the piston in said wax cylinder and the wall of the wax cylinder to permit movement of said wax cylinder with said piston upon initial movement of the latter, a press head having controlled nozzles for association with dies, said press head having a depending portion providing a passageway therethrough to said nozzles and including a depending seat adapted for alignment with the central passageway in said wax cylinder closure, whereby vertical movement of said wax cylinder upon initial movement of the hydraulic piston will cause a sealed seating of the press head with said wax cylinder, heating means for said heating drum and said press head, and means for feeding heating fluid to the heating means for retaining the wax in said wax cylinder in a predetermined slushy state.

3,368,245
PLASTIC MOLD
Henry J. Witkowski, 5625 E. Lake Road, Erie, Pa. 16511
Filed Apr. 5, 1965, Ser. No. 445,523
2 Claims. (Cl. 18—42)

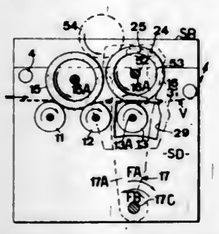


1. A mold comprising a first mold section and a second mold section,
- a cavity in said first mold section,
- a runner groove in said first mold section spaced outward from said cavity,
- and means in said mold to introduce molten plastic to said runner groove,
- an annular groove in said second mold section,
- an annular piston in said annular groove in said second mold section, said annular piston surrounding said cavity,
- said piston overlying said runner groove when said mold sections are assembled and being adapted to move away from said first mold section when plastic is injected into said annular groove whereby plastic material may enter the sides of foam material in said cavity.

3,368,246
TEXTILE DRAWING APPARATUS
Ettore Bonalumi, Bergamo, Italy (% Ing. Misitano A.G., Via Padova 217, Milan, Italy)
Filed Sept. 7, 1965, Ser. No. 485,181
1 Claim. (Cl. 19—261)

A textile drawing apparatus for high production carding machines, which apparatus is intended for drafting a fleece discharged at high output speeds by such a carding machine, comprising, in combination, sets of cooperating upper and lower rollers, urged together by spring means, one of the said lower rollers being mounted in a U-shaped

member pivoted to the support structure of the drawing apparatus, so that the distance between the sets of coop-



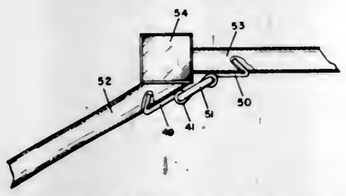
erating rollers may be adjusted in order to adapt the apparatus to the length of the fibers to be drafted.

3,368,247
CABLE TIE
George A. Orban, Mount Royal, Quebec, Canada, assignor to Electrovert Inc., Mount Vernon, N.Y.
Filed Nov. 7, 1966, Ser. No. 592,352
6 Claims. (Cl. 24—16)



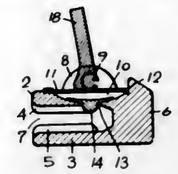
A cable tie or bunding strap is disclosed as including an elongated tongue and a substantially rectangular open frame at one end of the tongue. This frame has pivoted therein a relatively thick pawl defining, with the frame, a curved entry throat for insertion of the free end of the cable tie into the frame. The exit end of the pawl is disposed substantially inwardly of the exit surface of the frame, and the pawl and a surface of the tongue are formed with ratchet means interengageable upon insertion of the tongue through the entry throat to prevent withdrawal of the tongue through the passage through the rectangular frame. The recessing of the exit or free end of the pawl substantially inwardly of the exit surface of the open frame allows the projecting portion of the drawn tongue to be nipped off to provide a cut edge which is disposed inwardly of the exit end of the frame.

3,368,248
MEANS FOR DETACHABLY CONNECTING STRUCTURAL ELEMENTS
Howard Wing, 246 Breadner Crescent, Chippawa, Ontario, Canada
Filed June 2, 1965, Ser. No. 460,781
2 Claims. (Cl. 24—73)



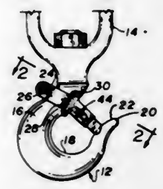
A centre piece having a screw hole therethrough in its longitudinal centre has an arm hingedly connected at each of its ends adapted to lie in surface contact with a member which is to be drawn into rigid contact with a supporting member, each arm having a hook end adapted to engage in said member at an angle to be drawn into aligned engagement with the supporting member by a screw passing through said hole into threaded engagement with said supporting member.

3,368,249
SLIDER FOR SLIDE FASTENERS
Takeo Fukuroi, Uozu-shi, Japan, assignor to Yoshida Kogyo Kabushiki Kaisha, Tokyo, Japan
Filed Nov. 21, 1966, Ser. No. 595,984
Claims priority, application Japan, Mar. 25, 1966, 41/27,302
3 Claims. (Cl. 24—205.14)



1. A slider for slide fasteners comprising a pair of opposingly spaced wing members forming therebetween a fastener element guide channel, a pull tab pivotally connected to one of said wing members and provided with a cam member, a recess formed in said one wing member and provided with an opening, a resilient means having one end secured to said one wing member and the other freely disposed, and a locking means irresistibly disposed in said recess and freely movable through said opening of the recess into and out of the guide channel, said resilient means being compressible substantially arcuately in contact with the cam of the pull tab to urge said locking means slippingly into engagement with a space between adjacent fastener elements of the fastener when the pull tab is manipulated to lock the slider in position on the fastener.

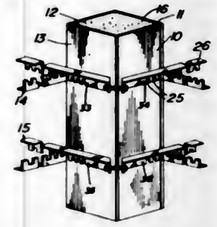
3,368,250
HOISTING HOOK SAFETY GATE
Herbert A. Raschke, Greenbrae, Calif., assignor to E. D. Bullard Company, Sausalito, Calif.
Filed Nov. 26, 1965, Ser. No. 509,767
6 Claims. (Cl. 24—241)



A safety gate for spanning the throat portion of a hoisting hook including a pair of telescopically-biased members pivotally mounted for spanning engagement with the throat portion of the hook. One of the members includes an outer end defining a concave surface conforming to the configuration of the hook adjacent the throat portion.

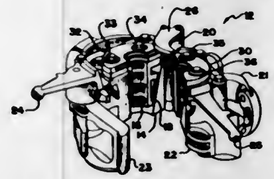
3,368,251
INFINITELY-ADJUSTABLE RECTANGULAR COLUMN CLAMP
Chester I. Williams, 347 Greenbriar SE., Grand Rapids, Mich. 49506
Filed Dec. 9, 1965, Ser. No. 512,679
2 Claims. (Cl. 24—263)

An adjustable clamp to secure a rectangular arrangement of panels to form an enclosure for confining poured concrete, the clamps having beam sections interconnected at corners by bolts engaging the beam sections with



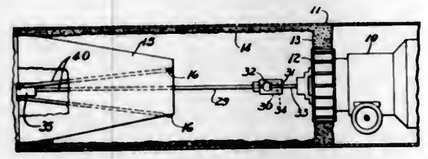
threading of opposite hand, respectively, along an axis inclined at 45 degrees with respect to the axes of the beam sections.

3,368,252
SLIP-SETTING DEVICE FOR OIL WELL ELEVATORS
Samuel W. Meek, Sr., Odessa, Tex. (1312 Kendlewood, McAllen, Tex. 78501)
Filed Oct. 10, 1966, Ser. No. 585,443
8 Claims. (Cl. 24—263)



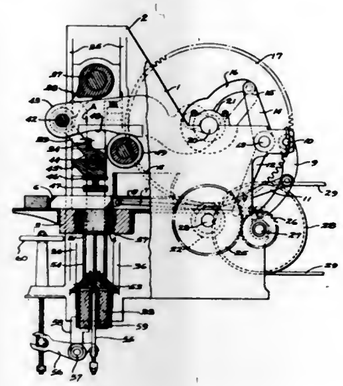
An improved slip-setting device for use in conjunction with the slips of an oil well elevator. The slip setting device is comprised of a wafer like element having a pipe receiving inside peripheral surface. The slip setting device is superimposed above the slips of the elevator whereupon a pipe placed within the elevator will contact the slip setting device which in turn positively sets the slip against the pipe until the pipe is lifted in an upward direction, thereby releasing the slips from the pipe. The slip setting device includes a plastic main body having a reinforcing plate rigidly molded therein with the reinforcing plate having an inside peripheral surface which presents a wearing edge portion to the pipe. One embodiment of the slip setting device is di-sected into two elements wherein one of the elements provide a guide means for initially receiving and aligning the pipe with the elevator.

3,368,253
PIPE LINING TROWEL
John T. Barton, Montour Falls, N.Y., assignor to Perkins Pipe Linings, Inc., Grand Island, N.Y.
Filed Nov. 22, 1965, Ser. No. 508,958
10 Claims. (Cl. 25—38)



1. Trowel means adapted to be drawn through a pipe for smoothing an internal layer of lining material comprising a generally frusto-conical trowel body, a traction member extending forwardly from said trowel body for drawing the same through a pipe small end first, coupling means for connection of said trowel to said traction member, and means connecting between said coupling means and said trowel body for supporting said coupling means substantially axially of said frusto-conical trowel body adjacent to the large end thereof.

3,368,254
BRICK PRESS HAVING DENSITY CONTROL
Charles A. Schacht, Pittsburgh, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 24, 1965, Ser. No. 504,762
2 Claims. (Cl. 25—90)

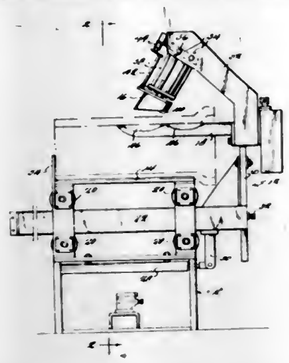


2. In combination with a toggle-type brick press having a mold cavity supported by a main frame, upper and lower pressure plates which enter said mold cavity, said upper pressure plate being connected by toggle arms to an upper crosshead, said lower pressure plate fixed above a lower crosshead, said upper and lower crossheads being connected by side bars, a control system comprising resistance strain gauges attached to said side bars and a constant voltage source arranged to deliver an electrical signal proportional to the strain to a recorder, there being an output shaft on said recorder, the improvement comprising a first circuit means comprising a normally open limit switch which is closed when said shaft is turned past a preset position corresponding to the minimum desirable strain in said side bars energizing an acceptable indicator, a second circuit means containing a normally open limit switch which is closed when said output shaft rotates past a preset position corresponding to a maximum desirable strain in said side bars energizing a warning indicator, a third circuit means containing a normally closed switch which is open during the portion of the brickmaking cycle when brick are being ejected from said mold cavity, said third circuit when closed energizing the first and second circuit means.

3,368,255
HOLE CUTTING APPARATUS FOR PIPE SECTIONS
Herbert L. Cotton, Uhrichsville, Ohio, assignor to United States Concrete Pipe Company, Pittsburgh, Pa., a company of Pennsylvania
Filed Dec. 1, 1965, Ser. No. 510,835
6 Claims. (Cl. 25—107)

An improved apparatus for cutting relatively large holes in uncured, moist, clay pipe sections is disclosed, and the apparatus includes a support arm means which is of a special configuration to be readily inserted into, and re-

moved from, a clay pipe section for supporting the pipe section while a cutter element penetrates a wall portion of the moist pipe section. The support arm may include



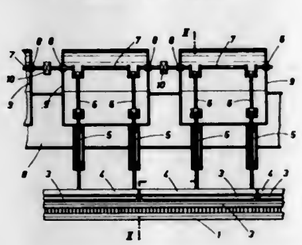
template depressions for receiving the cutter element, and the angle of cut for the cutter element may be adjustable.

3,368,256

APPARATUS FOR NEEDLING FIBER WEBS

Ernst Fehrer, Linz, and Walter Kern, Leonding-Berg, Austria, assignors to Spezialmaschinenfabrik Dr. Ernst Fehrer, Linz-Wegscheid, Austria

Filed Dec. 10, 1965, Ser. No. 512,968
Claims priority, application Austria, Jan. 27, 1965, A 664/65
2 Claims. (Cl. 28—4)



A needling machine including a plurality of juxtaposed units, each unit comprising a bearing frame, a section of a crankshaft journaled in the frame, two motion transmitting rods guided in the frame for rectilinear reciprocating motion and attached to a common needle board, and connecting rods connecting the motion transmitting rods to the crankshaft section, the several frames being mounted on a common rigid support, and the crankshaft sections being connected by flexible couplings between the frames.

3,368,257

DEEP-HOLE DRILL AND REAMER

Rudolf W. Andreasson, 780 W. Maple Road, Birmingham, Mich. 48009

Filed Feb. 9, 1966, Ser. No. 526,282
4 Claims. (Cl. 29—106)

1. In a rotary tool of the type utilizing a shank with an axial interior coolant passage and a bit bonded to the working end thereof,

(a) an elongate bit having an alternate flute and land configuration between a cutting end and a shank end, the shank end having a V-shaped notch,

(b) a shank having an axial, interior, coolant passage terminating at the bit end of the shank, the bit end being shaped to receive and interfit with the notched portion of the shank end of the bit, and having an axial, segmental skirt extension to enter and interfit with an outer segmental area of each flute of the bit to form a driving connection between the shank and bit,



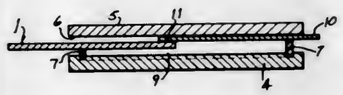
said notch forming with said bit a chamber adjacent each said skirt extension at the end of said coolant passage to distribute coolant to each flute in an axial direction as baffled by said skirt extension.

3,368,258

PROCESS FOR EXPANDING PASSAGEWAY PANELS

Richard A. Shive, Madison, Ill., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Oct. 5, 1964, Ser. No. 401,474
7 Claims. (Cl. 29—157.3)



1. The process which comprises: providing a pressure-welded panel containing internally therein a non-welded passageway pattern corresponding to a predetermined design of weld inhibiting material; placing said panel between a pair of relatively movable dies, one of said dies having a substantially flat face confronting said panel and the other of said dies having an annular, circumferential seal of a resilient material forming a hollow chamber confronting said panel, said seal exceeding the dimension of said panel; interposing a resilient insert between said panel and the flat face of said die, said insert extending at least from the panel to the seal in the area wherein said seal exceeds the dimension of the panel, said insert and said panel overlapping to seal said chamber; closing the die and interposed insert onto the panel and inflating said non-welded portions into said hollow chamber.

3,368,259

METHOD OF CASTING A CYLINDER HEAD FOR AN INTERNAL COMBUSTION ENGINE

Anthony Stevens, Coventry, England, assignor to Humber Limited, Coventry, England, a British company

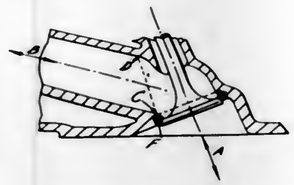
Filed Apr. 3, 1963, Ser. No. 270,392
Claims priority, application Great Britain, Apr. 5, 1962, 13,210/62
2 Claims. (Cl. 29—156.7)

1. In the manufacture of a cylinder head for an internal combustion engine the method of forming a passageway in the head which comprises the steps of:

(a) casting molten metal around a bent core composed of two straight core parts meeting at an obtuse angle, the two core parts being shaped around the outside only of the bend to merge into one another in a curve,

(b) allowing said molten metal to solidify,

(c) withdrawing the core parts axially away from one another to leave a bent passageway composed of two straight portions which make an obtuse angle and merge in a curve around the outside of the bend,



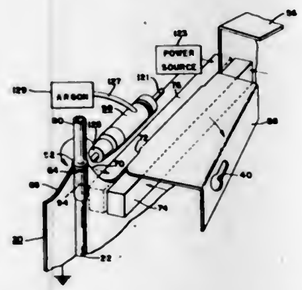
(d) inserting into one portion of the passageway and up to the bend therein an annular insert which constitutes a lining for the passageway portion adjacent the bend and is of internally curved configuration in the axial direction to provide a curved formation for the inside of the bend.

3,368,260

METHOD OF CONNECTING A TUBE TO A ROLL BONDED SHEET METAL FLUID CONTAINER

Siebert Schneider, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 19, 1964, Ser. No. 404,743
2 Claims. (Cl. 29—157.3)



In the preferred form, the mouth of a passage in a roll bonded sheet aluminum evaporator is expanded and in two successive upsetting operations is provided with an upset circular rim. The sheet metal on opposite sides of the circular rim is cut away at a diverging angle. A tube is inserted into the mouth of the passage until an annular bead thereon engages the upset rim. A Heliarc welding gun is electrically energized and passed in a circle around the bead and rim while argon gas flows to electrically weld the bead to the rim.

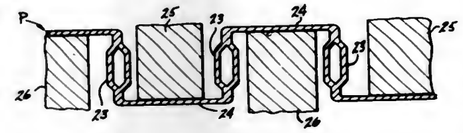
3,368,261

METHOD OF MAKING HEAT EXCHANGERS

Theron F. Pauls, Godfrey, Ill., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Mar. 30, 1965, Ser. No. 443,900
8 Claims. (Cl. 29—157.3)

In the method of producing a heat exchange device from a panel having provided therein a plurality of integral tubes coextending with each other in substantially spaced relationship, said tubes being expanded out of corresponding opposite faces of said panel, the improvement comprising the step of forcing a major portion of the area of the panel on one side of each of said tubes out of the plane of said panel in a first direction while



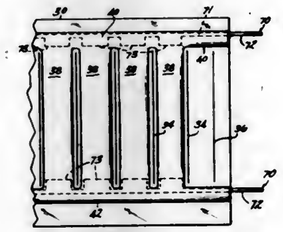
forcing a major portion of the area of the panel on the other side of each of said tubes out of the plane of said panel in a second direction opposed to said first direction, thereby rotating each of said tubes out of the plane of said panel.

3,368,262

METHOD OF TWISTING EXPANDED HEAT EXCHANGER TUBES

Theron F. Pauls, Godfrey, Ill., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Continuation-in-part of application Ser. No. 287,240, June 12, 1963. This application June 2, 1965, Ser. No. 460,705
3 Claims. (Cl. 29—157.3)



1. A method for producing a heat exchange device from a composite sheet formed of two superposed planar sheets having a pattern of weld-inhibiting material interposed between said sheets, said pattern including a pair of parallel spaced-apart bands located adjacent opposite edges of said composite sheet and extending to a transverse edge of said sheet and a plurality of closely spaced-apart bands lying parallel to said transverse edge and joined at opposite ends with said pair of bands, said pair of bands and plurality of bands thereby defining islands free of said weld-inhibiting material, said method comprising the steps of

(A) slitting said composite sheet in said weld-inhibiting material free islands over a major portion of the length thereof to provide a plurality of individual strips of said composite sheet,

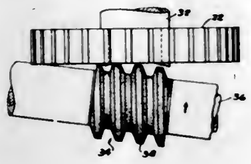
(B) forming a system of hollow tubes in said composite sheet corresponding to said pattern of weld-inhibiting material by applying thereto a fluid under pressure to expand the areas of said composite sheet covered with said weld-inhibiting material,

(C) inserting into the ends of the tubes corresponding to the plurality of bands a plurality of members having an exterior configuration substantially matching the interior configuration of said tubes, and

(D) rotating said hollow tubes from the exterior there-

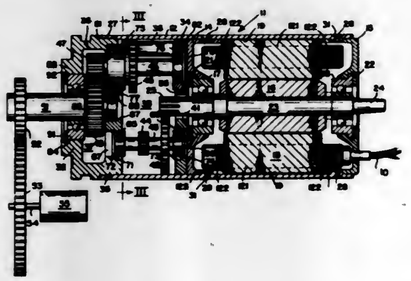
of to dispose said tubes in a plane substantially perpendicular to the plane of said composite sheet.

3,368,263
METHOD OF MAKING GEARS AND THE LIKE
William H. Harris, Jr., Detroit, Mich., assignor to Dexco Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 30, 1965, Ser. No. 517,556
5 Claims. (Cl. 29—159.2)



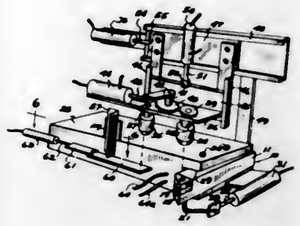
1. The method of making articles such as gears and splines having peripheral teeth or grooving which comprises,
rough forming said article from unhardened metal,
then subjecting said article in rough-formed condition to heat treatment to harden the same,
providing a worm formed of metal and having a helical thread coated with myriad grits of tungsten carbide,
after said article has been so hardened, pressing said coated worm thread into dental engagement with said article and rotating said worm,
regulating the pressure of said worm thread against said article and the speed of rotation of said worm so that said worm thread removes metal from said article,
and thereby both finish forming said article and removing distortions therefrom incidental to said heat treatment.

3,368,264
METHOD OF MAKING A GEAR HEAD FOR A GEAR MOTOR
Harry W. Wilkinson, Philadelphia, Pa., assignor, by mesne assignments, to Litton Industries, Inc., Beverly Hills, Calif., a corporation of Delaware
Original application Oct. 5, 1960, Ser. No. 60,733, now Patent No. 3,241,397, dated Mar. 22, 1966. Divided and this application Oct. 20, 1965, Ser. No. 510,728
3 Claims. (Cl. 29—159.2)



A method of making a gear head for motors to minimize backlash, bear friction, and misalignment error, where an integral gear cage is cut from a bar of material and gear carrying shafts are angularly swung into the integral cage from the sides and at least one bearing for supporting one of the shafts is inserted into the cage at one end from the outside.

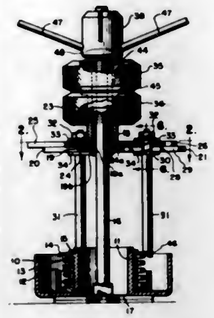
3,368,265
MEANS FOR AUTOMATICALLY INDEXING AND REPLACING CUTTER INSERTS
Floyd L. Kirkham, St. Clair Shores, Mich., assignor to General Electric Company, a corporation of New York
Filed Jan. 12, 1966, Ser. No. 520,233
7 Claims. (Cl. 29—200)



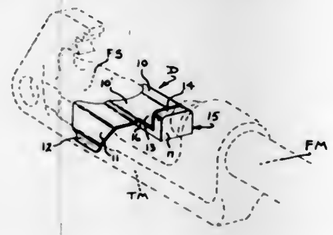
1. Means for indexing and replacing toolholder cutter inserts releasably secured to a toolholder comprising:
insert release means for controlling the release of the insert from the toolholder;
a vertically movable support having an insert gripper mounted thereon and normally disposed a short distance above the toolholder mounted cutter insert, said insert gripper being mounted for rotation about a vertical axis, aligned with the center of the insert, said gripper having means for releasably gripping and holding the insert;
power means for raising and lowering said gripper for thereby lowering said gripper into contact with said insert and raising said gripper to remove the insert from the toolholder;
and rotation means for rotating said gripper, with the insert, a predetermined number of degrees to thereby place a new cutting edge of the insert into cutting position;
a control for sequentially actuating said insert release means to initiate release of the cutter from the toolholder, then operating said power means for moving said gripper downwardly into contact with said cutter insert and for operating said gripper means to grip said cutter insert and thereafter operating said power means to raise said gripper and operate said rotation means to rotate said gripper, and again operating said power means to lower said gripper for replacing the cutter insert in the toolholder, then operating said insert release means to initiate locking of the insert to the toolholder, and finally raising said gripper to its normal position.

3,368,266
RAPID POSITIONING AND CLAMPING APPARATUS
William E. Shultz, 239 N. Main St., Lombard, Ill. 60148
Filed Jan. 19, 1966, Ser. No. 521,696
8 Claims. (Cl. 29—200)

1. A rapid positioning and clamping unit including a first clamping member, a threaded shaft to which said first clamping member is secured at a fixed position axially of said shaft, means defining a second clamping member, said means including a support unit loosely sleeved on said shaft for axial guided movement thereon toward and away from said first clamping member, a series of spindles, connecting means through which said spindles are suspended from said support unit along lines parallel to said shaft within the area between said support unit and said first clamping member and occupying positions in uniformly spaced apart relation circumferentially of circles of varying diameter with which said shaft is concentric, and control means for moving and holding said spindles in clamping engagement with an article of work while said article is disposed between said first clamping member and end portions of the spindles facing said article.

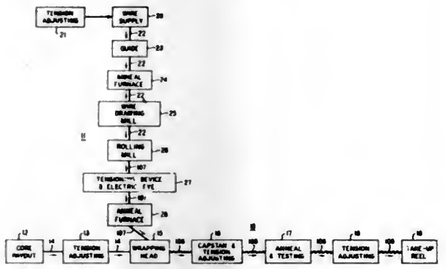


3,368,267
DEVICE FOR BREAKING THE CONNECTION BETWEEN FRICTIONALLY CONNECTED MEMBERS
Carl Raymond Hedberg, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Oct. 20, 1965, Ser. No. 498,602
3 Claims. (Cl. 29—203)



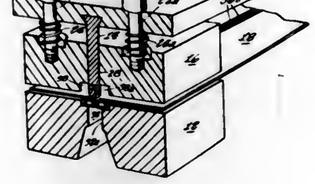
A device for disconnecting a frictionally-connected assembly by a tool having a working area including a stationary section and a movable section, the device comprises an assembly-receiving section for movable disposition along the working area and for receiving the frictionally-connected assembly, retaining means extending outwardly from the assembly-receiving section for engagement with the tool adjacent the working area to retain the device in the working area, and an extension extending outwardly from the assembly-receiving section for engaging one element of the frictionally-connected assembly while another element of the frictionally-connected assembly is disposed against the stationary section of the working area of the tool, the movable section of the tool adapted to be engaged with the extension to forcefully move the device and the one element of the frictionally-connected assembly relative to the other element to disconnect the frictionally connected assembly.

3,368,268
WRAPPING MACHINE
Philip Sherman, Allentown, Pa., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 10, 1966, Ser. No. 519,762
12 Claims. (Cl. 29—203)



A core is freely removed from a supply spool, suitably tensioned and led to a point where aligned metallic tapes are wrapped by rotating the core and both the supply spool and a take-up about the core axis. The composite wire is then tested for magnetic properties which can be regulated by an annealing furnace after which the wire is wound onto said take-up.

3,368,269
DEVICE FOR GAPPING SLIDE FASTENERS
Morris Perlman, 1326 38th St., Brooklyn, N.Y. 11218
Filed Dec. 2, 1965, Ser. No. 511,116
3 Claims. (Cl. 29—207.5)

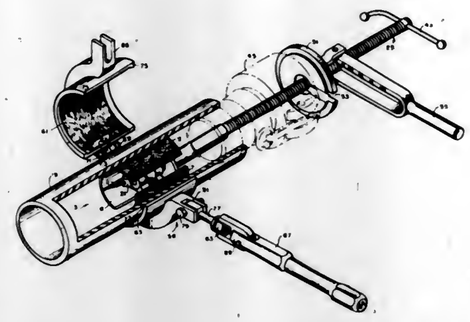


A gapping device for slide fasteners comprising a lower stationary bifurcated die member and an upper clamping block displaceable vertically of the die member. The die member is formed with sharp edge portions at the upper portions of the bifurcated surfaces. A vertically displaceable punch is brought down on slide fastener tape clamped to the die. The punch impacts the slide fastener coils against the die and severs these. During its continuing downward travel, the punch member pulls the severed coil portions into a suitable receptacle.

3,368,270
SHANK TYPE COUPLER AND ADAPTER INSERTER
Theodore H. Babian, 2822 Welsh Road, Philadelphia, Pa. 19152
Filed Apr. 26, 1966, Ser. No. 546,145
8 Claims. (Cl. 29—237)

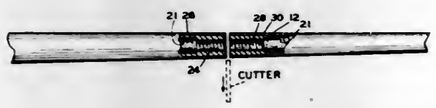
The subject invention relates to an improved flexible hose/hose end connector coupling mechanism which in-

cludes an expandable mandrel that is inserted into the open end of the hose, a clamping mechanism that engages



the exterior surface of the hose opposite the mandrel and a hose end connector engaging mechanism that forces the connector into the end of the hose.

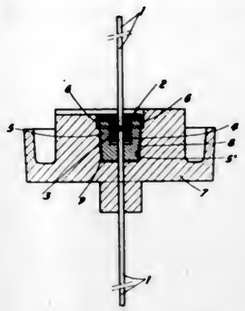
3,368,271
METHOD OF MAKING A TWO-PIECE BILLIARD CUE
Clifford S. Scheffler, Park Falls, Wis., assignor to St. Croix Corporation, Park Falls, Wis.
Filed Aug. 18, 1965, Ser. No. 480,647
2 Claims. (Cl. 29—411)



The disclosure relates to a method for making a two-piece billiard cue and includes the forming of a tubular body, then forming a bushing having threads formed internally thereof, then securing the bushing within the tubular body, then simultaneously cutting the tubular body and bushing substantially centrally thereof to form upper and lower half tubular portions, then forming a connector member having upper and lower threaded end portions with a circular flange therebetween, then then threadedly engaging the lower threaded end of the connector member permanently in the lower half tubular portion with the upper threaded end of the connector threadedly connected in the upper tubular half portion, the inner ends of the tubular portions in abutment with the circular flange.

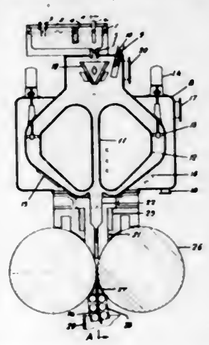
3,368,272
METHOD OF BONDING STAINLESS STEEL BY USING AN INTERMEDIATE MATERIAL
Carmen Wacongne, Seyssinet, and Bernard Vere, Sassenage, France, assignors to Societe anonyme: Societe Industrielle de Combustible Nucleaire, Annecy, Haute-Savole, France, a corporation of France
Filed Nov. 16, 1965, Ser. No. 508,044
Claims priority, application France, Nov. 17, 1964, 995,273
5 Claims. (Cl. 29—494)

A stainless steel member is attached to a member of a high aluminum content by welding the steel member and the aluminum member to an intermediate member of high nickel content. The stainless steel member is welded to the nickel in a high vacuum by electronic bombardment. The aluminum member is welded to the nickel member by heating to 640° C. in a vacuum of 3×10^{-6} mm. Hg for about 2 minutes to form a nickel-aluminum



eutectic system and then cooled over a period of the order of 3 hours.

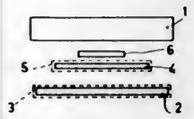
3,368,273
METHOD AND APPARATUS FOR CONTINUOUSLY CASTING AND ROLLING METAL
Nicolai J. Maltsev, Burwood, New South Wales, Australia (Flat 2, 7 Everton Road, Strathfield, 2135, New South Wales, Australia), and Oscar Balassa, 38 Dettman Ave., Longueville, 2066, New South Wales, Australia
Filed May 24, 1965, Ser. No. 458,196
Claims priority, application Australia, June 5, 1964, 45,453/64, 45,454/64
15 Claims. (Cl. 29—528)



A method and apparatus for the processing of molten metal, by passing same at a controlled rate through a circulating liquefied cooling medium, to produce solidified metal of uniform temperature suitable for direct rolling without the necessity for any reheating. The method of the invention substantially eliminates heat exchange at outside surfaces, thereby enabling internal heat exchange to take place between solidified droplets and molten metal, and so avoids the colder and harder skin which is formed in conventional methods.

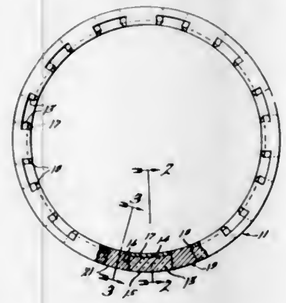
3,368,274
METHOD OF APPLYING AN OHMIC CONTACT TO SILICON OF HIGH RESISTIVITY
Michel Brunet, Caen, France, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 21, 1965, Ser. No. 427,028
Claims priority, application France, Jan. 24, 1964, 961,502
4 Claims. (Cl. 29—589)

A method of making an ohmic connection to high resistivity silicon by fusing to the silicon constituents forming a quaternary alloy of gold, lead, tin, and nickel



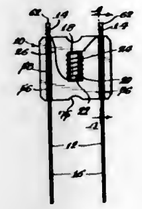
which bonds to the silicon or can be used to bond a conductor to the silicon.

3,368,275
CASTING, MACHINING, AND ASSEMBLING A MAGNETIC MOTOR RING STRUCTURE
Richard F. Eberline, Rochester, and Thomas F. Carmichael and Edward A. Schilling, Drayton Plains, Mich., assignors to Syncro Corporation, Oxford, Mich., a corporation of Michigan
Filed July 3, 1962, Ser. No. 207,264
2 Claims. (Cl. 29—598)



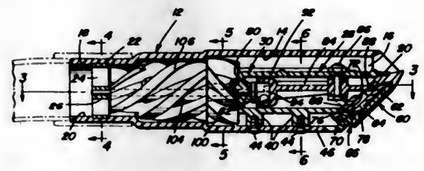
2. In a method for fabricating a portion of a permanent magnet generator of the type having a plurality of circumferentially spaced magnet bodies with radially facing shoes and a supporting ring of magnetic material and circumferentially surrounding said magnet bodies with said supporting ring being a pre-existing component normally serving a first function in a machine assembly other than a function as a portion of a generator and in such first function being adapted to be rotated, comprising the steps of placing said magnet bodies while magnetized and shoes in their proper circumferentially spaced relation but separate from said supporting ring, forming a unit separate from said supporting ring and having circumferential cluster of magnet bodies and shoes by casting a continuous ring of non-magnetic material which engages the opposite axially spaced ends of said magnet bodies and shoes and holds the shoes to the magnet bodies as well as the shoes and magnet bodies in their proper circumferentially spaced relation with said magnet bodies held in said unit and being magnetically connected solely by high reluctance paths generally of non-magnetic material, and securing the separate unit consisting of the magnet bodies, shoes and cast ring to said supporting ring of the machine assembly with said magnet bodies opposite from the sides of the shoes substantially in contact with said supporting ring whereby a magnetic return path of low reluctance is provided between associated magnet bodies, demagnetizing said bodies and said shoes prior to machining the separate unit, machining the unit with the magnet bodies unmagnetized and magnetizing the magnet bodies after machining, the magnet bodies being constructed of a ceramic material resulting in a ceramic magnet upon magnetization, the cast ring being made of a non-magnetic material and the supporting ring and shoes being made of a magnetic material.

3,368,276
METHOD FOR MOUNTING A CIRCUIT ELEMENT
John O. Renskers, Crystal Lake, Ill., assignor to Coilcraft, Inc., Cary, Ill., a corporation of Illinois
Filed Aug. 3, 1964, Ser. No. 387,139
5 Claims. (Cl. 29—625)



1. A method for making a coil mount which comprises placing a pair of elongated, straight, stiff terminal wires in spaced parallel relation across a sheet of stiff, resilient, electrically insulating material, bending and driving a central portion of said wires through said sheet, permitting the edges of said sheet defined by the lines of passage of said central portions therethrough to restore themselves substantially to their initial coplanar relation with the rest of said sheet, and flattening said central portions against the back side of said edges.

3,368,277
VACUUM ACTUATED CLIPPER CONSTRUCTION
Leo G. VeVea, 8327 Fair Oaks Blvd., Carmichael, Calif. 95608
Filed Dec. 1, 1965, Ser. No. 510,930
6 Claims. (Cl. 30—133)

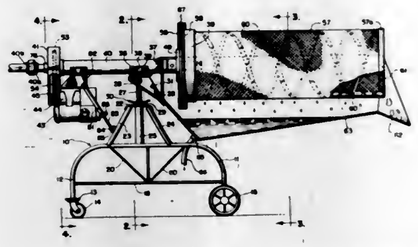


A hollow elongated body defining a vacuum passage extending therethrough and including inlet and outlet ends, a clipper assembly including relatively movable and coacting cutting blades removably secured within the body with the cutting blades disposed in the inlet end of the body with the clipper assembly including turbine means consisting of a shaft journaled in the body upon which a bladed turbine wheel is mounted for rotation therewith and drivingly connected to one of the cutting blades of the clipper assembly for oscillating the latter in response to rotation of the shaft.

3,368,278
MACHINE FOR SEPARATING CURD AND WHEY
John Opie, 4934 S. Hoyne Ave., Chicago, Ill. 60609
Filed Mar. 25, 1966, Ser. No. 537,358
8 Claims. (Cl. 31—46)

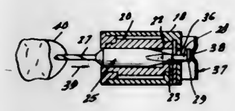
6. In a machine for separating whey from curd;
a supporting frame;
a journalled hollow shaft;
an electric motor;

mechanism for transmission of power between said motor and said shaft;
a whey and curd feed tube mounted in said shaft;
an elongated substantially cylindrical rotatable apertured conveyor having spiral vanes mounted therein and receiving an end of said feed tube;
manually releasable means for connecting said conveyor and said shaft;
means for adjusting the relative position of said conveyor to said frame;



an inclined elongated receptacle mounted on said frame and below said conveyor;
the rotation of said conveyor during forced introduction of a mixture of liquid and semi-solid material through said tube being adapted to convey such semi-solid material through the discharge end of said conveyor while permitting the liquid material to flow through the apertures of said conveyor into said receptacle.

3,368,279
DENTAL HAND-PIECE AND TOOL
Bernard Weissman, 304 Ashland Place, Brooklyn, N.Y. 11217
Filed Nov. 26, 1965, Ser. No. 509,794
14 Claims. (Cl. 32—27)



1. A tool holder for a dental hand-piece comprising a housing, a driving member mounted within said housing, said driving member being adapted to removably receive a dental tool, and said driving member having means cooperating with a dental tool to provide a clutch operation.

3,368,280
DENTAL TOOL
Charles M. Friedman, Hollywood, and Bruce Richman, Miami, Fla., assignors, by mesne assignments, to C & B, Inc., North Miami Beach, Fla.
Filed Mar. 23, 1966, Ser. No. 536,729
5 Claims. (Cl. 32—58)



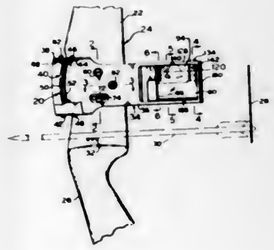
1. A work tool for an ultrasonic dental device comprising a shank portion adapted to be connected to a connecting body in the device and a single portion projecting from the shank and terminating in an angled distal work tool end, said shank having a fluid path therethrough with a mouth arranged to direct a stream of water flowing through the shank to impinge on the distal end.

3,368,281
MEASURING DEVICE FOR LENGTH MEASURING OF FOOTWEAR
Mogens Krøger, Rodovrevej 288, Vanlose, Copenhagen, Denmark
Filed Mar. 25, 1966, Ser. No. 537,361
Claims priority, application Denmark, Apr. 5, 1965, 1,723/65
1 Claim. (Cl. 33—3)



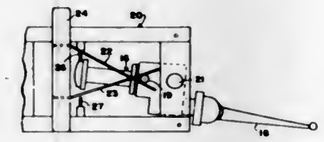
A measuring device for length measuring of footwear consisting of an angular shaped block having a horizontal first leg and a second leg and having a tunnel, a scale slidable by pushing or pulling, a reference point against which the scale is read, the horizontal leg having at its underside a supporting face for supporting the device, and at its upper side a foot support, the second leg corresponding in thickness to the toe room required in a shoe.

3,368,282
BOWSIGHT
Dale E. Gibson, Portland, and Donald M. Perry, Gresham, Oreg., assignors to Leupold & Stevens Instruments, Inc., Portland, Oreg., a corporation of Oregon
Filed Nov. 29, 1965, Ser. No. 510,308
17 Claims. (Cl. 33—46)



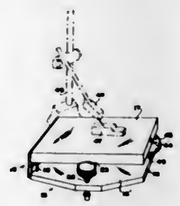
A bowsight includes a semi-reflecting lens of zero power mounted by a frame adjustably on a bow. A light-gathering bar of fluorescent material such as methyl methacrylate impregnated with an iridescent dye is mounted for angular adjustment on the frame to compensate for windage, and a reticle plate is adjustable vertically on the bar to compensate for elevation. A mirror at one end of the bar reflects light into the bar. A modified bowsight has a frame adjustable on a bow and has a folded light path. A light bar angularly adjustable on the frame gathers light and projects it through a vertically adjustable reticle plate to a prism, which directs the light to a semi-reflective lens.

3,368,283
INDICATOR FEELER BIASING AND REVERSIBLE MEANS
Edward LeVasseur, Cumberland, R.I., assignor to Boice Gages, Inc., Hyde Park, N.Y., a corporation of New York
Filed Oct. 15, 1965, Ser. No. 496,562
8 Claims. (Cl. 33—169)



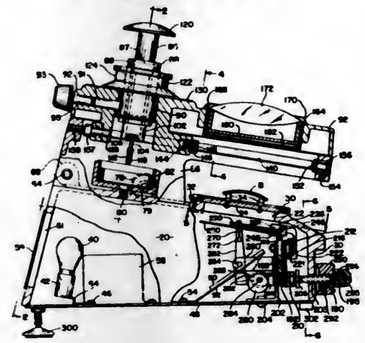
This precision measuring instrument has a lever swingably mounted for movement between two stops on a frame. The lever presents a feeler element whose movement when applied to a piece of work, is to be noted or determined. Two springs, on a slide having two limit positions, bias the lever towards said stops respectively. When the slide is set at one of its limit positions, the feeler becomes adapted for movement upwardly, and when the slide is set at its other limit position, the feeler is for movement downwardly. At each such slide position, said springs are unequally stressed. The resulting force acting on the lever is smaller than heretofore, thus the instrument has a greater sensitivity besides being reversible.

3,368,284
LEVELING TABLES
Ralph Ernest Boice, Livingston, N.Y., assignor to Boice Gages, Inc., Hyde Park, N.Y., a corporation of New York
Filed Sept. 22, 1965, Ser. No. 489,254
6 Claims. (Cl. 33—174)



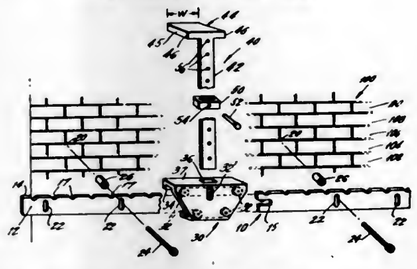
A leveling table including a base member hingedly connected to an overlying surface plate by leaves connected to the base member and surface plate. The leaves have facing sockets which receive rotatably fitted balls and the surface plate is tiltable about the line of centers of the balls. The base plate is tiltable about an axis orthogonal to the line of centers of the balls and in the plane of the base member.

3,368,285
LENS MARKING DEVICE
Lloyd A. Buckminster, Geneva, and Robert R. Hines, Phelps, N.Y., assignors to Textron, Inc., Rochester, N.Y., a corporation of Rhode Island
Filed Nov. 22, 1965, Ser. No. 508,940
7 Claims. (Cl. 33—174)



The apparatus has a reticle with two sets of graduations. A straight line inscribed on a slide is adjusted against one set to the desired offset of the reading segment in the lens. A pivotally mounted cord reads against other graduations, giving prescribed position of top edge of segment. Two strips, adjustable against first graduations, are set to desired width of segment. Lens blank is placed on top of reticle. Images of blank, straight line, cord, and strips are projected on a screen disposed above blank, and blank is adjusted to correct segment position. Marker, previously adjusted for desired cylindrical axis, is then used to mark blank.

3,368,286
BRICK LAYING APPARATUS
Howard W. Zenke, Brooklyn, N.Y., assignor to Zetco Engineering and Tool Company, Inc., Brooklyn, N.Y., a corporation of New York
Filed Apr. 28, 1966, Ser. No. 546,052
8 Claims. (Cl. 33—180)



1. A mason's guide for positioning successive courses of bricks along a wall in horizontally aligned, vertically adjacent relationship, comprising in combination:
a first guide member including a straight guide surface of an appreciable length, in the same order as the horizontal extent of the courses of brick to be guided into position;
means for securing said first guide member to at least one predetermined fixed vertical location of the wall, such that said guide surface is disposed parallel to the horizontal direction of the brick course;
a second guide member mounted to said first guide member, and freely movable along the horizontal extent of said guide surface;

said second guide member of a horizontal extent in the same order as the width of brick being positioned;

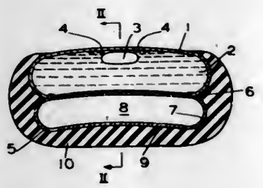
a tool member vertically reciprocable within said second guide member;

said tool member of a generally L-shaped configuration including a first portion extending through a vertical clearance aperture in said second guide member, and a second portion, extending transverse to said first portion and including a platform member for abuttingly engaging a surface of a brick being positioned;

a stop means along the length of said first portion for predeterminedly limiting the extent of the vertically reciprocal movement of said tool towards said second guide member, with the distance between the limit of the tool platform vertical movement and said guide surface corresponding to the desired location of the brick course being formed with reference to said guide surface;

the horizontal movement of said second guide member along said first guide member and the predetermined extent of vertical movement of said tool member towards said second guide member serving to position horizontally adjacent bricks along a course having a predetermined vertical spacing from said guide surface.

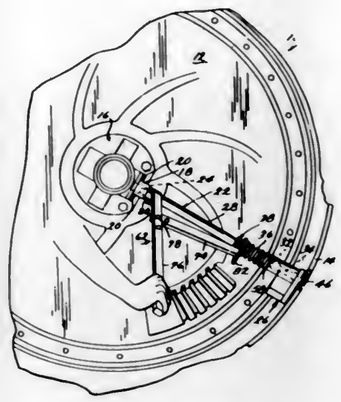
3,368,287
LEVEL BUBBLE ILLUMINATION BY MEANS OF A RADIOACTIVE GAS AND A PHOSPHOR ELEMENT
John D. Ault, Twickenham, Middlesex, England, assignor to Saunders Roe & Nuclear Enterprises Limited, Hayes, Middlesex, England
Filed Apr. 23, 1964, Ser. No. 362,144
Claims priority, application Great Britain, May 1, 1963, 17,088/63
5 Claims. (Cl. 33—211)



1. A level indicating device comprising: an outer casing having a window opening, an elongated first chamber mounted in the casing and filled with a liquid except for a movable gas bubble located therein, a first side of said first chamber being visible through the said casing window for observing the position of the bubble, a second elongated chamber mounted in the said casing so that its center lies on the side of the center of the first chamber away from the said window, said second chamber comprising a self-luminous light source including a phosphorous material on the internal surface of the second chamber, and a radioactive tritium gas within said second chamber for exciting the said phosphor material to luminescence, and a reflective surface located on the side of the second chamber away from the first side.

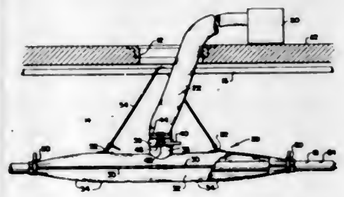
3,368,288
CONDENSATE SYPHON PIPE FOR DRYING DRUM
Jack W. Bell, 525 Russell Ave., Woodlawn Terrace, Savannah, Ga. 31408
Filed Feb. 11, 1966, Ser. No. 526,814
7 Claims. (Cl. 34—125)

A rotatable steam heated drum is provided with a syphon pipe structure comprising a radially extending conduit having an inner end in communication with the interior of a hollow journal of the drum and an outer end mounted in a condensate pickup fitting. The pickup fitting has dowels which are received in sockets formed in the drum shell and a spring is provided between a split ring



on the conduit and the pickup fitting to urge the fitting against the drum shell and the inner end of the conduit into a socket in the hollow journal thereby forming a structure which does not move relative to the drum shell and which is readily releasable.

3,368,289
AIR DRYER JACKET FOR UNDERGROUND ELECTRICAL CABLES
Thurman A. Pelsue, 3706 S. Hibiscus Way, Denver, Colo. 80237
Filed July 26, 1965, Ser. No. 474,816
9 Claims. (Cl. 34—232)

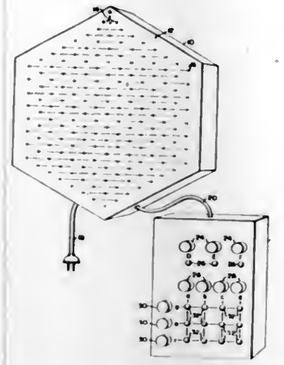


The invention consists of a dryer jacket for use in splicing underground electrical cable which includes a wraparound fabric jacket having means for sealing said jacket around the cable whereby, as forced hot air is introduced into the jacket, the jacket will inflate around the cable and provide an envelope of warm circulating air.

3,368,290
INSTRUMENT FOR REPRESENTATION OF CRYSTAL STRUCTURE
Arthur L. Loeb, Cambridge, Mass., assignor to Kennecott Copper Corporation, New York, N.Y., a corporation of New York
Filed Oct. 23, 1965, Ser. No. 503,771
14 Claims. (Cl. 35—18)

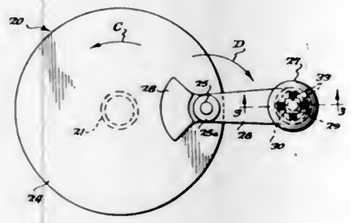
A device for representing crystal structures consists of a display panel having actuatable indicators located to provide a visual representation of the location of atom sites in a crystal. The indicators are arranged in groups

which represent individual planes in the crystal, and each group is composed of subgroups which represent a fraction of the sites in the group. Selector means provide for



the selective actuation of both the subgroups and groups so that one or more subgroups may be displayed for any desired plane.

3,368,291
EDUCATIONAL DEVICE
John F. Kopczynski, 1671 Sweeney St., North Tonawanda, N.Y. 14150
Filed Jan. 29, 1965, Ser. No. 429,089
4 Claims. (Cl. 35—43)



3. An educational device for use in demonstrating a postulated theory of how celestial forces act upon galaxies of stars and planets, and enabling a study of such forces, which comprises:

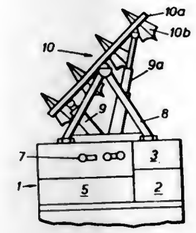
(a) a member mounted for high speed rotation on its axis,

(b) an arm pivoted for free rotation on said member as well as bodily rotation with it on an axis parallel to and at a substantial distance from the member axis,

(c) a body representing a planet, and means resiliently mounting said body on said arm, at a substantial distance from the arm axis of rotation, for limited relative movement thereon about an axis that is parallel to the axis of rotation of said member, in a direction that is parallel to a plane that is normal to the axis of rotation of the arm and which is resiliently held in a central position when said arm is not rotating,

(d) whereby when said arm is first started in rotation about its axis in one direction and the member is then rotated about its axis in the opposite direction, said arm will continue to rotate in said one direction on its axis while bodily rotating in the opposite direction with said member.

3,368,292
VEHICLE FOR CONDITIONING SNOW SLOPES, AND FOR TRANSPORTATION THEREON
Ernesto Prinoth, Villa Esperia, Bolzano, Italy
Filed June 16, 1965, Ser. No. 464,496
Claims priority, application Italy, June 19, 1964, 13,430/64; May 24, 1965, 11,370/65
6 Claims. (Cl. 37—10)



6. A tracked vehicle for travel on snow, comprising:

a chassis having an endless belt track band of substantially the same width as said chassis and propulsion means for driving said track band;

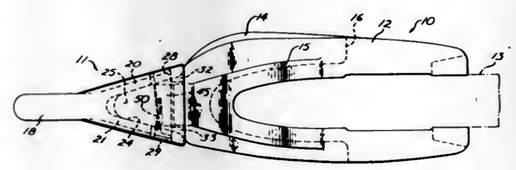
steering means for said vehicle, comprising a rigid triangular member hinged along one side to the front end of said chassis for vertical swinging movement, and a transverse bar connected by a universal joint to the opposite apex of the triangle;

ground-engaging members mounted on said bar, said members being shaped to have minimum resistance in the direction of forward travel and maximum resistance in the direction transverse thereto; and

a pair of hydraulic rams, each of which is flexibly connected at one end to the front of said vehicle, and at the other end to said bar on opposite sides of said universal joint and at points spaced laterally outward therefrom, each of said hydraulic rams comprising a cylinder with associated piston rod;

said hydraulic rams being controllable from said vehicle to force said bar around to an angled relationship, whereby said ground-engaging members cause said vehicle to turn in one direction or the other.

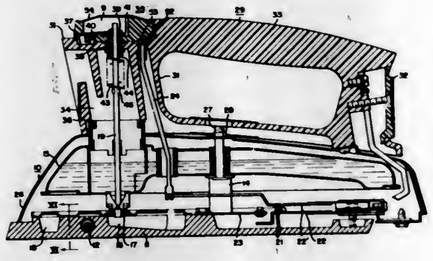
3,368,293
LOCKING PIN FOR DIGGING DIPPER TOOTH
Kenneth R. Judkins and Boyd W. Irvine, Jr., Silver Bay, Minn., assignors to Reserve Mining Company, Silver Bay, Minn., a corporation of Minnesota
Filed May 5, 1965, Ser. No. 453,262
7 Claims. (Cl. 37—142)



A dipper tooth structure including a cap tooth with a blade-like digging portion and a rearwardly opening socket adapted to encase a lug forwardly projecting from the dipper. The tooth and lug have aligned openings into which a wedge-shaped locking pin is inserted to hold the tooth on the lug. The forward wall of the lug opening has an upper portion that is downwardly convergently

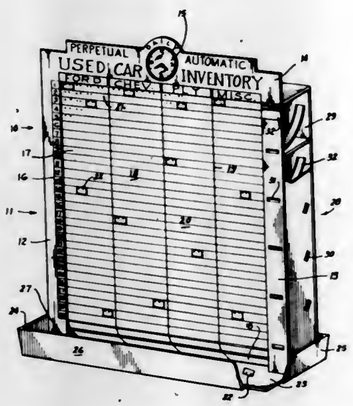
tapered to complement the wedge-shaped pin, and a lower portion that is oppositely tapered. A flat spring is carried by a pin and projects outwardly from the pin against the lower oppositely tapered portion of the forward wall of the lug opening to hold the pin in place.

3,368,294
STEAM IRON
Harold W. Martin, Shelby, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 20, 1965, Ser. No. 481,252
9 Claims. (Cl. 38—77)



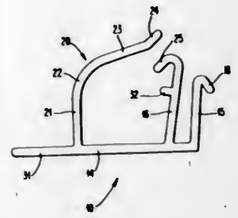
A control for an iron which control is rotatable both clockwise and counterclockwise to an off position. The control comprises cam means having intermediate portions bounded by extreme or end portions serving to cam the switch to an off position and is characterized by the provision of abutments adjacent the extreme portions to limit travel of the control.

3,368,295
INVENTORY INDICATING DEVICE
John A. Burns, Lake Providence, La., and Clarence H. Rauschenberg, Houston, Tex., assignors to B-T-R Industries, Inc., a corporation of Texas
Filed Mar. 27, 1967, Ser. No. 626,123
13 Claims. (Cl. 40—124)



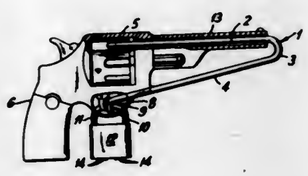
Preferred invention provides vertically indexed frame mounting upper and lower rollers to drive transparent belt therearound and over metallic belt-width plate between rollers and divided into vertically aligned rectangles horizontally aligned with index spaces. Inventory members including magnetized means are disposed chronologically vertically and horizontally by type and condition on belt over rectangles. Electric timer starts motor to drive belt one index space per time interval for inventory member disposition on belt strip newly exposed over top plate strip as inventory members fall from belt strip moved below plate. Inventory at any time comprises inventory members on belt.

3,368,296
ATTACHING DEVICE FOR INDEX PAD
Alfred L. Edwards, Cookeville, Tenn., assignor to American Merchandising, Inc., Louisville, Ky., a corporation of Kentucky
Filed Feb. 25, 1966, Ser. No. 530,078
10 Claims. (Cl. 40—336)



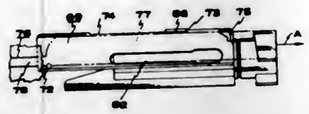
1. A device adapted to be attached to a support structure, said device including a base, first means extending from a surface of said base, second means extending from said surface of said base in spaced relation to said first means, said first means and said second means cooperating together to attach said device to the support structure, third means extending from said surface of said base and spaced from said second means, said second means and said third means having cooperating means to form a closed connection therebetween to permit said third means to function as a hinge for an index pad or the like, and said base extending beyond said third means to form a support for the index pad or the like when said device is attached to the support structure.

3,368,297
GUN SAFETY LOCKING ROD
Morgan E. Lentz, 60 Addison Ave., Rutherford, N.J. 07070
Filed Mar. 23, 1966, Ser. No. 536,730
8 Claims. (Cl. 42—1)



According to the present invention a safety rod is provided lockable in relation to a gun, rendering such gun inoperative and assuring that there is no bullet in the gun aligned with the barrel and/or firing chamber wherein the rod inserted within the chamber is anchored and locked at the trigger guard of the weapon.

3,368,298
BREECH BOLT CARRIER ASSEMBLY AND SLIDE COVER THEREFOR
Bruce W. Browning, Ogden, Utah, assignor to Browning Industries, Incorporated, Morgan, Utah, a corporation of Utah
Filed Jan. 3, 1967, Ser. No. 606,846
8 Claims. (Cl. 42—16)



This invention provides an improved breech bolt carrier assembly incorporating a novel, telescoping slide cover for permitting proper breech closure and opening while reducing bolt and receiver size and related structure of the firearm.

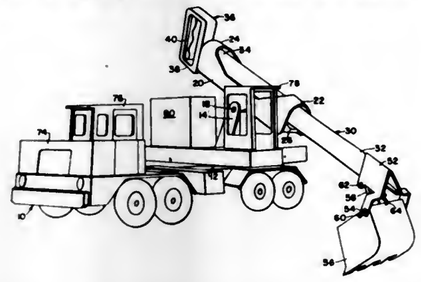
3,368,299
FISHING HOOK
Charles Henry Scheidt, Jr., Essex, Md. (2102 Southorn Road, Baltimore, Md. 21220)
Filed Sept. 23, 1965, Ser. No. 489,564
3 Claims. (Cl. 43—43.12)



1. A fishing line leader assembly for a fishing line comprising a hook member having a loop formed in the end thereof remote from the hook, a hook release member comprising a bent wire formed intermediate its ends with a fishing line engaging portion, one end of said hook release member formed with a loop and the other end being straight and extending through said loop in said hook member and said loop of said release member, a slack hook release line secured to said straight end to pull said straight end through said loops.

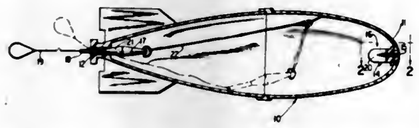
3,368,300
TOY EXCAVATOR
Bernard E. Balthazor, Moline, Ill., assignor to Buddy L. Corporation, East Moline, Ill., a corporation
Filed Mar. 25, 1966, Ser. No. 537,462
10 Claims. (Cl. 46—40)

1. A toy excavator, comprising a supporting base including an upstanding element carried thereon, a carrier pivotally mounted on said element for rocking about a generally transverse first horizontal axis and having first and second end portions spaced apart along a second axis normal to said first axis, an elongated boom disposed with its length along said second axis and having first and second ends respectively longitudinally beyond said first and second end portions of the carrier; means cooperative between the carrier and the boom and mounting said boom on the carrier for rocking in unison about the first axis and for lengthwise sliding and turning of the boom relative to the carrier along and about said second axis; a digging tool carried by the first end of the



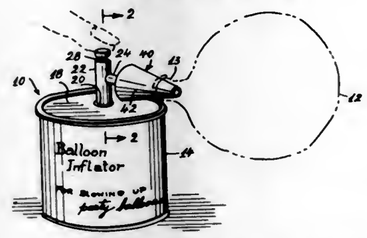
boom; and handle means carried at the second end of the boom for enabling manual sliding and turning of the boom along and about said second axis and for rocking of the carrier and boom about said first axis.

3,368,301
ROCKET TOY
Benjamin Kinberg, 425 Riverside Drive, New York, N.Y. 10027
Filed Apr. 6, 1966, Ser. No. 540,639
4 Claims. (Cl. 46—74)



1. A rocket toy engine comprising a rigid hollow body having a nose at one end and having a propulsion throat at its opposite end, a check valve on said body having an opening for introducing compressed gas into said body and having means for sealing said opening when said body is pressurized, and a closure for said throat captive within said body having an outer end portion extending outwardly of said throat when in throat sealing position and being frictionally retained and arranged to be moved into said body to open said throat.

3,368,302
BALLOON INFLATOR WITH ROTATABLE VALVED NOZZLE
Dom Martino, 2 Lawrence Drive, White Plains, N.Y. 10603
Filed May 5, 1965, Ser. No. 453,267
4 Claims. (Cl. 46—90)



Apparatus for inflating toy balloons including a source of air supply, under pressure. A casting joins the outlet of the source to the inlet of the balloon. The casting has

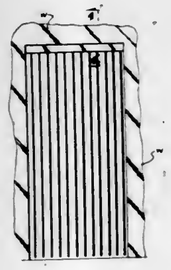
a stem connected to the outlet with means therein for releasing a supply of air from the source. Another stem on the casting is connected to the inlet of the balloon, the latter stem supporting a nozzle which is connected to the inlet of the balloon. A valve in the nozzle controls the flow of air into the balloon.

3,368,303
MOLDED RECEPTACLE FOR FLOWERS
Duncan Tong, 23C Robinson Road, Victoria, Hong Kong
Filed June 29, 1966, Ser. No. 561,426
6 Claims. (Cl. 47—41.12)



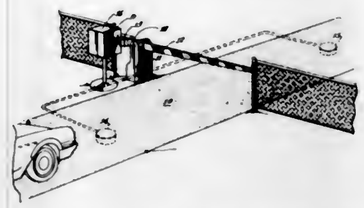
1. A flower holder of molded plastic material comprising an inner housing surrounded by a receptacle and joined together at the base thereof, both said housing and receptacle being open at the tops thereof with the top of said housing terminating a fractional amount of the height of the housing below the level of the open mouth of said receptacle, to permit the insertion of a porous mass of material thereinto for the retention of flower stems, said inner housing adapted to contain a porous mass of plastic material adjacent to the upper end thereof, and a completely detachable perforated cover for said last-mentioned upper end adapted to have plant stems extended through the perforations in said cover and into said porous mass for detachable securement therein.

3,368,304
INSECT REPELLING VIBRATORY SCREEN
Murray Ball, 7461 Calle del Prado, Cucamonga, Calif. 91730
Filed Feb. 7, 1966, Ser. No. 525,445
4 Claims. (Cl. 49—58)



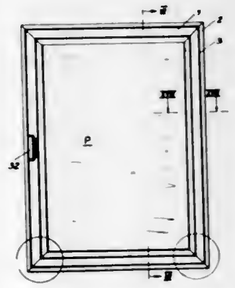
An insect repelling screen comprising a horizontal member having flexible members depending therefrom, and a vibrating mechanism arranged thereabove for vibrating the flexible members.

3,368,305
GATE CONTROL SYSTEM
Leonard Piekarski, Pomona, Calif., assignor, by mesne assignments, to Smyth, Roston & Pavitt, Los Angeles, Calif., a firm
Filed Nov. 12, 1964, Ser. No. 410,574
15 Claims. (Cl. 49—70)



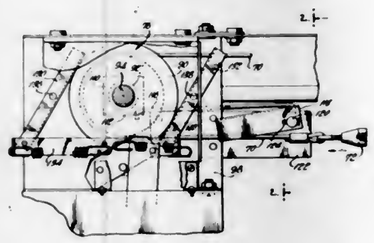
1. A control system for a gate governing a driveway, comprising:
- a post positioned next to the driveway, there being a gate pivotably mounted to the post to selectively block and open passage through said driveway;
- a first and a second magnetic detector unit respectively positioned ahead and behind said gate, and being individually energizable by interaction with a magnetic field of a car;
- a first control means which includes a ticket dispensing device for operating upon said gate to open said gate in response to said first detector and withdrawal of a ticket;
- second control means for operating upon said gate to close gate in response to said second detector;
- and third control means governed by said second detector preventing reenergization of said first control means by said first detector until response of said second detector.

3,368,306
DOOR OR WINDOW CONSTRUCTION
Ernst von Wedel, Senne, and Manfred Muehle, Loehne, Germany, assignors to Heinz Schuermann & Co., Bielefeld, Germany
Filed Jan. 6, 1966, Ser. No. 519,406
Claims priority, application Germany, Jan. 7, 1965, Sch 37,415; Aug. 4, 1965, Sch 37,493
36 Claims. (Cl. 49—192)



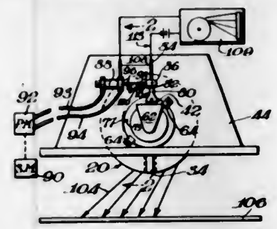
Improved window or door construction of the type wherein an outer frame accommodates an inner frame or sash and wherein the sash may be pivoted about a vertical axis and about a horizontal axis and including various couplings, sealing elements, actuating and motion transmitting parts and other hardware necessary to insure that the sash can be moved about horizontal and vertical axes, that the sash can be properly locked in closed position, and that the periphery of the sash may be properly sealed against rain, dust and wind when the sash is closed.

3,368,307
DOOR OPERATORS
Frederick A. Purdy, 870 United Nations Plaza, New York, N.Y. 10017
Filed May 20, 1966, Ser. No. 551,586
3 Claims. (Cl. 49—280)



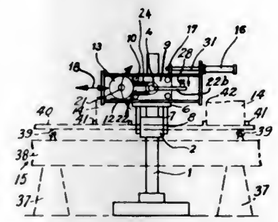
1. In a door operator having a door, a sheave, a cable on said sheave connected to said door and a motor connected to said sheave for driving said sheave and said cable in a first direction for opening said door and in a second direction for closing said door, means for locking said door closed comprising, a latch, means on said motor shaft for lifting said latch out of engagement with said cable when said cable is driven in said first direction to open said door and for moving said latch into engagement with said cable when said cable is driven in said second direction to close said door and means on said cable for engaging said latch for locking said door in its closed position when an attempt is made to open said door manually.

3,368,308
CENTRIFUGAL BLASTING APPARATUS
Willis J. Physioc III, Boonsboro, Md., assignor to The Pangborn Corporation, Hagerstown, Md., a corporation of Delaware
Filed Nov. 3, 1964, Ser. No. 408,590
6 Claims. (Cl. 51—9)



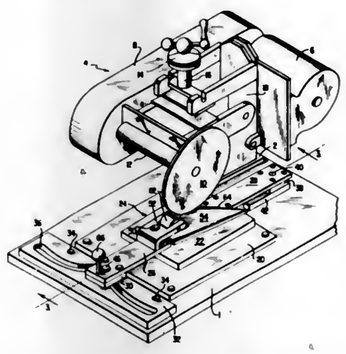
1. A centrifugal blasting apparatus comprising a housing open at one end, a rotatable blasting wheel mounted in said housing, a plurality of radial vanes on said blasting wheel with their innermost ends spaced from the center of said wheel, an impeller cage on said blasting wheel disposed between said innermost ends of said vanes, a feed slot in said impeller cage, remote controlled actuating means connected to said impeller cage for adjusting the angular orientation of said feed slot, and said actuating means including a cylinder and piston assembly and including an operating unit disposed remotely from said impeller cage and mounted externally on said housing for operating the reciprocation of said piston in said cylinder and including remote means for visually noting the angular orientation of said impeller cage.

3,368,309
MACHINE TOOL
Werner Wrobbel and Albrecht Schnizler, Nurtingen, Germany, assignors to Metabowerke K.G. Closs, Rauch & Schnizler, Nurtingen, Wurttemberg, Germany
Filed Mar. 30, 1965, Ser. No. 443,903
Claims priority, application Germany, Mar. 31, 1964, M 60,493/64
11 Claims. (Cl. 51—37)



A carriage carrying a lever on which a tool is mounted, is moved in the same direction as a workpiece. A fluid operated motor urges the lever to a position in which the tool engages the workpiece and follows any contour of the same. The required time of engagement between the tool and the workpiece depends on the ratio between the workpiece speed and the tool speed, which is accordingly selected.

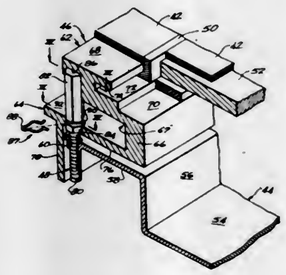
3,368,310
SHEAR BLADE GRINDING MACHINE
Francis J. Garvey, Newfield, N.J., assignor to Garvey Products Corporation, Blue Anchor, N.J., a corporation of New Jersey
Filed Oct. 21, 1965, Ser. No. 499,959
14 Claims. (Cl. 51—100)



1. A grinding machine for a shear blade having a cutting edge of non-straightline shape comprising a supporting bed, a blade holder extending substantially longitudinally of said bed for clamping a blade to be ground with its cutting edge facing inwardly of the machine, means mounting said blade holder for swinging movement laterally on the bed, an element mounted above the bed and extending down into engagement with the cutting edge of a blade in the holder, a cam plate mounted on the bed adjacent the outer end of the holder, a tracking member carried by the outer end of the holder and engaged with the cam plate during swinging movement of the holder, and inter-engaged elements formed on the inner end of the holder and the adjacent portion of the bed of the machine constraining the swinging movement

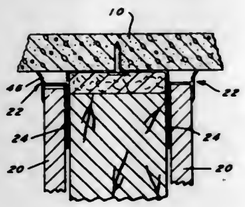
of the holder to a path in which the cutting edge engaging element is maintained engaged with the cutting edge of the blade and the tracking member is maintained in a predetermined path on the cam plate corresponding to the shape of the shear blade edge.

3,368,311
TRENCH ASSEMBLY WITH VERTICALLY ADJUSTABLE MEANS
Frank W. Fork, Allison Park, Pa., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 28, 1966, Ser. No. 530,464
13 Claims. (Cl. 52—127)



A trench assembly including aligned abutting cover plates and vertically adjustable means for supporting the cover plate substantially flush with the intended level of a floor. The vertically adjustable means includes leveling screws which rotatably engage longitudinal members supporting the opposite edges of the cover plates and threadedly engage stationary elements positioned below the longitudinal members. The leveling screws are out of contact with the cover plates. Rotation of the leveling screws causes vertical displacement of the cover plates into substantially flush relation with the intended level of the floor.

3,368,312
WALLBOARD RETAINER
Harry Shore, Elkins Park, Pa., assignor to Polybar Corporation, Willow Grove, Pa., a corporation of Pennsylvania
Filed Oct. 24, 1965, Ser. No. 504,654
3 Claims. (Cl. 52—241)



A wallboard retainer having a plurality of legs which are substantially perpendicular to each other and which are produced from a water impervious polymeric vinyl material. The retainer may be extruded into its desired shape. The retainer has an arcuate leg which has grooves therein to increase flexibility of the leg. The retainer has a generally U-shaped section which may frictionally retain a wallboard therein.

3,368,313
FLOOR EXPANSION JOINT ASSEMBLIES
William R. Morgan, Jr., R.R. 2, P.O. Box 106G, Long Grove, Ill. 60047
Filed Apr. 29, 1966, Ser. No. 546,329
14 Claims. (Cl. 52—278)



1. In a floor construction, the improvement comprising an expansion assembly located along a side edge of the floor whereby the floor is free to move beneath the assembly during expansion, said assembly comprising a channel member, at least one elongated retaining means defined by the bottom wall of said channel member, means cooperating with said retaining means for securing said channel member to said floor, said securing means being movable with respect to said elongated retaining means in response to movement of said floor, a cover plate, at least one additional retaining means and means cooperating with said additional retaining means for securing said cover plate to said channel member, said channel being movable relative to said cover plate securing means in response to movement of said floor.

3,368,314
COATED HEAT RESISTANT HONEYCOMB STRUCTURE AND PROCESS OF MAKING SAME
Kermit W. Maynard, Bonita, Calif., assignor to Rohr Corporation, San Diego, Calif., a corporation of California
Filed Apr. 26, 1965, Ser. No. 450,906
4 Claims. (Cl. 52—451)



A heat shield is disclosed for protecting rocket motors from exhaust reflected heat waves. A brazed metallic honeycomb panel base structure has an open faced metallic honeycomb core brazed to one facing sheet of the panel. The cells on the open face of the honeycomb core have peripherally extending flanges accomplished by successively passing the honeycomb core prior to brazing and while wax supported to its ultimate height between spaced rollers which are moved successively closer together with each pass of the core therebetween. A slurry or paste of fibrous potassium titanate is trowelled into and over the flanged honeycomb core and is thus strengthened by the core and retained against the base structure by the flanges of the core.

3,368,315
EXTRUDED METAL FLOOR SECTION FOR VEHICLES AND THE LIKE
Carl O. Thurnau, New Hartford, N.Y., assignor to Revere Copper and Brass Incorporated, Rome, N.Y., a corporation of Maryland
Filed July 23, 1965, Ser. No. 474,251
2 Claims. (Cl. 52—588)

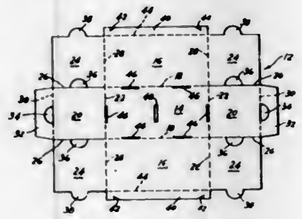
An extruded floor section upstanding from a bottom panel to support a cargo above the floor of refrigerating

air, the panels having interlocking flanges adjacent one end of the bottom panel. The locking elements are both



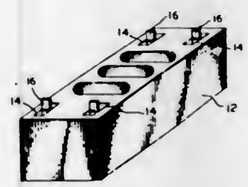
trough-shaped and provide a joint which can be sealed to prevent spoilable cargo from penetrating the bottom panel level.

3,368,316
ONE-PIECE HOLLOW BLOCK WITH DOUBLE THICKNESS CONNECTING EARS
William E. Crowder, R.D. 1, Mount Wolf, Pa.
Filed Jan. 4, 1965, Ser. No. 423,134
3 Claims. (Cl. 52—593)



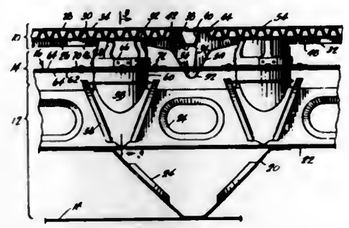
Toy and decorative building blocks stamped from cardboard-like material and provided with side and end walls foldably connected with a top panel, said walls having positioning and connecting ears integral therewith and within the plane of said walls and arranged to fit snugly into complementary slots in said top panel adjacent the edges or centrally of said panel.

3,368,317
CONSTRUCTION BLOCK SUPPORT
Lauren Meigs, Elka Park, N.Y. 12427
Filed Oct. 4, 1966, Ser. No. 584,123
7 Claims. (Cl. 52—603)



1. A construction block having a bottom surface, comprising:
a plurality of recessed slots located on the bottom surface, a plurality of insert means, individual ones of said insert means being mounted in individual ones of said recessed slots, each of said insert means including rotatable support members mounted in said insert means and extending above the surface of said construction block when in a fully upright position for supporting said construction block, said insert means further including locking means for securing said support member in said fully upright position.

3,368,318
THERMALLY EXPANDABLE BARRIER STRUCTURE
Robert H. Bennett, Jr., Los Angeles, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Filed June 5, 1964, Ser. No. 372,857
11 Claims. (Cl. 52—618)

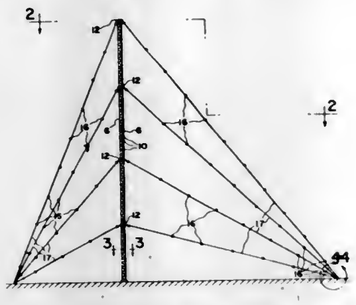


1. Thermally expandable barrier system comprising:
a base body structure;
thermal energy flow resistant column means supported by said body structure and extending outwardly therefrom;
sealing layer metal panels arranged in a mosaic pattern over at least a portion of said body structure, said panels being polygonal with respective edges of adjacent ones thereof lying contiguously to one another;
metallic expansion pleat means having convoluted pleats and elongate edges parallel thereto and having overall flexing ability in the direction transverse thereto and being disposed between adjacent ones of the contiguous said edges of said panels and being sealed thereto to provide a vacuum tight laterally expandable surface in cooperation therewith;
metallic expansion, thin wall pyramidal unit disposed in the region of a virtual intersection of a plurality of said expansion pleat means, said pyramidal unit comprising an apex cup portion disposed toward said base body structure with its convex surface exposed theretoward and having flexible side sheet transition portions extending between said cup portion and the convoluted surfaces of said expansion pleat means, said transition portions being integrally affixed in a vacuum tight manner to each other and to said cup portion and to the elongate convoluted surfaces of said sealing layer metal panels; and
laterally closely spaced skin layer metal panels and means for affixing them to the outer surface of said sealing layer panels in a superposed relation therewith to form a mosaic expandable skin for said body structure, the periphery of said superposed skin layer panels being disposed over said expandable pleat means whereby lateral expansion and contraction strains of said panels are relieved and absorbed by the transverse flexing of said expansion pleat means and pyramidal expansion unit.

3,368,319
TALL COLUMN STRUCTURE OF CONNECTED SECTIONS WITH WARREN CROSS-BRACING AND LEGS OF CHANNEL SECTION
William L. Werner, Sunnyvale, and Maxime J. Thomas, Oakland, Calif., assignors to Granger Associates, Palo Alto, Calif., a corporation of California
Filed Aug. 16, 1965, Ser. No. 479,705
2 Claims. (Cl. 52—637)

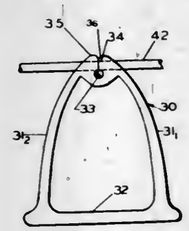
A tall column structure comprising a plurality of aligned sections of triangular truss cross-section, consisting of mutually spaced legs aligned end to end with continuous

Warren bracing interconnecting the legs such that for some directions of wind loading said legs are braced at one-half bay height and for other directions of wind load-



ing the legs are braced at full bay height, the legs being of modified channel cross-section to provide a two to one ratio of radius of gyration about different axes.

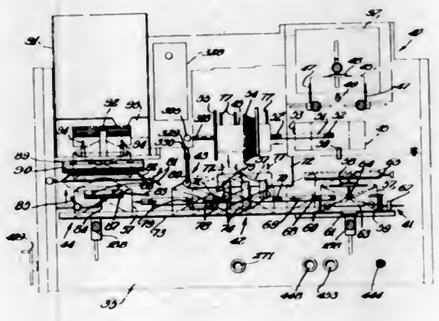
3,368,320
REINFORCING BAR AND FRAME SUPPORTS
John Leslie Lowery, 955 Magnolia Woods Ave., Baton Rouge, La. 70808
Filed June 28, 1965, Ser. No. 467,659
14 Claims. (Cl. 52—684)



The present invention contemplates a support for positioning and maintaining a rigid reinforcing bar in preselected elevated position above a bearing surface for formation of a slab construction. The support comprises a member having a surface for support of the reinforcing bar, a base, and a plurality of legs extending outwardly and generally radially downwardly between the support surface and the base. The legs of the member are constructed of a resilient material, preferably plastic of specified types as characterized herein, so that application of a downwardly directed unbalanced force upon the rigid reinforcing bar will cause the legs of the support to deform and produce downward displacement of the bar, and removal of the applied force after such deformation will cause the legs to rebound to their initial condition and return the bar to its original preselected elevated position.

3,368,321
INSERTER
Eugene Sather, Washington, and Lester H. Stocker, Phillipsburg, N.J., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 30, 1964, Ser. No. 407,715
30 Claims. (Cl. 53—57)

25. In an inserting machine of the character described,
an insert supply station including means for feeding inserts therefrom including a malfunction detector comprising a switch adapted to be opened from a closed condition incident to a malfunction,
an envelope magazine including means for feeding envelopes therefrom and for opening the envelope flaps and including a malfunction detector comprising a switch adapted to be opened incident to a malfunction,
an inserting station,
means for feeding inserts and envelopes into the inserting station,
means in the inserting station for assembling the inserts and envelops and a malfunction detector including a switch adapted to be opened incident to a malfunction,
a filled envelope stacker assembly and means for delivering filled envelopes from the inserting station to the stacker assembly,
means for driving all moving structures of the machine,
an electrical motor,
means operatively connecting the motor with the driving means and including an electromagnetic clutch,
and an electrical control circuit comprising:

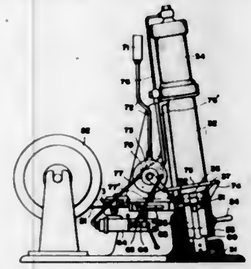


an electrical power connection with an alternating current source directly connected to said motor and having a master switch therein,
a full wave rectifier directly connected to said electrical connection and having a direct current connection with said clutch,
a relay having normally open contacts in said direct current connection,
a circuit electrically connecting said relay with the power connection and having all of said malfunction detector switches connected therein in series whereby to deenergize the relay upon opening of any of said detector switches,
a normally open starting switch in said relay circuit,
a shunt around said starting switch,
a normally closed stop switch and normally open relay holding contacts of the relay in said shunt,
whereby closing of the master switch energizes the motor to run continuously and closing of the starting switch energizes the relay to close said direct current connection contacts and said holding contacts, and opening of any of said malfunction detector switches or said stop switch deenergizes the relay to stop the machine.

3,368,322
BAG SEALING MACHINE FOR CLOSING BAGS AND CASINGS OF FLEXIBLE MATERIALS AND A METHOD OF SEALING THE OTHERWISE OPEN ENDS OF SUCH BAGS AND CASINGS
Yushiro Yasui, 30 Higashi-Aoyagi-cho, Bunkyo-ku, Tokyo, Japan
Filed July 23, 1965, Ser. No. 474,335
11 Claims. (Cl. 53—138)

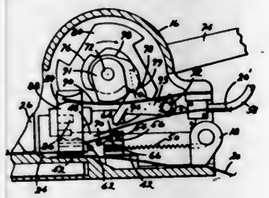
A bag sealing machine comprising a metal wire supplying means, a metal fastener forming means, and a metal fastener applying means, the metal wire supplying means

supplies a length of metal wire into a metal wire shearing station through a perforation and the metal fastener forming means comprises a body, a shearing member, a slidable die positioned between two legs of the shearing member, and a forming core. The shearing member is slidable on the body and the slidable die is slidable on the shearing member. The forming core is swingable on the body. The metal wire is cut off into a length for a fastener blank by the lowering action of the one of the two legs cooperating with the inner end of the perforation and the fastener blank is deformed into an inverted U-shaped fastener in a metal fastener forming station by the lowering action of the two legs of the shearing member cooperating with the forming core conditional on that the legs of the shearing member continue the lowering, the forming core stays temporarily between the two legs and under the fastener blank and is retracted just after the invertedly U-shaped fastener has been formed, and the slidable die follows the two legs of the shearing member after the forming core



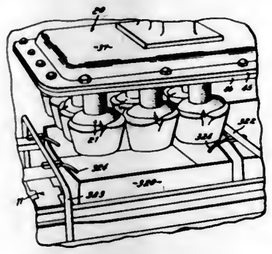
has been retracted. The metal fastener applying means comprises the shearing means, the slidable die, a fixed anvil positioned just under the slidable die, a swingable forcing member and guides. The shearing member continues the lowering holding the inverted U-shaped fastener into a bag fastening station. The slidable die follows the two legs of the shearing member with a time delay and continues lowering after the legs of the shearing member have arrived at the fixed anvil. The forcing member is adapted to place a gathered neck of a bag on the fixed anvil. The guides are adapted to guide the legs of the shearing member in the bag fastening station. The inverted U-shaped fastener is put on the gathered neck by the lowering action of the slidable die and further deformed into a coil having more than one turn around the neck by the lowering action of the slidable die cooperating with the legs of the shearing member and the fixed anvil. A neck gathering means, a neck twisting means, and a bag evacuation means may also be provided.

3,368,323
STRAP SEALING METHOD AND APPARATUS
Philip Wood, Monte Sereno, Calif., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Oct. 12, 1964, Ser. No. 403,216
10 Claims. (Cl. 53—198)



A method and apparatus for heat sealing together overlapping portions of a molecularly longitudinally oriented polymeric binding strap. The overlapping strap portions are pressed against a heated element positioned therebetween to effect a softening or melting of the inner faces of the strap, after which the heated element is removed and the softened faces are pressed together to effect a seal.

3,368,324
PACKAGING APPARATUS
Edwin H. Leedy, Chicago, Ill., assignor, by mesne assignments, to Lockwood Manufacturing Company, a corporation of Delaware
Original application Dec. 9, 1963, Ser. No. 328,967, now Patent No. 3,288,088, dated Nov. 29, 1966. Divided and this application June 23, 1966, Ser. No. 559,895
8 Claims. (Cl. 53—247)

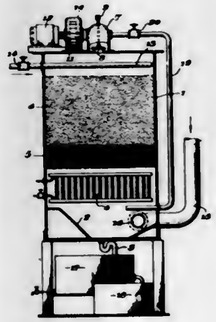


1. Apparatus for producing a package containing a multiplicity of partially baked multiple section soft dough products having grooves defined between the sections, said apparatus comprising,
pan conveyor means for moving pans of said products to a pick-up station,
vertically and laterally movable transport head means for removing said products from said pans and conveying them to a packing station,
a plurality of suction cups mounted upon said transport head, each of said cups comprising a center tubular section, a flange extending outwardly from one end of said tubular section and defining an obtuse angle between said tubular section and said flange, said flange being made from a soft resilient material, said flange in cross-section being tapered outwardly to its lateral extremity so as to define a thin and supple peripheral edge veil of less resistance to deformation than the compressive strength of said partially baked dough products, said peripheral veil being sufficiently thin and supple that the passage of air upwardly into said cup when said veil is located in unsealed proximity to said products will cause said veil to flex and enter said grooves to form a seal with the product without distorting the surface contour of the product.
means for stopping said pans on said conveyor at a location beneath said transport head,
carton conveyor means for moving empty cartons to a packing station,
means for stopping said cartons at said packing station,
means for moving said transport head downwardly to place said suction cups in engagement with said products,
means for placing a vacuum on the interior of said suction cups,
means for moving said transport head upwardly and laterally to a location over said carton conveyor while maintaining a vacuum to said cups whereby said products are removed from said pan and conveyed over said carton conveyor,

means for moving said head downwardly while maintaining said vacuum to said cups to locate said products within a carton at said packing station, and

means for opening the interior of said cups to at least atmospheric pressure after said products are located within said carton to release said cups from said products.

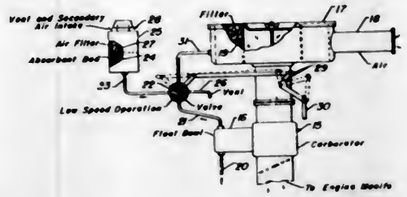
3,368,325
APPARATUS AND METHOD FOR RECOVERING SOLVENT USED IN INDUSTRIAL PROCESSES
James Sanders, 32–34 Bensham, West Croydon, Surrey, England
Continuation-in-part of application Ser. No. 441,531, Mar. 22, 1965. This application Mar. 3, 1967, Ser. No. 634,397
Claims priority, application Great Britain, Apr. 2, 1964, 13,611/64
3 Claims. (Cl. 55—59)



A container or vessel having a vertically elongated recovery chamber which includes a diffuser bed including a layer or bed made of a material providing a large number of interstices such as stainless steel wool and an upper bed of a solvent absorbent material such as a granulated carbon material having a large number of interstices for spreading and diffusing the vapor. Below the diffuser bed is arranged a condenser having means for permitting the circulation of cooling condenser water or for discontinuing such flow. The apparatus includes a valve regulated steam admission pipe having a plurality of openings for spraying steam downwardly on top of the carbon bed. A chamber air withdrawal valve is provided in the upper portion of the chamber adjacent the steam admission pipe for withdrawing air from the top of the apparatus. A suitable fan is connected to a housing for the valve for withdrawing the air when the valve is opened. A second air withdrawal valve is provided in a bypass conduit connecting the fan intake with the lower portion of the chamber for withdrawing air from said lower portion.

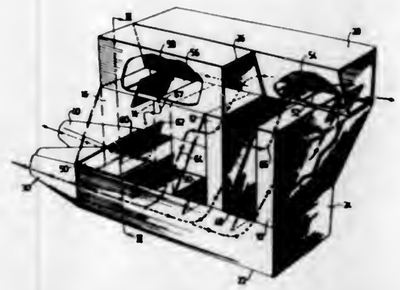
3,368,326
MEANS FOR PREVENTING HYDROCARBON LOSSES FROM AN ENGINE CARBURETOR SYSTEM
George L. Hervert, Downers Grove, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed May 3, 1965, Ser. No. 452,663
4 Claims. (Cl. 55—161)

A hydrocarbon vapor absorption-desorption device, for use with either internally vented or externally vented engine carburetors, comprising a permeable bed of hydrocarbon absorbent material such as activated charcoal or molecular sieves. For internally vented carburetors, the absorbent is positioned within the carburetor or air cleaner structure, immediately upstream from the discharge end of the vent. For externally vented carburetors, the absorbent is placed in a separate canister, one end of which is vented to the atmosphere, the other end of which



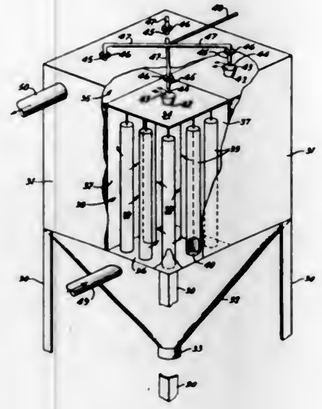
is connected through automatically actuated valving either to the craburetor float bowl (low speed operation, vapor absorption) or to the main air inlet to the carburetor (high speed operation, vapor desorption). In either system, the absorbent traps gasoline vapors at low speed operation and is desorbed by inflowing air at high speed operation.

3,368,327
REGENERATIVE MOISTURE EXCHANGER FOR GASEOUS MEDIA
Carl Georg Munters, 3 Danderydsvagen, Stocksund, Sweden, and Hans Heinrich Richard Niemann, 37 Blumenstrasse, 39 Hamburg, Germany
Filed June 29, 1965, Ser. No. 468,056
Claims priority, application Sweden, July 8, 1964, 8,346/64
5 Claims. (Cl. 55—179)



1. A regenerative moisture exchanger for gaseous media comprising at least three sections of hygroscopic exchanger body inlets and outlets for the media, the sections being mounted stationarily and in spaced relationship to each other, valves arranged in the inlets and outlets for alternately directing the media through the sections, a common housing in which the sections are arranged in their spaced relationship, each of said sections being composed of substantially parallel thin sheets which co-operate in forming a plurality of passages extending between opposing faces of the sheets, said sheets being impregnated with a hygroscopic substance, said sheets having a substantially larger dimension in the surface extension of their flat sides than in the longitudinal direction of the passages between the sheets, the exchanger body and portions of the housing defining chambers between said body and housing, said chambers being connected in pairs over the exchanger passages, the inlets and outlets including casings connected to the housing, said casings extending transversely across all of the chambers, said casings having openings facing the chambers, and valve members provided for said openings in the wall portion of the casing facing the chambers.

3,368,328
METHOD OF CLEANING FILTER MEDIA
Thomas V. Reinauer, Summit, N.J., assignor to Slick Industrial Company, Summit, N.J., a corporation of Delaware
Filed Feb. 19, 1964, Ser. No. 345,996
2 Claims. (Cl. 55—96)



1. In a method of manipulating pulses of high energy gas to effect improvement in permeability of non-rigid filter media in dust collection systems wherein during said dust collection the gas from which the dust is collected moves in a normal filtering flow through a system defined path which includes entry into and exit from a nonrigid filter medium which retains on its upstream side at least a portion of the collected dust,

the improvement of

releasing over a cross-sectional area of some part of the path taken by a normal filtering flow of gas and

in a direction generally opposite the direction taken by such a normal flow

at least two series of gas pulses each said series of said pulses being separated from the preceding series by a time interval of at least greater length than the time of operation of the preceding series

each said series being composed of at least two pulses and being further characterized by the fact that a succeeding pulse is released before the gas movement effect of a preceding pulse has been dissipated so that during said series and until the effect of the last pulse of said series has been dissipated the condition as to gas movement in said system is different from the condition immediately preceding the initiation of said series

the energy of each pulse of each series being such as to cause a momentary flow of gas in said system in a direction opposite the normal flow of gas through said path.

3,368,329
HYDROGEN PURIFICATION APPARATUS
Takashi Eguchi, 12 330–1 Kamijikken, Sakashita, Chigasaki, Chigasaki-shi, Kanagawa-ken, Japan, and Ryosuke Goto, 282 Karasuyama-cho, Setagaya-ku, Tokyo, Japan
Continuation of application Ser. No. 450,787, Apr. 26, 1965. This application Aug. 10, 1965, Ser. No. 479,057
5 Claims. (Cl. 55—158)

1. A hydrogen purification apparatus comprising, in combination:

(a) a diffusion chamber enclosing a cavity;

(b) a plurality of elongated palladium tubes in said cavity;

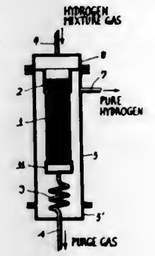
(1) each tube having an axis, a first axial end portion, and a second axial end portion,

(2) the axes of said tubes being substantially straight and parallel;

(c) a first and a second manifold fixedly fastened in said chamber to said first and second end portions respectively for communication therewith;

(d) a feed conduit communicating with said first manifold;

(e) a discharge conduit communicating with said second manifold, said conduits being fixedly fastened to said chamber;



(f) a resiliently expandable tubular member interposed between one of said conduits and the corresponding manifold,

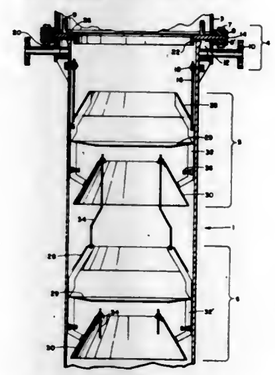
(3) said tubular member having two terminal portions respectively fastened to said one conduit and said corresponding manifold,

(4) said terminal portions being spaced in the direction of said axes, and

(5) said conduits being fastened to said chamber in such a manner that said tubular member is stressed in an axial direction when said apparatus is at room temperature and is substantially relaxed when said apparatus is at a temperature of approximately 500° C.; and

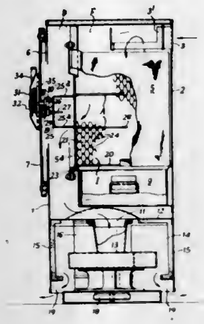
(g) means for withdrawing a gas from said chamber.

3,368,330
VISCOSE DEGASIFICATION APPARATUS
Earl H. Elliott, 17 Emory Road, and John A. Eller, 75 New Jersey Ave., both of West Asheville, N.C. 28806
Filed Jan. 15, 1966, Ser. No. 520,778
2 Claims. (Cl. 55—193)



An apparatus for degassing a viscous liquid having an assembly for distributing and redistributing the liquid upon entrance to an apparatus comprising in combination: a plurality of separate and distinct flow collecting and flow directing assemblies each composed of several liquid collecting and redistributing sections.

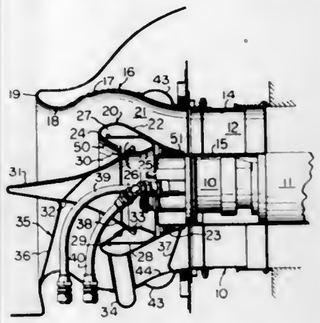
3,368,331
UNIT FOR FILTERING DUST-LADEN AIR
Richard H. Baxendale, Glenfield, Leicester, England, assignor to Dust Control Equipment Limited, Leicester, England
Filed Jan. 29, 1964, Ser. No. 341,033
Claims priority, application Great Britain, Jan. 31, 1963, 3,936/63
16 Claims. (Cl. 55—299)



1. A dust collector unit comprising, in combination, a casing provided with a contaminated air inlet and at least one clean air outlet spaced from the inlet for the discharge therefrom of cleaned air; a filter assemby including a bank of filter bags which are pervious to air and substantially impervious to dust and mounted within the said casing to divide the casing into a contaminated side between the outside of the bags and the said inlet, and a clean side between the interior of the bags and the outlet each bag having an open mouth facing the said clean side and two generally flat and generally parallel sides, and being arranged side by side in closely spaced relation for the purpose of collecting fine dust on the outsides thereof; insert means mounted in said filter bag for holding apart the sides of the bags to keep the latter open in use and yet permit of the free passage of air therethrough, each of said insert means comprising at least one relatively rigid skeleton frame shaped and dimensioned to fit within the corresponding bag against the inside of one of said generally flat and generally parallel sides of the bag, around the periphery thereof, and a normally flat flexible mattress secured right around its periphery to the said frame, the central portion of the mattress bounded by the frame being laterally displaceable from and to opposite sides of a plane containing the frame for the purpose of beating the sides of the bag; agitator elements mounted at the clean side and extending into each of the filter bags through the open mouths thereof from the clean side and connected at their ends to the central portions of the mattress; and oscillating means positioned wholly at the said clean side for so actuating said agitator elements that they are caused to act directly upon and to effect oscillatory displacements of the aforementioned central portions of the flexible mattresses which as a consequence beat the bags from the insides thereof.

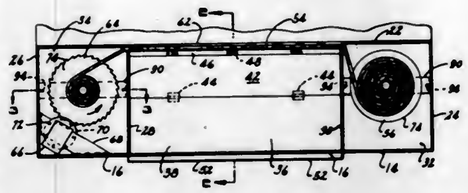
3,368,332
FOREIGN PARTICLE SEPARATOR FOR AN AIR MOVING MEMBER
Robert P. Hooper and Andrew A. Peterson, Media, Pa., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed July 30, 1963, Ser. No. 298,635
2 Claims. (Cl. 55—306)

1. An air inlet adapted to be connected to an air intake passage of an air moving member, the air intake passage having spaced inner and outer walls, said inlet having an outer wall with a periphery at least as great as the periphery of the outer wall of the air intake passage, said outer wall having an inlet lip configuration for focusing particles without disrupting the streamline flow of the entering air said inlet including an inner member surrounded by said outer wall and spaced therefrom to form an air duct therebetween for communication with the air intake passage, said inner member having a portion forming a continuation of the inner wall of the air intake passage, the cross sectional area of said air duct between said outer wall of said inlet and the portion of said inner



member being at least equal to the cross sectional area of the air intake passage, said inner member having means forming a particle collector positioned inwardly of said air duct forming portion, said collector having an opening for collecting foreign particles focused to it by said inlet lip, said collector having means dividing said collector into a first chamber and a second chamber, said dividing means allowing communication between said chambers, said first chamber communicating with said collector opening, and means to remove the particles from said second chamber.

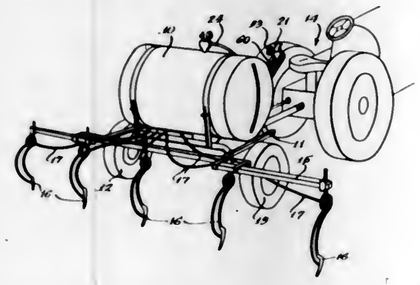
3,368,333
ADVANCE MECHANISM FOR ROLL-TYPE AIR FILTER
Edward Robert Merklin, Columbus, Ohio, assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 12, 1964, Ser. No. 388,994
5 Claims. (Cl. 55—354)



1. An air treating unit comprising a casing defined in part by two parallel end walls, parallel front and rear walls interconnecting said end walls, and first and second partitions extending between the front and rear walls parallel to the end walls, said partitions cooperating with the casing walls to define a central compartment and two end compartments; a third partition extending across the central compartment from the front wall to the rear wall and normal to the first and second partitions to define a pair of separate air inlet chambers isolated from one another; a first air inlet opening in the front wall for admitting air to one of the inlet chambers, and a second

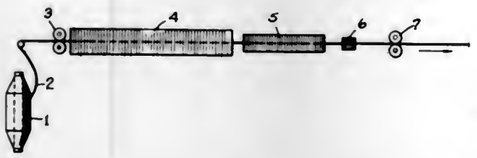
inlet opening in one of the casing walls for admitting air to the other inlet chamber; said rear wall having an air outlet opening in portions thereof which communicate with the inlet chambers; means for filtering the separate air streams flowing through the inlet chambers to the outlet opening, comprising a web of filtering material extending across said outlet opening, a web supply spool in one of the end compartments, and a web receiver spool in the other end compartment; and access means for the three compartments comprising at least one movable closure extending between the front and rear walls parallel to the third partition.

3,368,334
AIR FILTER AND AIR PRESSURE REGULATING UNIT
Robert B. West, Decatur, Ill., assignor to Tryco Manufacturing Company, Inc., a corporation of Illinois
Filed May 18, 1964, Ser. No. 367,979
1 Claim. (Cl. 55—385)



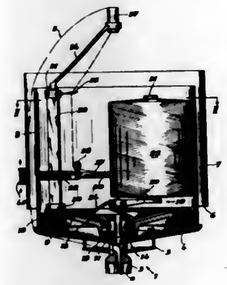
An apparatus for spraying fertilizer having an air filter connected to the inlet of a compressor through an inlet conduit, an outlet conduit connecting the outlet of the compressor to a tank holding the liquid fertilizer to be sprayed, a pressure regulating valve communicating the inlet and outlet conduits which valve opens to communicate the inlet and outlet conduits upon exceeding a preselected pressure in said tank, and an adjustable bias within the reach of an operator for adjusting the preselected pressure at which the pressure regulating valve opens.

3,368,335
APPARATUS FOR THE TREATMENT OF YARNS
Lajos Horvath, Wattwil, Switzerland, assignor to Heberlein & Co., A.G., Wattwil, Switzerland, a corporation of Switzerland
Filed July 13, 1966, Ser. No. 564,949
Claims priority, application Switzerland, Feb. 3, 1966, 1,551/66
5 Claims. (Cl. 57—34)



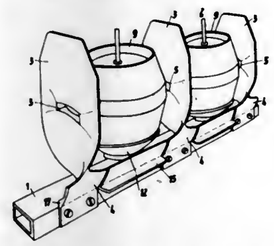
1. In a false twist system for texturing textiles yarns wherein the yarns are temporarily highly twisted and passed through a heater while in highly twisted condition, a hollow member positioned subsequent to the heater in the direction of movement of the yarn, a surface of said member having at least one groove therein for receiving the advancing yarn, means defining a plurality of spaced holes opening at one end in said groove and at the outer end in the interior of said hollow member and said member having means for connecting the interior thereof with a vacuum producing device whereby a pressure differential is established between the interior and exterior of said member to draw air through said holes.

3,368,336
TWO-FOR-ONE TWISTING SPINDLE
Gustav Franzen, Neersen, Germany, assignor to Palitex Project-Company G.m.b.H., Krefeld, Germany
Filed Feb. 27, 1967, Ser. No. 618,612
Claims priority, application Germany, Mar. 2, 1966, P 38,887
7 Claims. (Cl. 57—58.67)



The present invention relates to a two-for-one twisting spindle having a spindle rotor on which a winding-up bobbin carrier with a traversing thread guiding device is journalled and is adapted by means of a pair of magnets to be prevented from rotating. This spindle is characterized primarily in that the mandrel for supporting the winding-up bobbin is pivotable eccentrically with regard to the axis of rotation of the spindle rotor while a cylinder extends around the traversing thread guiding means and the mandrel and is adapted to receive therewithin a completely wound up bobbin. Furthermore, there are provided means for rotating said cylinder independently of said spindle rotor while said mandrel is continuously urged in a direction toward the respective adjacent interior wall area of said cylinder.

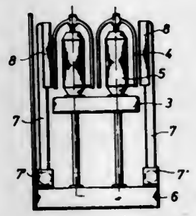
3,368,337
MULTIPLE TWISTING FRAME FITTED WITH PERMANENT MAGNETS
Gustav Franzen, Neersen, Germany, assignor to Palitex Project-Company G.m.b.H., Krefeld, Germany
Filed Mar. 1, 1966, Ser. No. 530,928
Claims priority, application Germany, Apr. 17, 1965, P 36,565
11 Claims. (Cl. 57—58.76)



1. A multiple twisting frame, comprising a spindle bench, twist spindles together with associated pots mounted on said spindle bench, the walls of the said pots

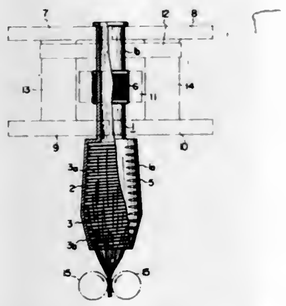
containing permanent magnets in diametrically opposed relationship; separators for the said spindles, each separator being mounted on the said spindle bench between adjacent pots, the said separators carrying a permanent magnet positioned therein to act on the permanent magnets in the walls of adjacent pots.

3,368,338
APPARATUS FOR THE REMOVAL OF FIBRE FUZZ FROM FLYER SPINNING MACHINES
Ernst Gotthold Wilhelm Breuning, Fruhlingsweg 6, Gerlingen-Bopser, Wurttemberg, Germany
Filed May 4, 1966, Ser. No. 547,500
Claims priority, application Germany, May 6, 1965, B 81,787; Aug. 26, 1965, B 83,441
14 Claims. (Cl. 57—56)



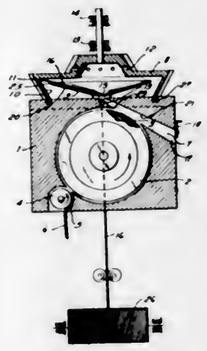
1. A flyer spinning machine incorporating a frame, a bed, a plurality of vertically disposed bobbins on said bed, a plurality of flyers having depending limbs with each flyer rotatable about the axis of one of said bobbins for twisting yarn fed to the flyer and for winding said yarn on said bobbin, means for rotating said flyers and said bobbins, suction means comprising at least one suction tube each associated with at least one flyer and having at least one inlet orifice facing, and disposed in the vicinity of a cylindrical path generated by said limbs on rotation of said flyers and extending parallel to the axis of rotation of said flyer and means for applying suction to said tubes for inducing fibre fuzz in the region of the flyer to enter said tube for the purpose of removal and collection thereof.

3,368,339
ROTATING SPINNING TUBE
Eizaburo Negishi, Yono-shi, Japan, assignor to Kabushiki Kaisha Negishi Kogyo Kenkyusho Urawa-shi, Saitama-ken, Japan, a joint-stock company of Japan
Filed Jan. 27, 1966, Ser. No. 523,393
1 Claim. (Cl. 57—58.89)



A rotating spinning tube in which a fiber holding and conveying barrel part is provided with a screw-thread inner wall surface defined by a helical groove and a plurality of air inducting holes through the wall thereof part for introducing air outside of the barrel part to the groove. The wall surface is a double frustrum constituted by two co-axial frustrums joined base-to-base and respectively providing an upper part with a diameter increasing in the direction toward the fiber outlet end of the spinning tube and a lower part with a diameter decreasing in said direction.

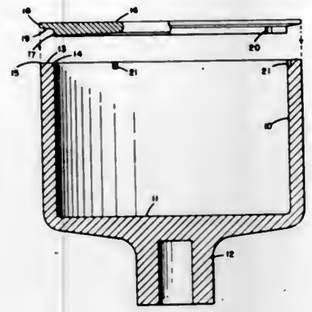
3,368,340
METHOD AND APPARATUS FOR DOFFING AND STRAIGHTENING FIBERS DURING COMBING AND SPINNING THEREOF
Arkadij Barsukov, Ladislav Bures, and Ctibor Doudlebsky, Usti nad Orlici, Milan Chrtek, Ceska Trebova, and Stanislav Kabele, Usti nad Orlici, Czechoslovakia, assignors to Vyzkumny Ustav Bavlnarsky, Usti nad Orlici, Czechoslovakia
Filed Sept. 19, 1966, Ser. No. 580,241
Claims priority, application Czechoslovakia, Oct. 1, 1965, 5,947/65
20 Claims. (Cl. 57—58.89)



7. An apparatus for doffing and straightening fibers during combing and spinning thereof comprising, in combination, wall means defining a spinning chamber having an axis and being rotatable about said axis, said spinning chamber having an open end and a collecting surface facing said open end; closure means closing said open end of said spinning chamber; a combing roller having fiber engaging projections on the outer periphery thereof, said combing roller being rotatable about its axis; channel means arranged adjacent a peripheral portion of said combing roller so that the projections on said portion project at least partly into the channel means, said channel means having an outer end communicating with the atmosphere and an inner end passing through said closure means and communicating with the interior of said spinning chamber; means cooperating with said spinning chamber to create an underpressure in the latter to produce thereby suction creating an air stream passing from said outer end of said passage means through the latter; means for feeding slivers to be spun into engagement with said projections of the combing roller at a portion of the latter spaced from said channel means; and means for withdrawing spun fibers from said collecting surface of said spinning chamber.

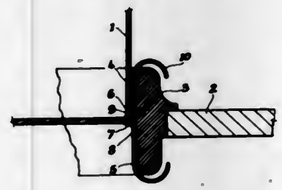
3,368,341
SPINNING BUCKET AND LID THEREFOR
Lawrence M. Goebel, Parkersburg, W. Va., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
Filed May 17, 1967, Ser. No. 639,207
4 Claims. (Cl. 57—76)

A spinning bucket for collecting artificial filaments, threads, yarns and the like and a lid therefor. The bucket and lid are so arranged that a partial vacuum is formed between a flange of the lid and the wall of the bucket as the bucket is rotated whereby atmospheric pressure from



above the flange of the lid is effective to retain the lid in place.

3,368,342
EAR-SHAPED TRAVELER FOR RING SPINNING AND RING TWISTING MACHINES
Johann Kaiser, Waldshut, Baden, Germany, assignor to Chr. Mann Maschinenfabrik, Waldshut, Baden, Germany
Filed Jan. 17, 1967, Ser. No. 609,797
Claims priority, application Germany, Jan. 19, 1966, M 68,057
3 Claims. (Cl. 57—125)

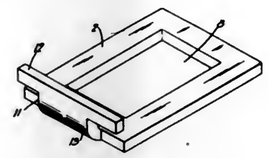


The present invention relates to an ear-shaped traveler for ring spinning and twisting machines, which includes an upwardly and downwardly directed leg respectively extending over and below the upper and lower edge of said ring while that surface of the traveler which in mounted condition thereof is intended to face the ring is provided with a groove at least approximately halfway between the upper and lower ends of the legs for guiding a thread. The said traveler may consist of wire or synthetic material. When the traveler consists of wire the groove is formed by a bend in the wire. According to another important feature the inner surface of the ring is concave and the outer surface of the traveler which faces and engages the ring is arched accordingly.

3,368,343
SEWING THREAD
Alan Crook, Manchester, and Michael John Horrobin, Chorley, England, assignors to English Sewing Cotton Company Limited, Manchester, England, a British company
No Drawing. Filed Mar. 24, 1965, Ser. No. 458,408
Claims priority, application Great Britain, May 28, 1964, 22,049/64
14 Claims. (Cl. 57—140)

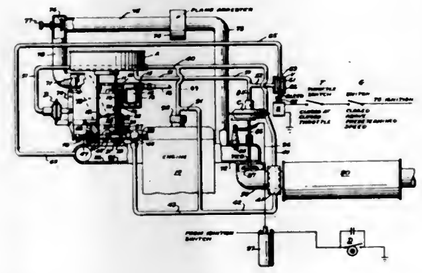
Sewing thread made of not less than two nor more than six substantially transparent and colorless or substantially translucent filaments of synthetic material twisted together. The thread takes on the color of the fabric into which it is stitched and facilitates sewing since the thread is not unduly stiff.

3,368,344
LOCKING CHAIN LINK
Edward A. Graetz, Pound, Wis. 54161
Filed July 28, 1965, Ser. No. 475,524
3 Claims. (Cl. 59—78)



A power transmission chain formed of a plurality of interlocking links of unitary sheet metal construction and which are removable and/or replaceable without resort to separate locking devices or tools.

3,368,345
ENGINE FOR REDUCED EXHAUST SMOG EMISSIONS
Brooks Walker, 1280 Columbus Ave., San Francisco, Calif. 94133
Filed Mar. 22, 1965, Ser. No. 441,710
16 Claims. (Cl. 60—30)

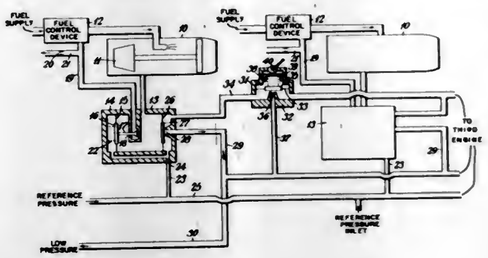


12. An internal combustion engine having an intake manifold, a carburetor, a throttle, an exhaust manifold, a muffler, automatic means for recirculating all of the gasses normally expelled from said exhaust manifold into said intake manifold on the engine side of said carburetor when said engine is decelerating under certain higher speed conditions thereby burning some of the recirculating gas and increasing engine braking, other means for allowing normal back pressure through said exhaust manifold and said muffler for normal full power operation.

3,368,346
SYNCHRONISING CONTROL MEANS FOR MULTIPLE GAS TURBINE ENGINE INSTALLATIONS
Eugene Harold Warne, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed June 21, 1966, Ser. No. 559,224
2 Claims. (Cl. 60—39.15)

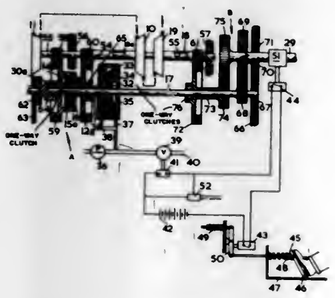
1. A control means for an installation comprising a plurality of gas turbine engines, arranged to perform work upon a common load, a plurality of power control devices associated with the engines respectively, said power control devices being responsive to changes in the pressures of air leaving compressors in the respective engines, to control the supply of fuel to the engines respectively, said control means comprising a plurality of valve means associated with the engines respectively, said valve

means being responsive to changes in the associated engine compressor pressure to modify the response of the power control devices to the compressor pressures of the engines respectively, and a variable control valve arranged to set the value of a reference pressure applied to all said valve means, any change in any compressor pressure varying



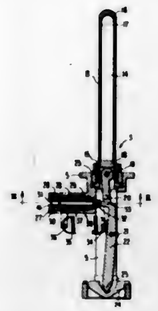
said reference pressure with the associated valve means, and this change in the reference pressure being applied to all the valve means to provide respective modifying signals to said power control devices, to vary the supply of fuel to the engines until the compressor pressures become equalised.

3,368,347
POWER TRANSMISSION SYSTEM FOR A GAS TURBINE ENGINE
Axel Charles Wickman, 69 S. Washington Drive, St. Armand's Key, Sarasota, Fla. 33578
Filed May 13, 1965, Ser. No. 455,364
Claims priority, application Great Britain, May 22, 1964, 21,152/64; Aug. 28, 1964, 35,306/64
18 Claims. (Cl. 60—39.16)



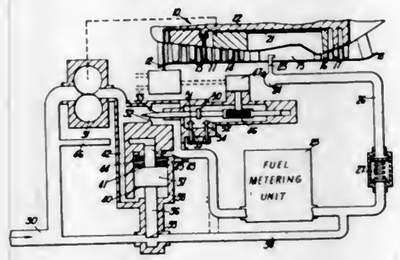
A gas turbine drive for a vehicle in which a first rotor drives a compressor and a second rotor provides the principal driving torque to the drive shaft of the vehicle. An epicyclic gearing interconnects the compressor and the first turbine rotor, and a shaft connected to the reaction member of the epicyclic gearing is also connected by a second gearing to the output shaft of the second turbine rotor, so that any extra torque developed by the first turbine rotor over that required by the compressor will be applied to the vehicle drive shaft. A brake is selectively operable to hold the reaction member of the epicyclic gearing stationary to prevent the vehicle from being driven by the idling torque of the first turbine rotor. Appropriate unidirectional clutch means permits operation of the turbine with the reaction member held stationary, and prevents stalling of the compressor whenever the vehicle coasts by driving the turbines from the output shaft of the vehicle.

3,368,348
REGULATING MECHANISM HAVING A TEMPERATURE MEASURING MEMBER FOR MAINTAINING A PREDETERMINED TEMPERATURE
Wilhelm Jurisch, Nellingen-Parksiedlung, and Gerhard Walliser, Waiblingen, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Feb. 24, 1966, Ser. No. 529,754
Claims priority, application Germany, Feb. 24, 1965, D 46,595
10 Claims. (Cl. 60—39.28)



The present disclosure relates to a regulating mechanism provided with a temperature-measuring member, preferably for maintaining a predetermined gas temperature, especially in aircraft propulsion units, by means of temperature-sensing elements made of materials with different thermal expansion whose difference in length as a result of the occurring temperature changes is utilized as measuring and/or regulating magnitude. The thermal expansion is mechanically transmitted and amplified only by a knee action lever mechanism consisting of two levers respectively pivotally connected to the temperature-sensing elements and serially pivotally connected to each other so that their common knee pivot joint will engage an adjusting member, which comprises a sleeve bleed valve for a compressed air system operating the engine fuel regulator.

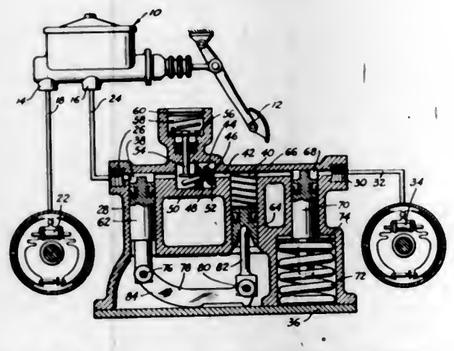
3,368,349
GAS TURBINE ENGINE FUEL SYSTEM
Christopher Linley Johnson, Allestree, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed June 20, 1966, Ser. No. 558,843
Claims priority, application Great Britain, July 9, 1965, 29,321/65
12 Claims. (Cl. 60—39.28)



An improved gas turbine engine fuel system is described wherein a governor means acts independently of a fuel supply control unit to prevent a predetermined

variable from exceeding a first given value. The governor means is pressure operated and may comprise a spill valve for controlling a bypass flow of fuel through a spill conduit in response to pressure produced by an engine driven positive displacement fuel pump. The governor means functions to prevent a predetermined variable from exceeding a first given value. An adjustment means is provided for adjusting the first given value, and limit means are provided for preventing such an adjustment of the governor as would cause the predetermined variable to fall below a second given value under the action of the governor means.

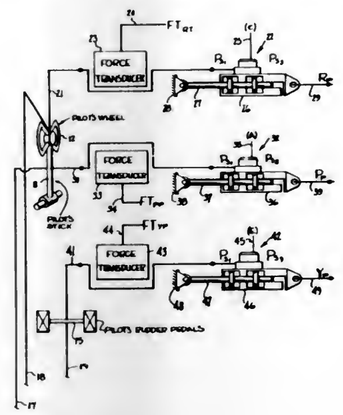
3,368,350
FLUID PRESSURE PROPORTIONING MEANS
Maxwell L. Cripe, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed May 16, 1966, Ser. No. 550,302
7 Claims. (Cl. 60—54.5)



1. A fluid pressure proportioning unit comprising:
a body portion having fluid chambers defined therein with movable wall structures;
a fluid conduit extending between said chambers;
a valve means in said conduit to prevent movement of fluid in said conduit in one direction with said valve means closed;
pressure responsive means for moving said valve means to an open position to permit flow between said chambers; and
a lever mechanism connected to said movable wall structures, said lever mechanism having a cam surface engaging said body portion such that the fulcrum point for the lever is variable in accordance with a fluid pressure on one of said movable walls after said valve means is closed whereby pressure developed by the other of said movable walls is proportionally less than developed by said one of said movable walls.

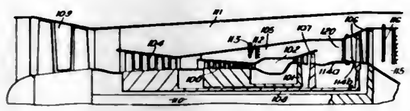
3,368,351
REDUNDANT CONTROL SYSTEM
Derek Wood, Sun Valley, and Leo V. Norrup, Jr., La Crescenta, Calif., assignors to Bell Aerospace Corporation, a corporation of Delaware
Filed Dec. 23, 1965, Ser. No. 515,873
10 Claims. (Cl. 60—97)

1. A redundant control system for use in positioning a multiplicity of controlled surfaces in response to input signals applied to said system and adapted to detect and disable malfunctioning portions of said system comprising:
(a) input signal generating means for producing mechanical and electrical input signals for positioning said controlled surfaces proportional thereto;
(b) a plurality of control channels each including:
(1) first and second signal summing means each connected to receive mechanical and electrical input signals and to produce a separate output signal proportional to said received signals,
(2) positioning means connected between each of said first and second signal summing means and one of said multiplicity of controlled surfaces to position said one of said controlled surfaces in response to said input signals;
(c) means connecting said input signal generating means to said first and second signal summing means in each of said channels;



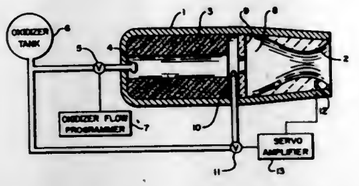
(d) comparator means;
(e) sensing means for detecting said separate output signals and producing a monitor signal in response thereto;
(f) means connecting said monitor signals to said comparator means, said comparator means being adapted to produce an error indicating signal in response to discrepancy between preselected ones of said monitor signals; and
(g) means connecting said error indicating signals to said system to disable failed portions of said control channels responsible for said discrepancy.

3,368,352
GAS TURBINE ENGINES
Colin Taylor Hewson, Duffield, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Jan. 7, 1966, Ser. No. 519,334
Claims priority, application Great Britain, Jan. 30, 1965, 4,204/65
20 Claims. (Cl. 60—224)



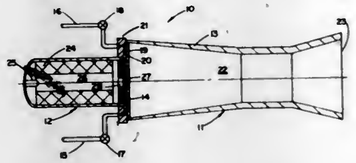
A by-pass gas turbine jet propulsion engine in which the by-pass stream passes through the L.P. turbine and the by-pass duct contains combustion equipment which may be inoperative or operative in conjunction with the main combustion equipment to provide a variable by-pass ratio effect. Variable nozzle guide vanes are provided upstream of the L.P. turbine. Afterburning may be provided in conjunction with this engine arrangement with little or no nozzle area variation.

3,368,353
AUTOMATIC O/F CONTROL
John J. Allport, Saratoga, Calif., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Sept. 30, 1965, Ser. No. 491,598
6 Claims. (Cl. 60—240)



A system for controlling the oxidizer-fuel ratio of a bipropellant rocket motor by generating a signal representative of the conductivity of the exhaust gases at a point downstream of the combustion chamber. The degree of ionization of the exhaust gases is a function of the oxidizer-fuel ratio within the combustion chamber and the signal generated is used to control the feed rate of one of the propellants. The conductivity is measured by generating an RF magnetic field linking the exhaust gases and measuring the Q factor of the RF generating means which decreases as the conductivity increases. The RF generating means are located at a point outside of the gas flow.

3,368,354
ROCKET MOTOR
Barnet R. Adelman, Atherton, Calif., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Dec. 18, 1963, Ser. No. 331,538
4 Claims. (Cl. 60—257)

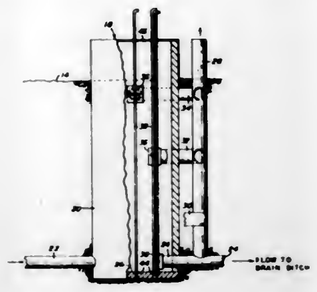


1. In a liquid propellant rocket engine comprising a combustion chamber, a nozzle for discharging gases from said combustion chamber, means for supplying a fluid fuel to said combustion chamber, means for supplying a fluid oxidizer to said combustion chamber and means for varying the flow rates of said fluid fuel and fluid oxidizer whereby throttling of said liquid rocket engine over substantial thrust ranges can be obtained, the improvement which comprises means for reducing high frequency combustion instability in said liquid rocket engine, said means comprising a source of particles having a size of from 0.2 to 10 microns and means for introducing said particles into said combustion chamber.

3,368,355
GROUND WATER TABLE LEVEL CONTROL WELL GATE SYSTEM
Edward P. Shroyer, 114 W. North St., Girard, Ill. 62640
Filed Nov. 23, 1965, Ser. No. 509,364
2 Claims. (Cl. 61—11)

This invention is a ground water table level control well system and is used in connection with land having drain tile pipe for the purpose of irrigating or draining the land.

The invention includes a well, and level control means at suitable distances along the drain tile. At one side, the well receives water, and discharges it through level control outlets in the other side, there being a plurality

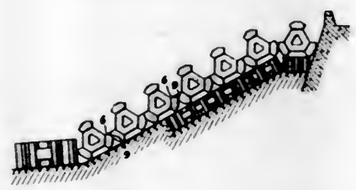


of outlets, the control for each outlet operable from above ground level, all connected through a common vertical tile through the outlet tile, the common vertical tile also providing an air escape to prevent pressure from building up in the tile.

3,368,356
SOIL STABILIZATION METHOD
Edward D. Graf, 1680 Bryant St., Daly City, Calif. 94015
No Drawing. Filed Nov. 24, 1964, Ser. No. 413,639
10 Claims. (Cl. 61—36)

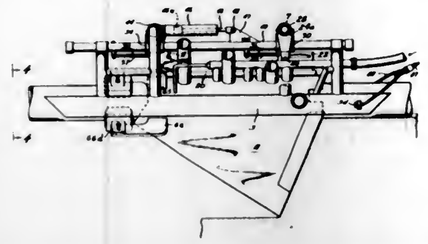
1. An improved method for stabilizing the soil comprising: spraying the surface of the soil to be stabilized with a single solution of a solid-free liquid phase chemical grouting selected from the group consisting of alkali metal silicates in combination with a gelling agent therefore, and polymer forming catalyzed solutions of monomers and low molecular weight molecules at a controlled rate and in a sufficient amount as the sole cause of grouting penetration of soil to a preselected depth, said grouting solution being of the one-shot type that penetrates in the liquid phase and then solidifies in place after penetration to bond the soil particles together.

3,368,357
STRUCTURE FOR BREAKING WAVES
Masayuki Takamori, 5 281 Hiraoka-cho, Sakai-shi, Osaka-fu, Japan
Filed Nov. 3, 1965, Ser. No. 506,224
Claims priority, application Japan, Nov. 17, 1964, 39/64,684; Dec. 2, 1964, 39/68,055
4 Claims. (Cl. 61—37)



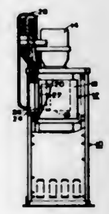
A breakwater structure in which a plurality of blocks are arranged in zig-zag form on a slope and wherein each block rests on two parallel columnar members and abuts columnar members of adjacent blocks such that third columnar members of the blocks extend above the slope in spaced parallel relation.

3,368,358
TRENCHING MACHINE
Hartwell A. Elliott, Box 5512, Drew Station, Lake Charles, La. 70601
Filed July 19, 1965, Ser. No. 472,980
18 Claims. (Cl. 61—72.4)



Two spaced skids are connected to each other by rigid cross members to form a frame. Two adjustably spaced plates are pivotally suspended from the cross members and high pressure hydraulic jet nozzles are disposed adjacent each of the plates. Adjustable rollers are secured to the plates to space the plates from a pipeline passing through the space between the plates. Eductor tubes are secured to the plates with the inlet openings of the tubes inside the space between the plates and the outlet opening of the tube extending to the skids.

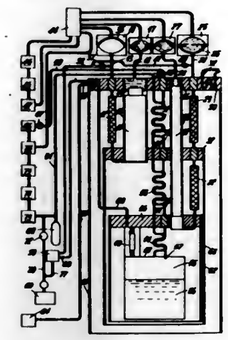
3,368,359
THERMOELECTRIC WATER COOLER
William A. English, Export, Robert S. Lackey, Pittsburgh, and Jack D. Meess, Export, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 19, 1966, Ser. No. 566,268
4 Claims. (Cl. 62—3)



Heat dissipator apparatus for a thermoelectric type water cooler having a one-piece integral block provided with a series of upright passages and at least one interconnecting passage containing a liquid vapor phase fluid, and a series of tubes connected to the top ends of the upright passages and extending away from the block so that heat is dissipated by boiling the liquid in the block and condensing the liquid in the tubes for dissipating the heat.

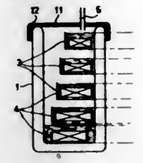
3,368,360
CRYOGENIC APPARATUS
Edgar Frank Daly and Thomas James Dean, Cambridge, England, assignors to Unicam Instruments Limited, Cambridge, England, a British company
Filed Dec. 21, 1966, Ser. No. 603,666
Claims priority, application Great Britain, Dec. 22, 1965, 54,274/65
20 Claims. (Cl. 62—6)

Cryogenic apparatus is described having a two-stage heat pump operating with helium to effect cooling below the Joule-Thomson inversion temperature. Compressed helium cooled by the heat pump is liquefied in a Joule-Thomson expansion stage. The heat pump uses a sealed diaphragm hydraulically driven compressor and a rolling diaphragm, hydraulically-operated piston displacer to give



a sealed gas system minimizing contamination, the compressor and displacer operating with a regenerator on a modified Kirk cycle.

3,368,361
DEVICE FOR MAINTAINING OBJECTS AT A LOW TEMPERATURE OF THE KIND COMPRISING A CONTAINER FOR BOILNG LIQUIDS, HAVING A HEAT-INSULATING WALL
Johan Adriaan Rietdijk, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 8, 1966, Ser. No. 563,887
Claims priority, application Netherlands, July 22, 1965, 65—9,477
2 Claims. (Cl. 62—45)

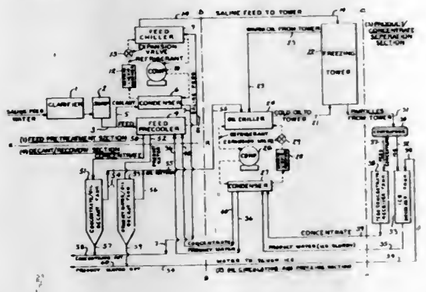


A device for maintaining articles at a low temperature comprising a housing having spaced receptacles therein at different levels. A tubular hollow element supports the receptacle and is provided with partitions and openings which determine the maximum level of liquid medium in each receptacle, the excess medium overflowing into the next lower receptacle.

3,368,362
FREEZE PROCESS FOR THE SEPARATION OF WATER
William C. Smith, Green Lake, Wis., assignor, by mesne assignments, to Herbert H. Clark, Jr., Racine, Wis., Jeanne C. Shiras, Gary, Ind., and John P. Briggs, Rocky River, Ohio, the latter as heir of Barbara C. Briggs, deceased
Filed Apr. 17, 1964, Ser. No. 360,576
2 Claims. (Cl. 62—58)

1. The method of removing water from an aqueous liquid containing dissolved solids wherein the liquid at an initial concentration is treated to form ice and aqueous liquid concentrate at a final concentration that is higher than the initial concentration, comprising the steps of:
(1) flowing a stream of treating liquid through a freezing zone as a continuous body, said treating liquid being immiscible with the aqueous liquid and said stream having laminar flow through the freezing zone;

(2) cooling said stream of treating liquid so that its temperature when entering the freezing zone is about equal to the freezing temperature of the aqueous liquid at its final concentration;
(3) cooling aqueous liquid to about one to three degrees above its freezing temperature at its initial concentration;
(4) feeding the cooled aqueous liquid into the flowing stream of treating liquid near the position at which the stream of treating liquid departs from the freezing zone so that the aqueous liquid is in the form of drops when in the stream and the drops become surrounded by treating liquid to freeze water from the drops into ice and form particles that contain ice and aqueous liquid concentrate, which particles move through the stream of treating liquid in a direction opposite to the flow of the stream through the freezing zone and freezing of ice from the aqueous liquid concentrate in the particles continues as they move through the freezing zone;



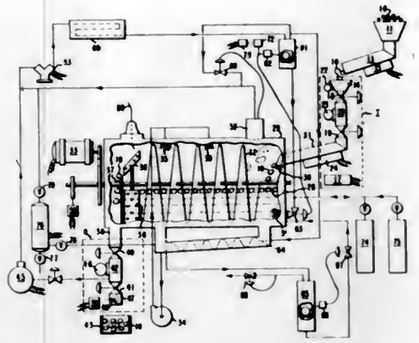
(5) removing said spheroidal particles from the stream of treating liquid after the particles have been in the stream long enough to freeze sufficient water from the aqueous liquid concentrate in the particles to raise said concentrate to the final concentration,
(6) separating the particles into ice product and aqueous liquid concentrate product after the particles have been removed from the stream of treating liquid,
(7) cooling the aqueous liquid to about one to three degrees above its freezing temperature at its initial concentration prior to its entry into the freezing zone by first passing it through a heat exchanger,
(8) passing the separated ice product through the heat exchanger as a first coolant stream,
(9) passing the separated aqueous liquid concentrate product through the heat exchanger as a second coolant stream; and
(10) then passing the thusly cooled aqueous liquid through the evaporator section of a refrigeration system.

3,368,363
PROCESS FOR FREEZING FOOD USING LIQUID REFRIGERANT

Raymond Daniel Alaburda, Somerdale, N.J., Harry Austin Beam, Wilmington, Del., Adolph Andrew Buehler, Pennsville, N.J., and Dennis Dale Rudy, Newark, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 31, 1966, Ser. No. 553,816
6 Claims. (Cl. 62—64)

This invention is directed to a novel process and apparatus for the freezing of food in contact with an ebullient freezing agent, hereinafter sometimes referred to as a freezant. More particularly, it deals with the rapid freezing of food in, for example, naturally occurring small particles or cut into relatively small particles. The food to be frozen is fed into a freezing chamber, conveyed in substantial contact with an ebullient freezant, and discharged in a frozen state from the freezing chamber with a minimum intake of air and moisture and loss of freezing agent from the total system. The freezant is efficiently recovered and recycled for reuse in the system.

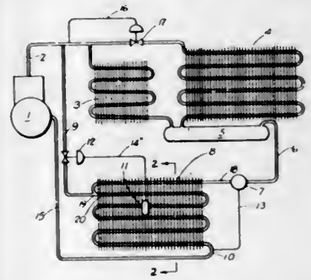


A freezant particularly well adapted for use in the present unique process and apparatus is a fluoro or chlorofluoroalkane such as dichlorodifluoromethane. Foods that may be frozen include fruits, berries, vegetables, meats, and seafood.

3,368,364
REFRIGERATION CONTROL SYSTEM

John P. Norton, St. Louis, and Saxon Cole, Shrewsbury, Mo., assignors to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware

Filed Jan. 6, 1966, Ser. No. 519,041
4 Claims. (Cl. 62—117)



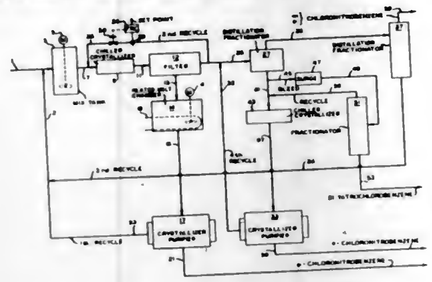
This invention relates to a method and apparatus for regulating the operation of a refrigeration system including a hot gas bypass system to pass a portion of the compressed refrigerant directly from the compressor outlet to the evaporator and means to apportion the second portion of the refrigerant between parallel condensers to control the condensing surface and the rate of condensation of refrigerant.

3,368,365
SEPARATION OF CHLORONITROBENZENE ISOMERS BY CRYSTALLIZATION AND FRACTIONATION

Robert O. Dunn, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Original application Dec. 13, 1965, Ser. No. 513,225. Divided and this application Dec. 22, 1966, Ser. No. 603,950
5 Claims. (Cl. 62—123)

Ortho and para forms of chloronitrobenzene are separated first by chiller crystallization to obtain a mother liquor rich in the ortho form. The mother liquor is then fractionally distilled, the bottoms of which is fractionally

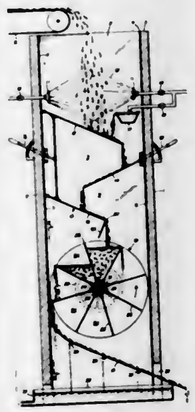


crystallized to obtain a pure ortho form and the overhead is fractionally redistilled.

3,368,366
MACHINE FOR GLAZING FROZEN FOODS

Kenneth W. Keeling, Tampa, Fla., assignor to A. F. Wentworth & Associates, Inc., Tampa, Fla., a corporation of Florida

Filed Feb. 7, 1966, Ser. No. 525,686
14 Claims. (Cl. 62—374)



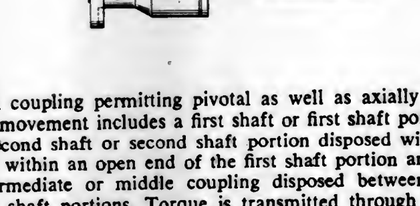
1. A machine for glazing frozen foods comprising a drum rotatable on a horizontal axis, a plurality of circumferentially spaced compartments opening onto a side of said drum, and means operative on rotation of said drum for successively filling said compartments with water and from above with foods previously frozen and at a temperature at which said water will be frozen thereon as a surface glaze, said compartments on continued rotation of said drum successively discharging by gravity glazed frozen foods and any excess water.

3,368,367
SOLUTION STORAGE ARRANGEMENT FOR ABSORPTION REFRIGERATION SYSTEMS

Richard H. Merrick, Indianapolis, Ind., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed Sept. 16, 1966, Ser. No. 580,124
8 Claims. (Cl. 62—476)

1. An absorption refrigeration system comprising:
(a) an evaporator for evaporating refrigerant to produce cooling;
(b) an absorber for absorbing refrigerant vapor formed in said evaporator into an absorbent solution;
(c) a generator for heating weak absorbent solution forwarded thereto from said absorber to liberate refrigerant vapor and to concentrate said absorbent solution;
(d) a condenser for liquefying refrigerant vapor formed in said generator;
(e) a flooded analyzer for passing refrigerant vapor from said generator in mass transfer relation with absorbent solution being forwarded to said generator, said analyzer being substantially flooded with absorbent solution; and

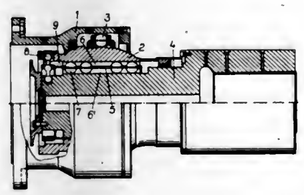


(f) a rectifier for forwarding refrigerant vapor from said flooded analyzer to said condenser in heat exchange relation with weak absorbent solution passing from said absorber to said generator, said rectifier comprising:
(1) a shell defining a vapor passage,
(2) a heat exchanger passage for passing weak solution to said generator, and
(3) a rectifier solution reservoir disposed within said shell for storing excess absorbent solution within the shell of said rectifier, said rectifier solution reservoir being arranged to receive absorbent solution therein and to pass absorbent solution therefrom to said flooded analyzer.

3,368,368
COUPLING

Karl Breuer, Mulheim-Speldorf (Ruhr), Helmut Grundig, Duisburg, and Ludger Pottbäcker, Duisburg-Hamborn, Germany, assignors to Demag Aktiengesellschaft, Duisburg, Germany

Filed Feb. 11, 1966, Ser. No. 526,896
Claims priority, application Germany, Mar. 24, 1965, D 46,886/65
5 Claims. (Cl. 64—8)

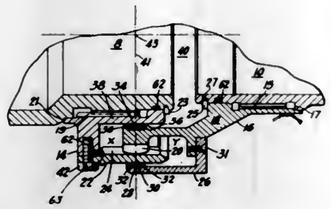


A coupling permitting pivotal as well as axially rolling movement includes a first shaft or first shaft portion, a second shaft or second shaft portion disposed with its end within an open end of the first shaft portion and an intermediate or middle coupling disposed between the two shaft portions. Torque is transmitted through balls disposed between the intermediate coupling and the first shaft portion and through balls disposed between the intermediate coupling and the second shaft portion.

3,368,369
SEALED GEAR COUPLING

Joseph J. Kimmel, Baltimore, Md., assignor to Koppers Company, Inc., a corporation of Delaware

Filed Mar. 21, 1966, Ser. No. 535,751
4 Claims. (Cl. 64—9)

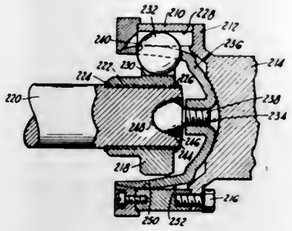


A gear-type coupling capable of accommodating angular misalignment of two generally aligned shafts is comprised of a hub for each shaft wherein the external teeth of one hub mesh with the internal teeth of the other hub. Sealing elements for the hubs are positioned on a radial plane passing through the center of the axial length of the external teeth.

3,368,370
UNIVERSAL JOINT

Charles R. Grauel, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware

Continuation of application Ser. No. 460,040, June 1, 1965. This application Dec. 6, 1966, Ser. No. 599,646
2 Claims. (Cl. 64—21)

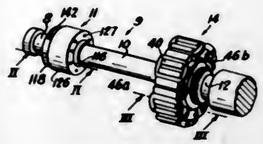


1. A universal joint comprising outer and inner members whose axes intersect at variable angles, a plurality of lands located within said outer member and on said inner member for forming a plurality of corresponding ball race grooves in said members, said ball race grooves of said outer and inner members being parallel to the respective axes of said members, a plurality of power transmitting balls movably engaging the corresponding grooves of said members for transmitting torque from one of said members to the other of said members, and control means for maintaining said balls in a plane which bisects the obtuse angle formed by the axes of said members, said control means including a ball retaining cage having an outer spherical surface formed thereon for pivotally engaging the lands on said outer member, said spherical surface having a pivot point which is spaced from said ball plane and is located on the axis of said outer member, a ball stud having the stud end rigidly connected to said cage and the ball end pivotally connected to the end of said inner member, said ball end having a pivot point which is spaced from said plane and is located on the axis of said inner member.

3,368,371
FLEXIBLE COUPLING

Arthur S. Herman, Jr., Lutherville, Md., assignor to Koppers Company, Inc., a corporation of Delaware

Filed Mar. 21, 1966, Ser. No. 536,042
5 Claims. (Cl. 64—27)

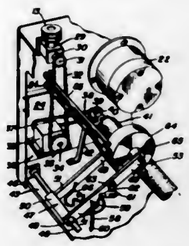


A pair of generally aligned but axially spaced shafts are connected by a spindle that has a gear-type coupling at one end and a sound absorbing and torsionally resilient coupling at the other end. In the gear-type coupling, internal spur gear teeth on the drive shaft coact with external teeth on the spindle. At the other end of the spindle, radially and axially projecting blades are alternately interleaved with radially and axially projecting blades on the driven shaft and a plurality of endless elastomeric bands in the alternate spaces between the blades connect the blades in cooperating pairs to provide the sound absorbing and torsional resilient coupling.

3,368,372
FABRIC TAKE-UP FOR CIRCULAR KNITTING MACHINE

Roy E. Dillon, Madison, and Ruben W. Gray, Mayodan, N.C., assignors to Madison Throwing Company, Inc., Madison, N.C., a corporation of North Carolina

Filed Jan. 4, 1965, Ser. No. 423,064
4 Claims. (Cl. 66—151)

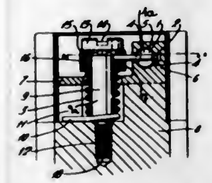


1. In combination with a circular knitting machine having multiple knitting heads and knitting instrumentalities, a stop motion for deactivating each knitting head, means for driving said multiple knitting heads, and a fabric take-up apparatus for winding the circular knit fabric from each head, said apparatus comprising a rotatable fabric winding drum mounted below the knitting heads, means for rotating said drum driven by said driving means for said multiple knitting heads, a fabric take-up spool for each knitting head, a pivotable take-up spool supporting member for rotatably and releasably retaining a fabric collecting spool for each knitting head, each of said spool supporting members being yieldably biased into rolling contact with said drum, and wherein said drum drives a plurality of take-up spools simultaneously, and means on each of said take-up spool supporting members for actuating said stop motion for each knitting head terminating knitting from a deactivated knitting head when the convolutions of fabric on an individual spool supplied from a corresponding knitting head reaches a predetermined diameter.

3,368,373
ARRANGEMENT FOR EXCHANGING A FLINT IN A LIGHTER

Ludwig Reim, Nurnberg, Germany, assignor to Gebruder Kollisch A.G., Nurnberg, Germany

Filed Mar. 18, 1965, Ser. No. 440,870
Claims priority, application Germany, Mar. 19, 1964, K 52,434
1 Claim. (Cl. 67—7.1)

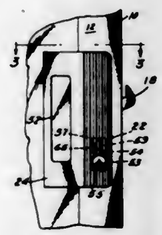


1. In a lighter having a casing with upstanding block means having a bore therein forming a flint passage: a bolt having a head and a shank and also having a threaded section at the free end of said shank, said casing having a threaded bore disposed laterally from the axis of said flint passage and receiving said threaded bolt section in a self-locking manner but permitting rotative adjustment of said bolt by exertion of torque thereon by a tool, coil spring means surrounding said bolt shank and having that one of its ends which is remote from said head stationarily anchored to said casing, the other end of said spring means being adjacent said head and forming an arm extending radially outwardly with regard to said shank in the plane of said flint passage and of such a length as to extend across said flint passage, said spring arm being adapted for selective movement toward and away from said flint passage, said spring means continuously biasing said spring arm toward a flint in said flint passage, and bushing means having a transverse slot and surrounding said bolt at the head end thereof while being axially slidably mounted on said bolt but non-rotatively connected thereto for rotation with said bolt, said spring arm extending through said slot and being engageable by at least that one end wall of said slot toward which the spring arm is biased so that rotation of said bolt in one direction will cause said one end wall of said slot to engage said spring arm and retract it from said flint passage whereas rotation of the bolt in the other direction will move the spring arm toward the flint passage and cause said spring arm resiliently to engage a flint in said passage, said block means having a slot on the side toward said bolt opening into said flint passage for receiving said spring arm.

3,368,374
LOCK ACTUATOR AND DOOR PULL

Charles L. Eads, Palm Springs, Calif., assignor to Adams Rite Manufacturing Company, Glendale, Calif., a corporation of California

Filed Mar. 29, 1965, Ser. No. 443,300
6 Claims. (Cl. 70—100)

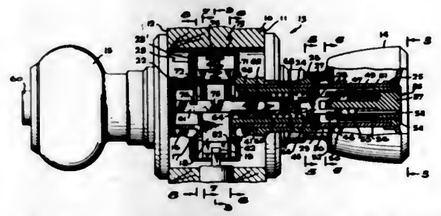


An improved actuator mechanism for the locking element of a lock mounted between the side faces of a narrow tubular stile frame member of a sliding door, with the actuator mechanism mounted on a stile in association with a door pull which is a separate part of the mounting thereby permitting various designs of pulls to be provided which may be replaced without necessitating the removal of the entire actuating mechanism.

3,368,375
REMOVABLE CORE WITH INDICATOR PIN

Fred J. Russell, 8635 Otis St., South Gate, Calif. 90280, and Paul Cirocco, Whittier, Calif., said Cirocco assignor to said Russell

Filed Oct. 21, 1966, Ser. No. 594,343
8 Claims. (Cl. 70—146)

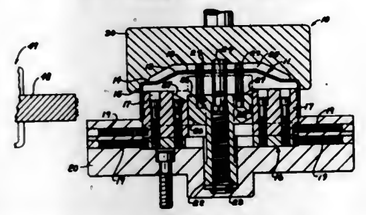


1. In a door lock having a tubular latch bolt operating spindle rotatably mounted therein and a key-actuated core having a cylinder plug rotatably mounted in said core, the combination of a tailpiece having an axially slidable mounting in said core and movable between a retracted position and an extended position, said tailpiece having one portion rotatable relative to said spindle and another portion engageable with said spindle, said tailpiece being movable axially between one position wherein said one portion is in position rotatable relative to said spindle and another position wherein said other portion is in a position of nonrotatable engagement with said spindle, an indicator pin having an axially slidable mounting in said core and in engagement with said tailpiece, said pin being movable between extended and retracted locations, one of said locations being indicative of rotatable disengagement of said one portion with said core and the other of said locations being indicative of nonrotatable engagement of said other portion with said core, and means engageable with said tailpiece, for moving said tailpiece and said pin between a locking position and an unlocked position relative to said spindle.

3,368,376
METHOD AND APPARATUS FOR MAKING PULLEYS

Dominick L. Previte, Willowick, Ohio, assignor to Eaton Yale and Towne Inc., a corporation of Ohio

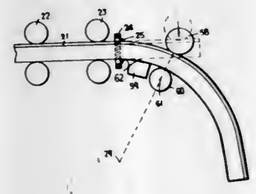
Filed Nov. 26, 1965, Ser. No. 509,854
17 Claims. (Cl. 72—82)



1. An apparatus for forming a plurality of V-grooves in a flange portion of a pulley blank comprising first and second rotatable die members engageable with the opposite sides of said flange portion, said first die member having a material shaping die surface provided with a plurality of grooves defined by inwardly converging surface

portions which define a first angle therebetween, said second die member also having a material shaping die surface and including a plurality of projections defined by outwardly converging surface portions which define a second angle therebetween less than said first angle, said projections on said second die member being located opposite said grooves in said first die member, and means for moving said second die member toward said first die member to cause said projections to force the material of said flange into said grooves with said converging surfaces of different angularity directing the material of said flange portion.

3,368,377
METHODS OF BENDING ELECTRICALLY CONDUCTIVE LONG MATERIALS SUCH AS BAR, ROD, AND PIPE, AND MEANS THEREFOR
Atsuo Hirayama, 605 Sendaizaka Mansion, 8–19 4-chome, Higaski-ooi, Shinagawa-ku, Tokyo, Japan, and Tatsumi Okamoto, 2540–6 Hiyoshi Hon-cho, Kohoku-ku, Yokohama, Japan
Filed Sept. 17, 1965, Ser. No. 488,163
18 Claims. (Cl. 72—128)



Methods of and apparatus for bending elongated electrically conductive materials by advancing the material to and through an inductive heating zone with guiding of the material at a location spaced beyond the heating zone and effecting bending at the heating zone by forces applied at the guiding location. The cooling action may restrict the spread of the heat along the material. Air jets may limit the splash back of cooling water. The cooling is optionally at or beyond the heating zone depending on whether hardening or annealing is desired. The resulting configuration may be arcuate, semi-circular, ring shaped or in a coil.

3,368,378
PREBENDING DEVICE FOR THICK STRIP
Jeremiah Wagner O'Brien, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 30, 1965, Ser. No. 491,661
Claims priority, application Great Britain, Oct. 27, 1964, 43,852/64
9 Claims. (Cl. 72—148)

1. In combination with a belt wrapper and reel wherein the wrapper conveys the leading end of the moving strip around the reel on which it is wound,

a prebending apparatus for the strip spaced from the belt wrapper adapted to receive the leading end of the strip prior to conveyance to the belt wrapper, comprising:

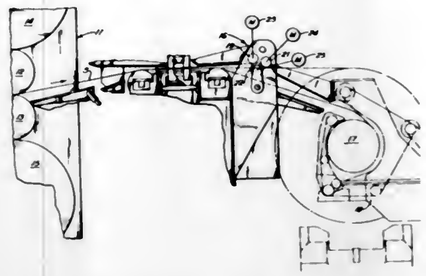
a frame,

a pair of rolls rotatably received in said frame and arranged on one side of the strip,

a third roll arranged on the opposite side of the strip across from said pair of rolls,

said third roll being carried by a member adapted to position the third roll in a nested relationship with respect to said pair of rolls to effect a prebending of the leading end of the strip, and

means for establishing a differential in the surface speed between the third roll and the strip of such a magnitude that once the leading end of the strip



is fed between the rolls and a bending pressure is established to prebend the leading end, the member, with the third roll, will be automatically displaced out of the nested relationship.

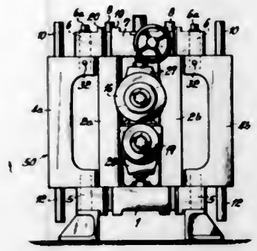
3,368,379
TUBE CLOSING DEVICE
Frederick I. Wakefield, Durham, N.H., assignor to Simplex Wire and Cable Company, Cambridge, Mass., a corporation of Massachusetts
Filed Sept. 17, 1964, Ser. No. 397,216
7 Claims. (Cl. 72—176)

A tube closing device is disclosed for continuously affecting final closure of a partially formed tube which consists of a pair of parallel positioning rollers located transversely to the axis of the tube formation at a distance from that axis equal to the outer radius of the closed tube, and a pair of tube closing carbon blocks having confronting concave surfaces and spring loaded to exert a constant inward pressure against the sides of a partially formed tube causing closure thereof.

3,368,380
ROLLING MILL STAND
Horst Pawalkat, Leverkusen, Germany, assignor to Theodor Wuppermann Gesellschaft mit beschrankter Haftung, Leverkusen, Germany
Filed Apr. 26, 1965, Ser. No. 450,854
Claims priority, application Germany, Apr. 25, 1964, W 36,665
9 Claims. (Cl. 72—237)

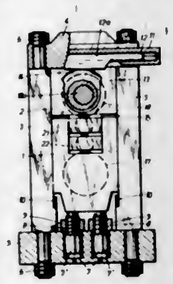
A rolling mill stand includes a base and cap housing which are spaced apart and braced by fixed supports or cheeks at one end of the roll stand and braced and spaced apart by pivotal housing cheeks at the opposite end or non-driving end. The pivotal housing cheeks may be

locked in position at which they extend within the ends of the base and the cap piece and provide a strong bracing of the mill stand or they may be pivoted outwardly so as to extend to each side of the mill stand for the purpose of affording access to the stand for the easy removal and replacement of the mill rollers if desired. The arrangement includes means for locking the pivotal



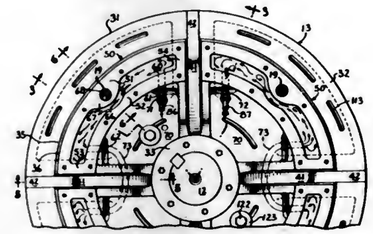
housing cheeks in an operative position and insuring that they bear against the cap housing by providing means for wedging the housing toward the pivotal housing cheeks. The stand also includes installation pieces which are adjustably connected to the respective base and cap housing by a threaded bolt carrying member, and each extension piece carries a bearing for rotatably supporting a mill roll.

3,368,381
PRELOADED ROLL FRAME STRUCTURE
Josef Fr. Fröhling, Olpe, Westphalia, and Albrecht H. Bäumer, Eichen, Kreis Siegen, Germany, assignors to Josef F. Fröhling, Olpe, Westphalia, Germany
Filed Apr. 26, 1965, Ser. No. 450,698
Claims priority, application Germany, Apr. 29, 1964, F 42,748
4 Claims. (Cl. 72—238)



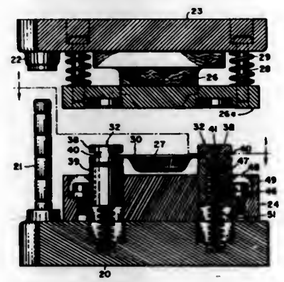
A roll frame structure which includes a frame closed in itself with upper and lower bearing means adjustably mounted in said frame structure and respectively supporting roller means including work rollers. The frame structure is provided with preloading means supported by a lower beam of said frame structure for preloading the frame structure, while roll adjustment means are provided independent of the preloading means for adjusting the rolling pressure of the work rollers. The roll adjustment means includes interengaging teeth operatively interengaging each other when the frame structure is assembled and operable automatically to disengage each other in response to the lower bearing means being loaded onto rail means on the frame structure to thereby permit withdrawal of the upper and lower bearing means as a unit without any disassembly operations on said control means.

3,368,382
CAPSTAN CONSTRUCTION FOR WIRE DRAWING MACHINE
Richard L. Fleshman, Evergreen Park, Ill., assignor to Wire Machinery Inc., Chicago, Ill., a corporation of Illinois
Filed Feb. 11, 1966, Ser. No. 526,901
6 Claims. (Cl. 72—289)



1. In a wire drawing machine for use with a stripper and having a power-rotated shaft and a source of cooling liquid, a capstan comprising, in combination, a circular base portion having an annular ramp extending about its periphery and having a hub at its center, a plurality of drawing sectors interposed between the hub and the ramp and together defining an outer generally cylindrical crowding surface, each of said drawing sectors having an outer segmental wall and an inner segmental wall spaced therefrom with the upper edges of the walls in alignment, each of said sectors further having radial walls joined integrally to the ends of the segmental walls and extending inwardly to the hub to define, with the segmental walls, a cooling chamber of arcuate section, arcuate cover plates on the upper edges of said walls to enclose the arcuate chambers, said radial walls defining radial grooves merging with notches in the ramp for seating therein the legs of the stripper structure, each of said chambers having water inlet and outlet fittings, and conduit means for connecting the fittings together and to the source of cooling liquid, all of said walls being of thick section so that each drawing sector forms a separate monolith, said segmental walls being substantially spaced from one another to provide relatively large and accessible chambers for turbulent flow for cooling of said crowding surface and the wire which is progressively wound thereon.

3,368,383
ADJUSTABLE STOCK LIFTER
Leonard E. Marszal, 14200 Ironwood Drive NW., Grand Rapids, Mich. 49504
Filed Sept. 27, 1965, Ser. No. 490,611
5 Claims. (Cl. 72—361)



1. A stock lifter for a die adapted to operate on strip material, said lifter comprising:

a body normally slideably received in a die block for reciprocating movement in response to relative movement of components of said die; and

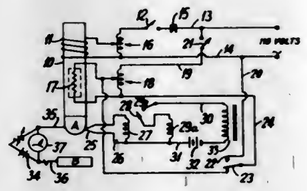
a head having a transverse slot, said head being adjustably mounted on said body, to a plurality of angular positions with respect thereto about an axis substantially parallel to the axis of said body, the base of said slot being defined by a surface having portions thereof eccentric to the axis of the mounting of said head on said body; and

locking means releaseably securing the relative position of said head on said body.

3,368,384
THERMOELECTRIC DEVICE FOR IDENTIFYING HEAT TREATABLE STEELS

Theodore L. Gatta, New Britain, Conn., assignor to The Fafnir Bearing Company, New Britain, Conn., a corporation of Connecticut

Filed Mar. 15, 1965, Ser. No. 439,783
4 Claims. (Cl. 73—15)

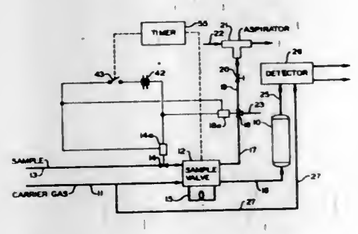


A thermoelectric device is provided for identifying metal compositions in accordance with their metallurgical characteristics. The device comprises a metal probe of composition which produces a thermoelectric effect when placed in contact with a metal of different composition. The probe has associated with it heating means for heating it to a predetermined temperature, such that when the probe is brought in contact with the metal specimen, a thermal E.M.F. is generated which is measured or recorded by an instrument.

3,368,385
SAMPLE SYSTEM FOR CHROMATOGRAPHIC ANALYZERS

George R. Harvey, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 15, 1964, Ser. No. 403,987
6 Claims. (Cl. 73—23.1)

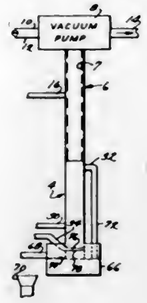


Improved sample system to supply a constant volume, constant pressure sample from a vacuum source to chromatographic analyzers.

3,368,386
COMBUSTION GAS ANALYZER CONDENSER

Robert B. Harvey, Rosemont, Pa., assignor to Mobil Oil Corporation, a corporation of New York

Filed Apr. 6, 1964, Ser. No. 357,618
7 Claims. (Cl. 73—27)

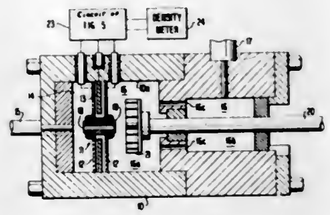


1. A combustion gas analyzer comprising elongated condensing means defining a vertically disposed chamber, said chamber having an opening at the bottom, an inlet near the bottom for introducing combustion gases to said chamber and an outlet at the top for removing combustion gases from said chamber, sensing means having a passageway therethrough connected to the outlet of the condensing means and being operable to detect the thermal capacity of the gases passing through said passageway, a water container surrounding the opening at the bottom of said chamber adapted to immerse said opening in water, and pump means adapted to pull the gases through said condensing means and said sensing means.

3,368,387
DENSITY MEASURING INSTRUMENTS

Nicholas Sion, Highgate, London, England, assignor to Ultra Electronics Limited, London, England, a British company

Filed Dec. 8, 1964, Ser. No. 416,696
4 Claims. (Cl. 73—32)



1. A densimeter for continuously measuring the density of a flowing liquid comprising:

a liquid-tight meter housing having a longitudinally extending chamber therein, and having longitudinally spaced liquid entrance and exit ports therein communicating with said chamber such that said liquid flows through said housing;

an impeller for creating a liquid vortex supported within said chamber between said entrance and exit ports by a powered impeller drive shaft;

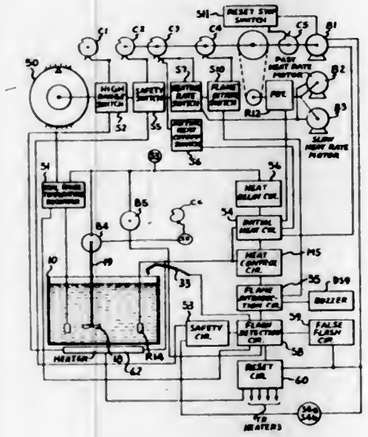
a capacitor having at least one flexible plate and a spaced apart rigid plate supported within said chamber between said liquid entrance port and said impeller, the plates of said capacitor being fixed by their outer edge portions to the wall of said chamber, and said flexible plate being located between said impeller and said rigid plate and being displaced relative to said rigid plate in response to said vortex; and

a measuring circuit electrically connected to said capacitor for indicating the density of said liquid.

3,368,388
AUTOMATIC FLASH POINT TESTING DEVICE

Theodore Christie and Peter Juodikis, Chicago, Ill., assignors to Precision Scientific Company, Chicago, Ill., a corporation of Delaware

Filed Mar. 22, 1965, Ser. No. 441,540
10 Claims. (Cl. 73—36)

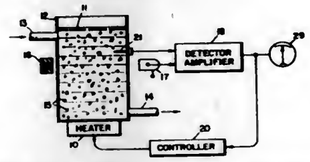


An automatic flash point testing instrument for carrying out the Pensky-Martens flash point test. The instrument includes a sample cup for holding the sample to be tested in a substantially closed container having a vapor region above the sample and temperature sensing means for sensing the temperature of the sample in the container, manually operated control means for setting an expected flash point for the sample, a heater for increasing the temperature of the sample, stirring means for stirring the sample in the container at the prescribed rate, a test flame assembly for periodically introducing a test flame into the vapor region for igniting the vapors therein, and a flash detection system for detecting a flash due to ignition of the vapors upon introduction of the test flame into the vapor region. A temperature control system provides two heating rates, a fast rate being automatically selected for flash point settings in a high range, and a slow rate being automatically selected for flash point settings in a low range. When the fast heating rate is selected, it is automatically changed to the slow rate at a predetermined point below the expected flash point setting. An initial heating control means is also included for rapidly advancing the heater to the initial sample temperature, and continuously heating the sample for a predetermined initial heating period while cyclically advancing the temperature control system in response to increases in the sample temperature so as to bring the sample into a controlled rate of thermal advance. An automatic reset is included for resetting the instrument in response to a detected flash, and a false flash system is provided for disabling the automatic resetting means if a flash occurs on the first flame introduction. The instrument also includes a safety feature which automatically terminates the test in response to an increase in the sample temperature to a predetermined point above the expected flashpoint set at the beginning of the test.

3,368,389
METHOD OF DETERMINING PERCENT SOLIDS IN A SATURATED SOLUTION

Glenroy W. Barnett, Dublin, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio

Continuation of application Ser. No. 126,155, July 24, 1961. This application May 28, 1964, Ser. No. 371,883
8 Claims. (Cl. 73—53)



4. The method of regulating the concentration of salt crystals in a mixture of said crystals and a saturated solution of said salt crystals, the density of said saturated solution increasing with the temperature of said mixture, said method comprising the steps of:

passing a beam of radiation through said mixture,

detecting said radiation passing through said mixture to provide a first signal having a first component proportional to said salt crystals concentration and a second component proportional to said saturation solution density,

sensing the temperature of said mixture to provide a second signal proportional to the density of said mixture, and

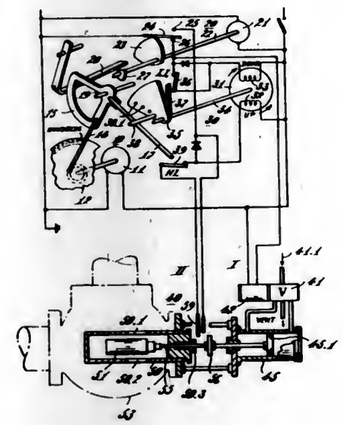
combining said second signal with said first signal to provide a third signal proportional only to the concentration of said salt crystals in said mixture,

and controlling the temperature of said mixture in accordance with said third signal to maintain said crystal concentration substantially constant.

3,368,390
VISCOSITY MEASURING APPARATUS

Austin S. Norcross, Newton, Mass., assignor, by mesne assignments, to Norcross Corporation, Newton, Mass., a corporation of Massachusetts

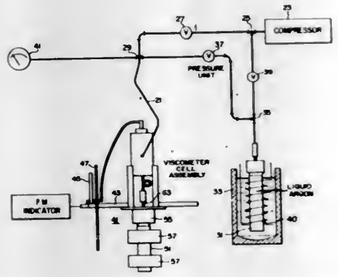
Filed June 4, 1965, Ser. No. 461,278
13 Claims. (Cl. 73—56)



In a viscometer of the type wherein a cylinder and a piston form a gap and relative movement of cylinder and piston measures viscosity by the shearing of the fluid being tested, either cylinder or piston is positively driven

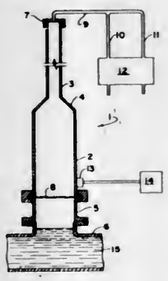
by motor means whose speed is sensitive to the shearing force, for example a hydraulic piston engine. The time needed by the driven element to traverse a given stroke length is a measure of viscosity during respective strokes. The positively driven detecting component is particularly useful for continuous measurement when cyclically driven within continuously or periodically changed fluid.

3,368,391
VISCOSITY MEASURING APPARATUS
Don E. Harrison, Pittsburgh, and Robert B. Gosser, Manor, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 17, 1965, Ser. No. 456,230
12 Claims. (Cl. 73—57)



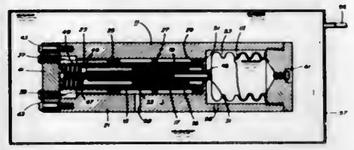
A viscometer has a tube containing a liquid under pressure through which a ball is permitted to fall. At two points along the path of fall the ball varies the capacity in circuit with an FM indicator. An indication of one polarity indicates passage of the ball. A bubble produces an indication of opposite polarity.

3,368,392
FREENESS TESTING APPARATUS
Clarence E. Miller, Covington, Va., assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Filed Oct. 19, 1965, Ser. No. 497,852
5 Claims. (Cl. 73—63)



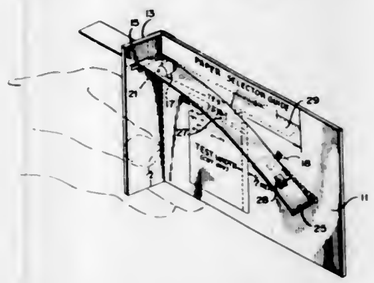
In an in-line freeness testing device which is mounted on a papermaking stock line and measures freeness by intermittently drawing samples of the stock into a standpipe having a screen across its lower end and measuring the height to which the liquid rises in the standpipe in a given time, the sensitivity of measurements is increased without increasing the length of the standpipe or decreasing the volume of liquid sampled by using a standpipe having an upper portion of appreciably smaller cross-sectional area than its lower portion.

3,368,393
DIFFERENTIAL TRANSFORMER DENSITOMETER
Wayne D. Wilson and Benjamin L. Snavely, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Jan. 26, 1965, Ser. No. 428,270
5 Claims. (Cl. 73—94)



A densitometer for measuring the compressibility of liquids in which a bellows containing a liquid to be tested is surrounded by a liquid medium. Pressure applied to the external surfaces of the bellows through the liquid medium causes a compression of the liquid within the bellows and a corresponding shortening of the bellows. The bellows is connected to a secondary winding of a differential transformer for movement therewith. A second differential transformer is employed in which the lateral movement of the secondary winding is adjustable, the movement thereof being measured by a micrometer. A bridge circuit connecting the two transformers provides for measuring the displacement in the bellows by observing the displacement of the micrometer necessary to rebalance the bridge corresponding to the movement of the bellows.

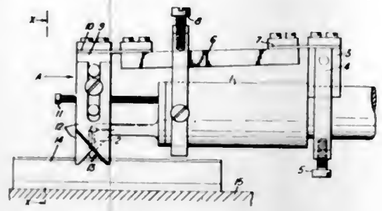
3,368,394
PAPER STIFFNESS TESTER
Arthur M. Pasinski, Detroit, and William B. Templeton, Northville, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 23, 1965, Ser. No. 489,709
4 Claims. (Cl. 73—100)



A hand-held device for testing the stiffness of paper. One end of the paper test strip is supported by a cantilever arrangement and the other end is deflected by an attachable weight. A scale is provided on the device for indicating the ranges of acceptability for the paper test strip when it is in its deflected position.

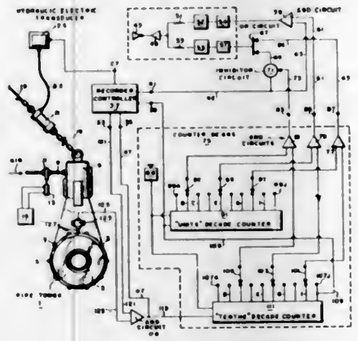
3,368,395
METHOD AND MACHINE FOR ASSESSING THE FINISH OF CYLINDRICAL SURFACE
Harry Richard Wright, Norton-on-Tees, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Apr. 5, 1965, Ser. No. 445,414
Claims priority, application Great Britain, Apr. 17, 1964, 16,026/64
8 Claims. (Cl. 73—105)

A method and apparatus is provided for testing circumferential surfaces of small diameter, cylindrical objects by rolling the cylindrical object over a support surface while sensing surface irregularities by a pick-up and



transducing system which moves along with the rolling object and with the object rotating relative to the system.

3,368,396
ASSEMBLING PIPE STRINGS WITH LEAK-TIGHT JOINTS
Glenn G. Van Burkleo and Peter D. Weiner, Houston, Tex., assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Sept. 14, 1964, Ser. No. 396,236
15 Claims. (Cl. 73—139)

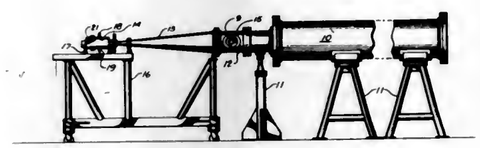


15. Apparatus for use with well pipe assembling means, said well pipe assembling means having rotating means for gripping and rotating a section of well pipe and including torque measuring means for producing an output signal indicative of the torque exerted by said well pipe assembling means on said well pipe, said apparatus comprising:

signal generating means for connection to said well pipe assembling means for producing output signals indicative of the distance turned by said rotating means while gripping the well pipe; and

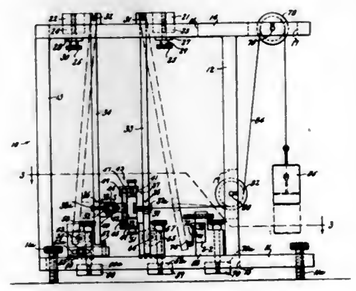
means for connection to the torque measuring means and connected to said signal generating means responsive to the output signals of said torque measuring means and of said signal generating means to produce a first warning signal when the output signal from said torque measuring means reaches a preselected value when the output signal from said signal generating means is within a preselected range of values, and to produce a second warning signal when the output signal from said torque measuring means reaches said preselected value when the output signal from said signal generating means is outside said preselected range of values.

3,368,397
ARC CHAMBER
Francis E. Wochna, Torrance, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed July 19, 1965, Ser. No. 473,076
9 Claims. (Cl. 73—147)



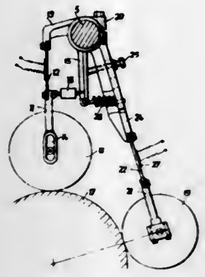
A blow-down type wind tunnel having an arc chamber, nozzle, and evacuated test region is described. An improved liner for the arc chamber is provided having two semi-cylindrical metal halves forming a hollow cylinder for confining an electrical arc for gas heating. Metal electrodes are employed for introducing a heavy current of electricity into the chamber for the arc. The semi-cylindrical halves of the arc chamber are electrically insulated from each other, and from the electrodes which enter from the sides thereof, so that the arc chamber liner is electrically isolated from any possible conduction to ground. In addition, the insulation between the two segments substantially reduces induced currents in the liner during the arc and enhances gas heating efficiency in the wind tunnel.

3,368,398
TACKMETER
John D. Skewis, Grosse Pointe Park, Mich., assignor to Uniroyal, Inc., a corporation of New Jersey
Filed Apr. 27, 1965, Ser. No. 451,227
10 Claims. (Cl. 73—150)



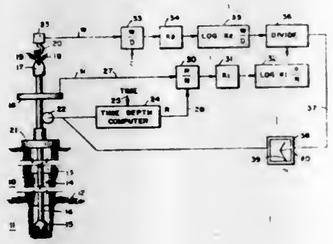
A method and apparatus for testing and determining an index of the tack properties of rubbery or polymeric compositions. Two test specimens of polymer stock are first pressed together under a first constant static force for a predetermined time interval, and immediately thereafter the time required to re-separate the specimens under a second constant static force is measured. A tack index for the tested polymer is defined as the ratio of (a) the product of the separating force and an exponential function of the time of its application to (b) the product of the pressing force and an exponential function of the time of its application.

3,368,399
ARRANGEMENT FOR MEASURING THE INK PULLING POWER ON LITHOGRAPHIC PRINTING MACHINES
Burkhardt Wirz, Munich, Germany, assignor to Roland Offsetmaschinenfabrik Faber & Schleicher AG.
Filed July 13, 1965, Ser. No. 471,660
Claims priority, application Germany, July 15, 1964, R 38,380
6 Claims. (Cl. 73—150)



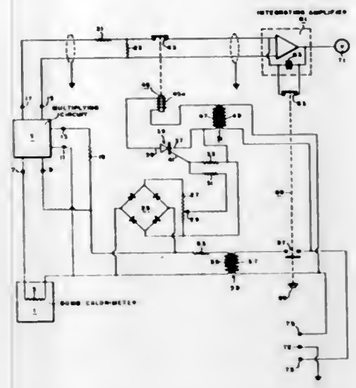
A device for measuring the pulling power of printing inks in which two rotatable measuring rollers with a non-elastic surface engage a non-elastic inking mechanism roller of a printing press. One of the measuring rollers is mounted radially resilient in reference to the inking mechanism roller and the other is mounted tangentially resilient in reference to the inking mechanism roller. Electric measuring means which are responsive to movements of the measuring rollers in radial and tangential direction respectively, as caused by the pulling power of the ink to be supervised, generate signals corresponding to the movements of the measuring rollers and these signals are used to control means for computing the pulling power of the printing inks.

3,368,400
METHOD FOR DETERMINING THE TOP OF ABNORMAL FORMATION PRESSURES
James R. Jorden, Jr., and Orval J. Shirley, Jefferson Parish, La., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed July 14, 1964, Ser. No. 382,567
6 Claims. (Cl. 73—151.5)



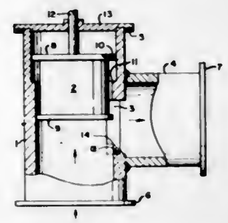
A process for detecting when a borehole enters a geopressured shale section utilizing the penetration rate of the drill bit as the measured variable. The penetration rate for the shale sections is plotted to determine the rate of change in the penetration rate, and the top of the geopressured section is detected by locating the depth at which the rate of change in the rate of penetration distinctly changes.

3,368,401
MEASUREMENT OF HEAT CONTENT OF COMBUSTIBLE FUEL MIXTURES
John O. Beauxis, Jr., Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Filed Nov. 20, 1964, Ser. No. 412,760
6 Claims. (Cl. 73—191)



A bomb calorimeter for measuring heat of combustion includes electrical means for measuring heat required to ignite the fuel and means for subtracting the heat produced by energizing the firing wire from the total measured heat.

3,368,402
VARIABLE AREA FLOWMETER
Adrianus G. Hop and Jelle A. Landstra, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Dec. 30, 1965, Ser. No. 517,738
2 Claims. (Cl. 73—208)

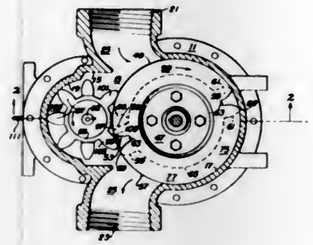


A liquid flowmeter having a cylinder with a rectangular discharge port and a piston which is movable in the cylinder to change the upper bound of the port to vary the area of the port according to the flow rate. The underside or lower bound of the discharge port is formed by a sharp edge which provides a wider range of linearity for measuring the flow rate.

3,368,403
GENEVA MOTION LIQUID METER
Albert J. Granberg, 6001 Rockwell St., Oakland, Calif. 94618
Filed Feb. 7, 1966, 525,660
16 Claims. (Cl. 73—253)

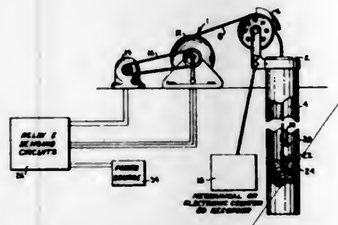
1. A geneva motion positive displacement liquid flow meter comprising
a meter housing defining an interior chamber having inlet and outlet ports disposed on generally opposite sides of said housing,

a displacement rotor having a generally cylindrical body disposed in said chamber, said body having a multiplicity of pairs of teeth equally spaced around the periphery of said rotor and capable of sealing with the wall of said chamber between said inlet and outlet ports and a discontinuous flange extending between the nonopposing contact surfaces of said gear teeth pairs.
an escapement rotor disposed in said chamber adjacent said displacement rotor and having an even number of teeth capable of sealing with the wall of said chamber between said inlet and outlet ports and



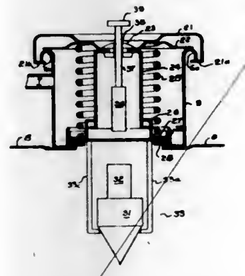
formed to mesh with the pairs of teeth on said displacement rotor, every other one of said escapement rotor teeth cutaway to receive the flange of said displacement rotor, said rotors intermeshing whereby said escapement rotor is driven by said displacement rotor but is held from rotating by said displacement rotor flange except when passing a pair of the displacement rotor teeth by an uncutaway tooth of said escapement rotor meshing between a pair of displacement rotor teeth and indexing, and
liquid flow recording means driven by said displacement rotor.

3,368,404
APPARATUS FOR FINDING AND MONITORING A LIQUID LEVEL
William R. King, Liberal, Kans., assignor to Panhandle Eastern Pipe Line Company, Kansas City, Mo., a corporation of Delaware
Filed May 23, 1966, Ser. No. 551,972
10 Claims. (Cl. 73—304)



1. An apparatus for monitoring the location of a liquid level comprising:
(a) sensing means including first, second and third electrodes disposed at spaced elevations, said electrodes being in an inactive position relative to said liquid level with said first electrode being elevated above said liquid level, said second electrode being in contacting relation to said liquid and the third electrode being submerged in said liquid,
(b) a first circuit means operatively connected to said first and second electrodes whereby current flow is induced between said first and second electrodes when the liquid level rises to contacting relation with said first electrode,
(c) a second circuit means operatively connected to said second and third electrodes whereby current flows between said second and third electrode through said liquid,
(d) means operatively connected to said sensing means and responsive to current flow in said first circuit means to raise said sensing means to said inactive position and responsive to a break in current flow in said second circuit means to lower said sensing means to said inactive position.

3,368,405
INDICATING RADIATOR CLOSURE
John Christian, 340 L.S.U. Ave., Baton Rouge, La. 70808
Filed Dec. 7, 1965, Ser. No. 512,095
5 Claims. (Cl. 73—306)

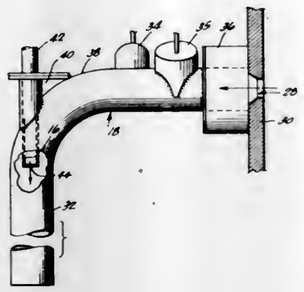


1. A cap for an automobile radiator or the like for indicating coolant level without removal including
a cap top adapted to fasten to a radiator nozzle and support a float and magnet housing assembly,
a float adapted to float on the surface of coolant liquid,
a first permanent magnet attached to the float,
a first housing for the float and first magnet, the housing being permissive of vertical movement of the float and first magnet and open to liquid,
a barrier normally impermeable to fluid above said first magnet and float and supporting said first housing,
a second permanent magnet above said barrier, said magnet being aligned with a pole opposing a like pole of the first magnet, whereby elevation or depression of the first magnet causes elevation or depression of the second magnet,
a second housing for the second magnet and mounted to said cap top, the housing being permissive of vertical movement of the magnet, and
means responsive to the said second magnet for indicating its elevation above the cap top and thereby the level of coolant in the radiator.

3,368,406
TEMPERATURE SENSOR AIR AUGMENTER
Willard D. Himebaugh, Westminster, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Feb. 2, 1966, Ser. No. 524,437
3 Claims. (Cl. 73—349)

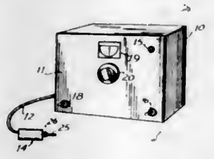
A temperature sensor air augmenter system for providing an adequate airflow over cabin temperature sensors for cabin temperature indication and control. A jet pump

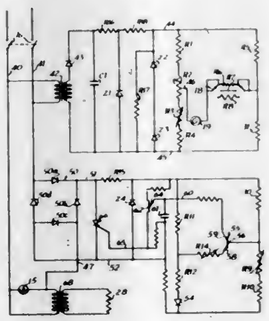
draws cabin air through a small opening in the cabin and past temperature sensors in the airpath conductor



mounted over the opening. The jet stream for this pump comes from the air-conditioning systems of the aircraft.

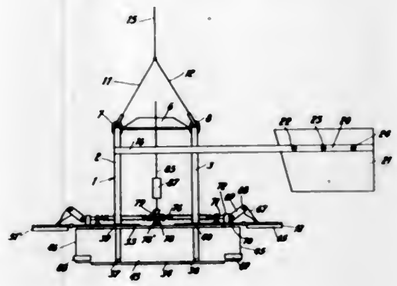
3,368,407
PRESSURE GAUGE
Clyde Orr, Jr., Atlanta, and Warren P. Hendrix, Lawrenceville, Ga., assignors to Georgia Tech Research Institute, Atlanta, Ga., a corporation of Georgia
Filed May 11, 1965, Ser. No. 454,923
11 Claims. (Cl. 73—399)





What is disclosed herein is a gas pressure gauge for measuring gas pressure in low ranges such as 0.001–4 torr by using the relationship between the thermal conductivity of a gas and its pressure. Specifically, what is disclosed is a gas pressure gauge having a housing with a cavity in which a gas is received and in which a heat generating means is positioned for the transfer of heat through the gas to the housing and having a heating means for maintaining the housing at a substantially constant temperature by controlling the output of a transformer in series with a heater surrounding the housing.

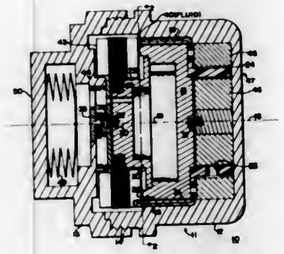
3,368,408
SAMPLE-TAKING APPARATUS FOR RIVERS AND STREAMS
Jean Philippe Mangin, Talant, France, assignor to Etablissement Public: Centre National de la Recherche Scientifique, Paris, France, a corporation of France
Filed May 19, 1966, Ser. No. 551,330
Claims priority, application France, May 20, 1965, 17,795
6 Claims. (Cl. 73—425.4)



1. A device for isolating and taking at least one sample of given volume from a liquid medium comprising at least one tube member having a rectilinear longitudinal axis and two open ends, a gate member hingedly mounted adjacent each of said open ends of said tube member and adapted to alternately occupy an open position in which said gate member is held parallel with said longitudinal axis of said tube, and a closed position in which said gate tightly seals said adjacent open end, resilient means permanently urging said gate member from said open position to said closed position, remote controlled, releasable latch means for holding simultaneously both gate members at said ends of said tube in said open position against the action of said resilient menas, said latch means being adapted to release simultaneously both said gate members under remote control, and supporting means for suspending said tube member in said liquid member.

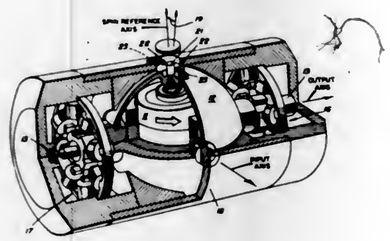
3,368,409
ACCELERATION MEASURING APPARATUS
Oscar G. Frykman, Minneapolis, Robert W. Kopp, St. Paul, and Mario R. Romani, Minneapolis, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed June 24, 1964, Ser. No. 377,685
5 Claims. (Cl. 73—516)

1. A force rebalance accelerometer comprising:
housing means having a chamber therein, said chamber having a first cylindrical damping surface thereon;
pendulous seismic mass having a second cylindrical damping surface thereon;
mounting means for mounting said seismic mass within said chamber for rotation about an output axis, said first damping surface being axially positioned opposite and radially spaced from said second damping surface so as to define a damping gap therebetween, said mounting means allowing limited axial movement of said seismic mass along the output axis;
fluid means filling said chamber and surrounding said seismic mass, said seismic mass being buoyantly supported by said fluid means;
a plurality of bypass passages within said housing means, one end of each of said plurality of passages being in communication with said chamber on one side of said damping gap, the other end of each of said plurality of passages being in communication with said chamber on the other side of said damping gap, whereby a portion of said fluid means may flow from one side of said seismic mass to the other side through said plurality of passages without flowing through said damping gap;
signal generator means operable to provide a signal indicative of the rotation of said seismic mass relative to said housing;



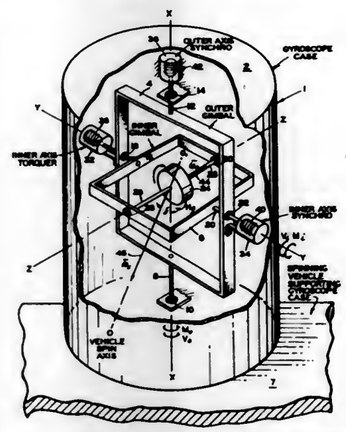
torque generator means; and
means connecting said signal generator means to said torque generator means, whereby a signal from said signal generator means energizes said torquer means so as to exert a force upon said seismic mass tending to rebalance the rotation of said seismic mass means.

3,368,410
GYRO FAST SLEW MODIFICATION
Brock S. Dew, Brighton, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 22, 1965, Ser. No. 509,692
3 Claims. (Cl. 74—5)



This disclosure is directed to an integrating gyroscope. In this gyroscope a signal generator is connected to detect the rotation of the gyroscope gimbal about the output axis. The output of the signal generator is fed to a summing amplifier where it is added to the output of an error signal generator. The output of the summing amplifier is fed to the torque motor which is connected to reposition the gyroscope and spring stops are provided to restrict the motion of the gimbal. The gyroscope is operative upon receipt of an output from the summing amplifier, indicative of the presence of an error signal, to cause the gimbal to rotate into the range of the spring stops to thereby impart added torque to the gimbal and increase the slewing rate of the gimbal and enable the gyroscope to be more rapidly repositioned through large angles.

3,368,411
MEANS FOR COMPENSATION OF MISALIGNMENT ERRORS IN A GYROSCOPE
Robert I. Sann, Bronxville, N.Y., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed Dec. 28, 1964, Ser. No. 421,224
13 Claims. (Cl. 74—5.4)

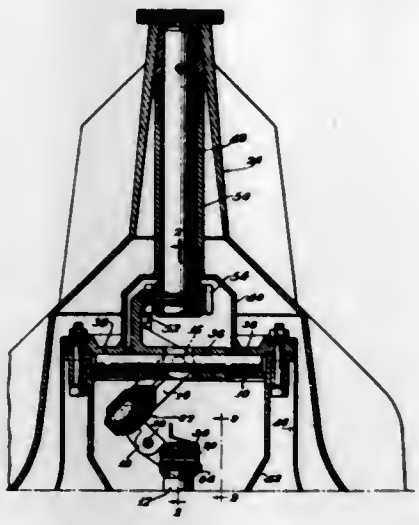


1. In a gyroscopic control system for a spinning space vehicle, a vehicle having a spin axis, a two degree of freedom gyroscope having a first gimbal and a second gimbal, said gimbals having axes of rotational freedom in orthogonal relationship; means for mounting the gyroscope in the vehicle so that the axis of the first gimbal is in nominal alignment with the spin axis of the vehicle, but has a misalignment error angle with respect to said spin axis, a first synchro operatively controlled by said first gimbal to provide an output signal as a measure of the attitude of the space vehicle, a torquer having a rotor element and a stator element, said stator element being mounted on said first gimbal, means to rotatably mount said rotor element relative to said stator element and to operatively connect said rotor element to said second gimbal on an axis parallel to the pivotal axis of the second gimbal so that angular movement of the second gimbal will be effected by movement of the rotor element relative to the stator element, a second synchro having a rotor element, a stator element and an electrical output, said stator element being mounted on said first gimbal, means to rotatably mount said rotor element of the second synchro relative to said stator element of the second synchro and to operatively connect said rotor element to said second gimbal on an axis parallel to the axis of the second gimbal so that angular movement of the second gimbal will adjustably position the rotor element relative to the stator element to vary the electrical output of the second synchro, a feedback means for converting the electrical output of said second synchro to a signal proportional to the torque required to compensate for said misalignment error angle of the axis of the first gimbal with respect to the spin axis of the vehicle, and a means to apply said signal to said torquer to produce a torque causing a precession of the first gimbal in a sense to compensate the output signal of the first synchro for said misalignment error angle.

3,368,412
VARIABLE THROW OSCILLATOR MECHANISM
George D. Conlee. 1416 W. 18th St., Cedar Falls, Iowa 50613
Filed Aug. 2, 1965, Ser. No. 476,585
16 Claims. (Cl. 74—42)

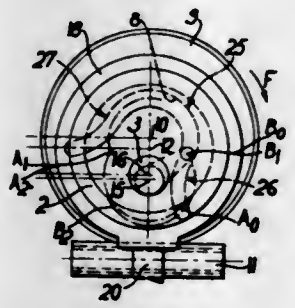
1. In a variable throw oscillator mechanism, a driven

shaft, a drive shaft, the axes of said shafts being substantially normal to each other, and means for converting rotation of said drive shaft to oscillations of said driven shaft comprising a driven arm having one end pivoted to said driven shaft on a pivot axis normal to the axis thereof and with said axes intersecting each other, a drive arm having one end pivoted to said drive shaft on a pivot axis normal to the axis thereof and with said axes intersecting each other, a universal knuckle joint pivoting the other ends of said arms together whereby when said arms are at an angle to each other less than 180° rotation of said drive shaft will cause the mean axis of said drive arm to describe a conical path in space and said driven arm



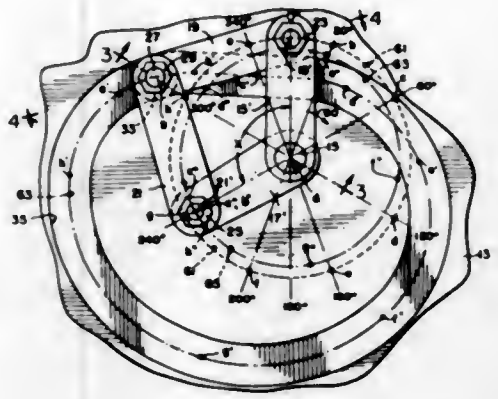
to be oscillated thereby on its pivot to said driven shaft whereby its mean axis describes a conical path in space, thus causing said last mentioned pivot to be oscillated about the axis of said driven shaft and said driven shaft thereby oscillated, the space between said first mentioned pivot axis of said driven arm and said first mentioned pivot axis of said drive arm being clear of any obstruction to permit said arms to be adjusted to an angle of 180° relative to each other to stop oscillation of said driven shaft while said drive shaft continues to rotate, and means to axially adjust said drive shaft to vary the angle between said arms and thereby the degree of oscillation of said driven shaft.

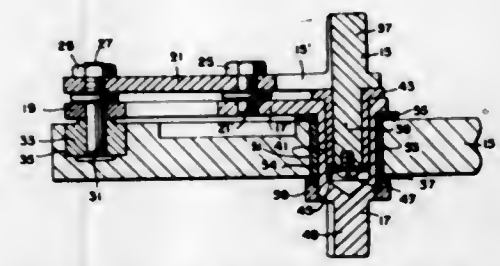
3,368,413
MOTION-TRANSMISSION SYSTEM
Paul Vulliez, Pont-Audemer, France, assignor of one-half to Commissariat à l'Energie Atomique
Filed Feb. 3, 1966, Ser. No. 524,808
Claims priority, application France, Feb. 19, 1965, 6,184
3 Claims. (Cl. 74—55)



A valve gate is moved rapidly toward closed position and seated slowly by a first disc mounted on a stationary eccentric axis and a second disc mounted eccentrically on the first disc. Each disc has a roller engaging a cam and the cam is rotated to open or close the valve, the second disc being connected to the valve gate.

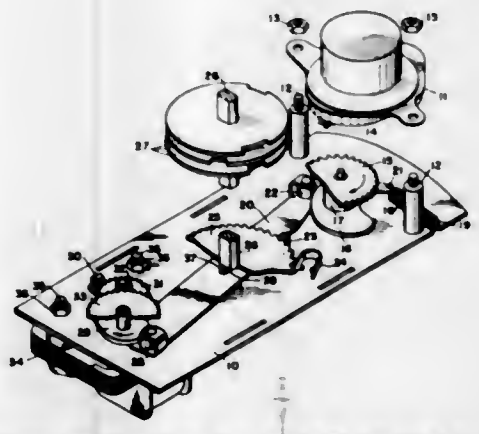
3,368,414
INTERMITTENT MOTION APPARATUS
Harold W. Scholin, 1225 N. Northwest Highway, Park Ridge, Ill. 60068, and Holger E. Pedersen, Chicago, Ill.; said Pedersen assignor to said Scholin
Filed July 7, 1965, Ser. No. 470,167
3 Claims. (Cl. 74—68)





Rotatable input and output shafts are each connected with a common cam follower, by means of a crank and a connecting link, while the cam follower rides in an endless non-circular groove, which extends around and at varying distances from the axes of said shafts, the groove having an arcuate segment curved on a radius equal to the length of the output shaft connected link, so that the output shaft may be turned at varying speed, in response to rotation of the input shaft at uniform speed, and may remain stationary, while the cam follower traverses the arcuate segment of the groove.

3,368,415
DRIVE MECHANISM FOR A TIMER
Elmo W. Voland, Indianapolis, Ind., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
Filed Dec. 16, 1965, Ser. No. 514,196
15 Claims. (Cl. 74—142)

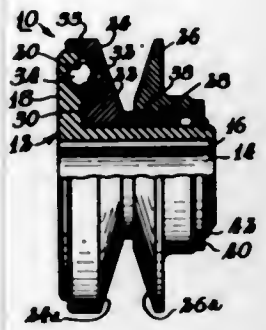


A drive mechanism for a shaft having a one-piece drive member which is pivotally and slidably mounted on the shaft for driving the shaft. One means for operating the drive member so as to rotate the shaft at one speed and another means for operating the drive member so as to rotate the shaft at another speed.

3,368,416
SELF-ADJUSTING PULLEY

Wallace F. Mitchell, 916 W. Campbell St., Arlington Heights, Ill. 60005

Filed July 30, 1965, Ser. No. 476,103
16 Claims. (Cl. 74—230.17)

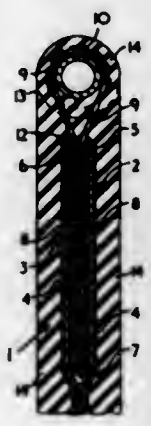


A self-tensioning pulley includes a plurality of sheave parts held in fixed angular relationship by a key which permits relative axial movement therebetween, and a plurality of drive-camming surfaces interposed between the shaft and one of the sheave parts for adjusting the spacing between the sheave parts in proportion to the torque transmitted between the shaft and a belt held by the pulley between the sheave parts.

3,368,417
SEGMENTAL BELTING

Peter John Jenkins, Burscough, England, assignor to Dunlop Rubber Company Limited, London County, England, a British company

Continuation of application Ser. No. 392,237, Aug. 26, 1964. This application May 31, 1966, Ser. No. 554,219
Claims priority application Great Britain, Sept. 12, 1963, 35,914/63; Aug. 12, 1964, 32,816/64
21 Claims. (Cl. 74—237)
The portion of the term of the patent subsequent to Oct. 19, 1982, has been disclaimed.



A segment member for segmental belting with a reinforcement layer of fabric or steel having an extensibility of at least 4 percent being disposed substantially parallel to the longitudinal axis of the segment member and embedded in a flexible material. The segment member has castellated ends with ferrules enclosed by substantially inextensible cords. The ends of the cords extend a short distance into the segment member either inside or outside of the reinforcement layers.

3,368,418
FLEXIBLE DRIVE CHAIN

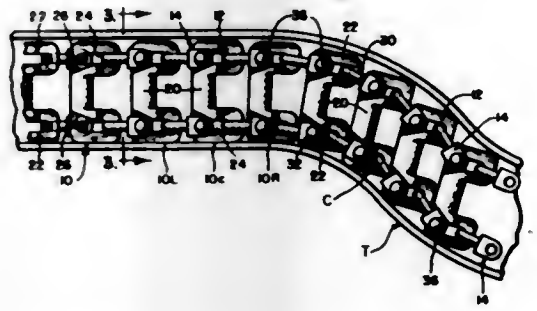
Walter J. Sagan, 5309 S. Kostner, Chicago, Ill. 60632

Filed Aug. 3, 1966, Ser. No. 569,883
7 Claims. (Cl. 74—246)

1. A flexible chain having a plurality of links movably interconnected for relative movement therebetween in both a vertical plane and a horizontal plane to permit flexing of the chain in any direction, each of said links comprising:

(a) a base member disposed to extend transversely of the chain;

(b) a pair of universal connecting members disposed to extend longitudinally of the chain and movably connecting ends of said base member to ends of a base member of an adjacent link;



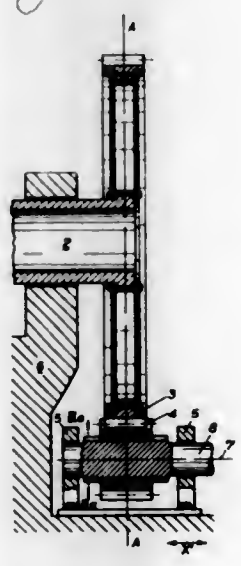
(c) each of said connecting members being connected to said first mentioned base member for rotative movement in one plane to permit relative movement between adjacent links in said one plane;

(d) each of said connecting members being connected to said second mentioned base member for rotative movement in another plane, extending in a direction normal to said one plane, to permit relative movement between adjacent links in said other plane.

3,368,419
SELF-ADJUSTING TRANSMISSION FOR TILTABLE METALLURGICAL FURNACES

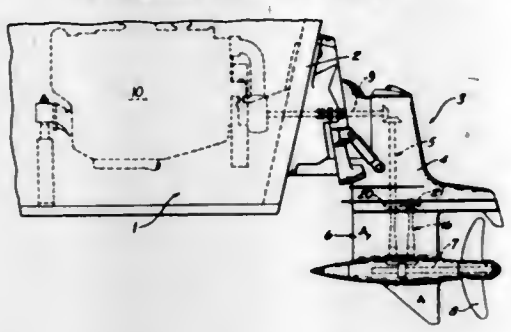
Peter Puxkandl, Linz, Austria, assignor to firm Vereinigte Osterreichische Eisen- und Stahlwerke Aktiengesellschaft, Linz, Austria, a company of Austria

Filed Jan. 6, 1965, Ser. No. 423,703
Claims priority, application Austria, Jan. 13, 1964. A 216/64
3 Claims. (Cl. 74—401)



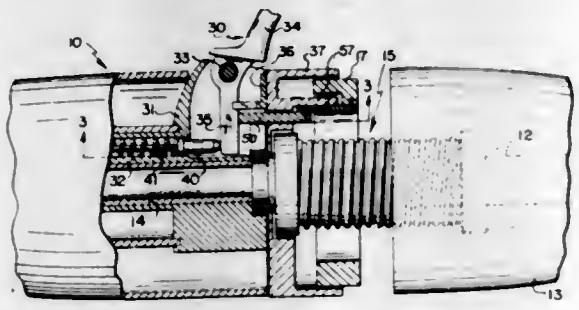
The invention relates to a transmission for tiltable crucibles, converters and the like, including a gear fixed to a trunnion on the crucible or converter and a drive pinion which is capable of endwise displacement and rotation about an axis generally perpendicular to the axis of the gear and to the axis of the trunnion to enable the pinion to remain in proper mesh with the gear on the trunnion during wobbling movement of the trunnion gear.

3,368,420
MULTIPLE DRIVE SHAFTS
Charles F. Alexander, Jr., Oshkosh, Wis., assignor to Kiekhaefer Corporation, Fond du Lac, Wis., a corporation of Delaware
Filed Aug. 2, 1965, Ser. No. 476,320
5 Claims. (Cl. 74—410)



A parallel dual shaft drive has spaced bearings for the shafts with output beveled gears at one end of the shafts driving a common output member and with gears connecting the shafts at the opposite ends for power input from one shaft to the other, the bearings being disposed adjacent the gears. Both shafts have a torsional yielding section remote from the output end. The input gears are secured by spline teeth to their corresponding shafts, one gear having one less spline teeth than gear teeth and the other gear having one greater spline teeth than gear teeth to provide a differential adjustment to a minimum running clearance for the gears at no load.

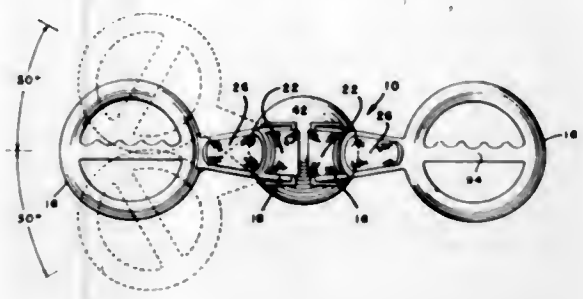
3,368,421
BREAK-AWAY SHIFT LEVER
David P. Hass, Detroit, and Alfred W. Schultz, East Detroit, Mich., assignors to Eaton Yale & Towne Inc., a corporation of Ohio
Filed June 11, 1965, Ser. No. 463,266
17 Claims. (Cl. 74—493)



A gear shift lever of an automotive vehicle pivots in response to pivoting movement of the steering wheel of the vehicle to a non-steering position. In one embodiment when the steering wheel pivots to its non-steering position, a pin member located in a slot in the shift cam which cooperates with a portion of the gear shift moves and a biasing spring biases a portion of the gear shift lever into the slot, thereby effecting pivotal movement of the gear shift lever. In another embodiment, the steering wheel of the vehicle upon pivotal movement engages a portion of the gear shift lever and effects pivotal movement of that portion of the gear shift lever with the steering wheel.

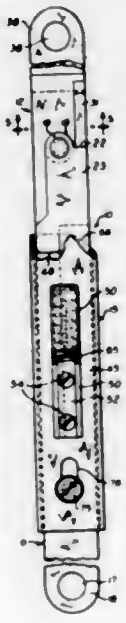
3,368,422
VEHICLE STEERING GEAR
Vincent J. Walter, 1557 Woodland, Wichita, Kans. 67203
Filed Oct. 22, 1965, Ser. No. 501,143
25 Claims. (Cl. 74—493)

Safety steering gear structure for automotive vehicles which takes the form of a pair of rearwardly extending arms having divergent rearmost portions. Such arms are pivotally mounted at their forward ends for divergent forward collapsing movement, with spring biased latch means being provided to normally secure the arms against pivotal collapsing movement, but which latch means will release the arms on forward crash forces against the arms.



Preferred structures include a knock-out portion of the dashboard permitting greater forward movement of the arms; rotatable hand grips; selective angular adjustment means for the spinner rings in which the grips are rotatably mounted; and wedge means between the arms to facilitate their spreading apart under crash conditions.

3,368,423
SELECTIVELY COLLAPSIBLE STAY ARM
Charles Fazekas and Floyd H. Lambert, Charlotte, N.C., assignors to Pneumafil Corporation, Charlotte, N.C., a corporation of Delaware
Filed Nov. 17, 1965, Ser. No. 508,274
5 Claims. (Cl. 74—527)

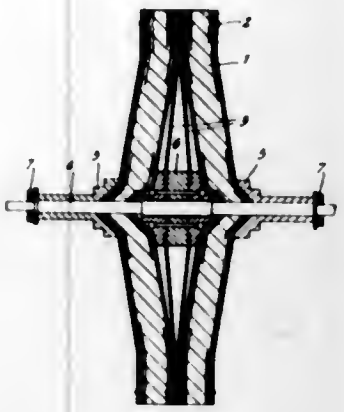


A selectively collapsible stay arm formed by a pivotally interconnected body member and leg member with a locking sleeve telescopically arranged on said body member for longitudinal movement from a position overlying the body member to a position overlying both body member and leg member to secure said members in a fixed load supporting relationship.

3,368,424
FLYWHEELS
Robert Cecil Clerk, Reading, England, assignor, by mesne assignments, to Richfield Industrial Equipment Limited, Reading, England
Filed June 20, 1966, Ser. No. 558,767
5 Claims. (Cl. 74—572)

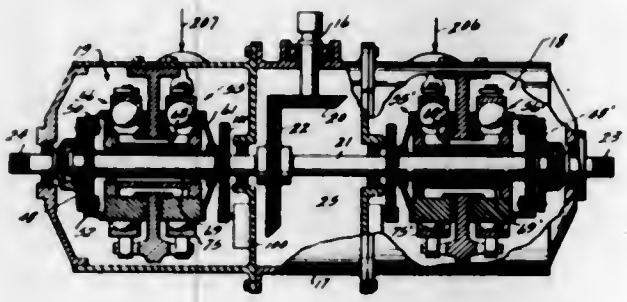
Two sets of dished disc-like laminations having their coned sides facing are aligned and secured together by means which bears upon their control areas and maintains

their marginal edges in pressure-bearing relation. The pressure-bearing related marginal edges sandwich a drive disc or plate between them, which drive plate is fixed to a



shaft passing centrally through the laminated sets. The flywheel thus formed is prestressed to withstand greater loading incidental to operation.

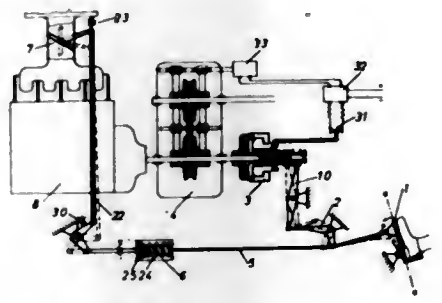
3,368,425
STEERING AND DRIVING POWER SYSTEM
Ernest Eber Lewis, Topsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed May 27, 1965, Ser. No. 459,319
3 Claims. (Cl. 74—720.5)



A steering and driving power system for a vehicle providing independent control of the speed of the traction devices on either side of the vehicle. The prime mover is mechanically connected through drive shafts and gears to the traction devices, and also drives separate hydrostatic transmissions for each side. Planetary gear systems for each side add or subtract the hydrostatic output and the mechanical output to achieve greater forward speeds, reverse speeds and turning.

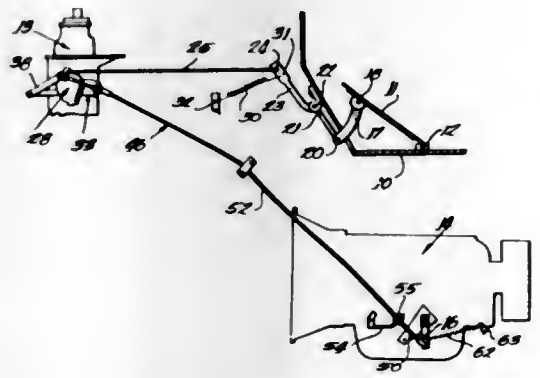
3,368,426
CONTROL MECHANISM FOR ENGINE COMBINED WITH INFINITELY VARIABLE TRANSMISSION
Erhardt Karig and Herbert Kirchner, Bad Homburg vor der Hohe, Germany, assignors, by mesne assignments, to Reimers Getriebe A.G., Zug, Switzerland, a Swiss firm
Filed Mar. 12, 1965, Ser. No. 439,242
6 Claims. (Cl. 74—865)

An engine drives a vehicle through an infinitely variable transmission, the ratio of which can be varied by a speed-responsive governor. A foot pedal is provided which is movable in both directions from an intermediate position. When pushed below this position, the pedal gradually opens the valve of a carburetor feeding the engine and also varies the spring pressure on the governor to control the ratio of the transmission. When allowed to move above this position (in which the carbureter valve is in closed or idling position) the pedal, while leaving the valve closed, continues to operate on the governor in



such a way as to increase the speed at which the engine is driven by the wheels so that the engine exerts a braking action on the vehicle which increases as the pedal moves upward.

3,368,427
THROTTLE VALVE CONTROL DEVICE FOR AUTOMATIC TRANSMISSION
Lawrence M. Johnston, Jr., Robert D. Dickmeyer, and Robert J. Loubier, Fort Wayne, Ind., and Farrel L. Krall, Wilshire, Ohio, assignors to International Harvester Company, a corporation of Delaware
Filed May 6, 1965, Ser. No. 453,720
4 Claims. (Cl. 74—867)

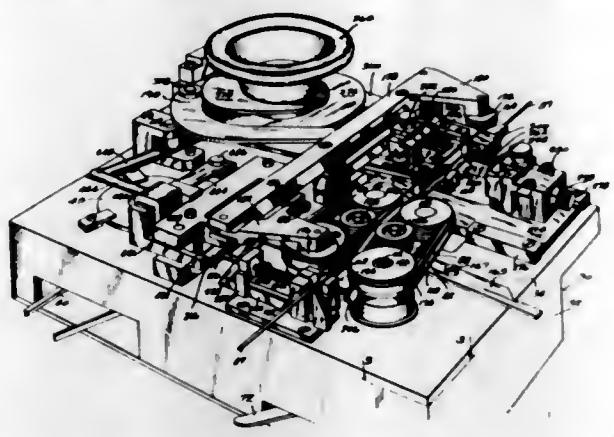


A device incorporated in a motor vehicle having an automatic transmission for controlling the operation of the carburetor throttle valve of the engine as well as the throttle valve of the transmission which includes a throttle lever fixed to the carburetor throttle valve shaft, a cam follower lever operatively connected to the transmission throttle valve, and a rotatable plate-like cam coacting with the throttle lever and said portion corresponding to the fully opened position of the carburetor throttle valve, said coacting formations on the throttle lever and throttle valve cam being separable during such latter rotational movement of the throttle valve cam against the resilient action of said resilient means to cause pivoting of said follower lever independently of any swinging movement of said throttle lever from its second angular position.

3,368,428
WIRE CUTTING AND STRIPPING MACHINE
Ragnar Gudmestad, West Allis, Wis., assignor to Artos Engineering Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 12, 1966, Ser. No. 578,580
13 Claims. (Cl. 81—9.51)

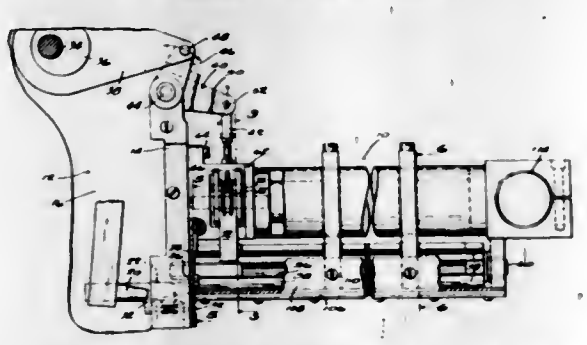
A wire cutting and stripping machine embodying trans-

port mechanism coordinated with the cutting and stripping devices in a manner whereby the wire is held taut



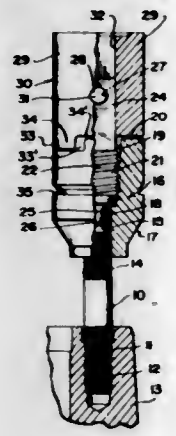
throughout its travel through the machine and during the successive automatic operations thereof.

3,368,429
WIRE COLLECTOR OPERATING IN SYNCHRONISM WITH A WIRE PROCESSING MACHINE
Ragnar Gudmestad, West Allis, Wis., assignor to Artos Engineering Company, New Berlin, Wis., a corporation of Wisconsin
Filed Apr. 14, 1967, Ser. No. 631,012
17 Claims. (Cl. 81—9.51)



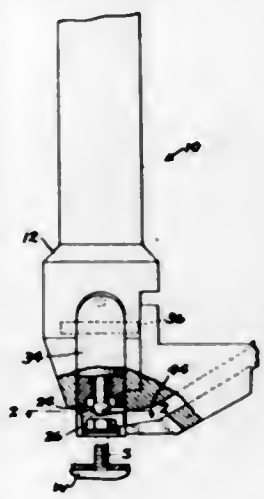
A wire collector having an elongated member provided with a plurality of pockets for receiving wire strands from a processing machine the wire receiving member being mounted for rotation in timed relation to the processing machine for receiving successive wire strands therefrom and for depositing the same in an orderly manner.

3,368,430
STUD DRIVER AND RELEASE TOOLS
Paul Dudley Levering, Siloam Springs, Ark., assignor to American Steel and Pump Corporation, Tulsa, Okla., a corporation of Delaware
Filed Mar. 7, 1966, Ser. No. 532,366
6 Claims. (Cl. 81—53)



The invention relates to a stud driving and removing device involving driving and driven sleeve coupler members having initially free limited relative rotation to provide longitudinal displacement of a stud end thrust element to release or hold the stud and momentarily thereafter effecting rotation thereof in unison to accomplish stud driving or removal depending upon the direction of rotation in relation to the pitch of the stud threads and the oppositely inclined threads of the end thrust element having a different thread pitch than the studs to be driven or removed therewith.

3,368,431
NUT-RUNNING APPARATUS
Sylvester Kulaga, Utica, Mich., assignor to Tru-Tork, Inc., Troy, Mich., a corporation of Michigan
Filed May 12, 1966, Ser. No. 549,658
7 Claims. (Cl. 81—54)

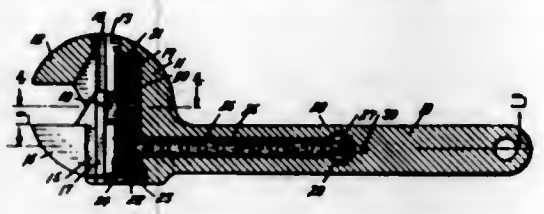


1. Nut-running apparatus comprising,
a body provided with holding means adapted to hold a nut in axial alignment with a work such as a bolt or the like to which the nut is to be applied,
a rotatable socket on said body mounted for movement toward said holding means,
means providing a probe having a rounded portion with a diameter greater than the opening in a nut with which said apparatus is adapted to be used,
said probe, responsive to movement of said socket toward said holding means, being movable so that said portion thereof substantially concentrically engages portions of the nut defining one end of said opening therein,
said holding means being clear of portions of the nut adjacent the opposite end of said opening so that upon relative advancement of the apparatus and work toward each other, a nut in said holding means can be engaged at its opposite end portions by said probe and work,
said rounded portions of said probe providing a universal joint type connection with an engaged nut to facilitate tilting of the nut to the angle of the threading on said nut and work,
said socket, upon continued advancement thereof relative to said holding means, being operable to release said holding means and drivingly engage around a nut therein to apply it to the work.

3,368,432
SLIDING SIDE JAW WRENCH HAVING A PERFORATED DRIVE BELT
Kenneth F. Halls, Broomfield, Colo., assignor to Western Tool Co., Denver, Colo., a corporation of Colorado
Filed May 22, 1967, Ser. No. 639,966
6 Claims. (Cl. 81—165)

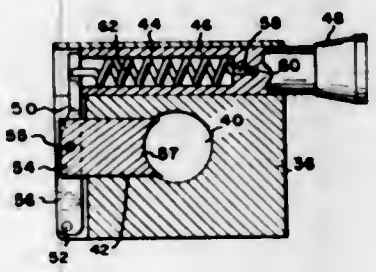
A handle terminating in a head provided with a fixed upper jaw and a jaw-slide-passage, in which, a lower jaw is slidably mounted and connected with the upper

jaw by means of a jaw screw having an integral drive sprocket over which an endless, perforated belt, which



extends into the handle, is trained so that longitudinal reciprocation of said belt will reciprocally rotate said jaw screw.

3,368,433
QUICK RELEASABLE NUT
Geoffrey D. Roberts, Concord, Mass., assignor to Model Shop Associates Inc., Sudbury, Mass., a corporation of Massachusetts
Filed Nov. 24, 1965, Ser. No. 509,477
2 Claims. (Cl. 82—23)

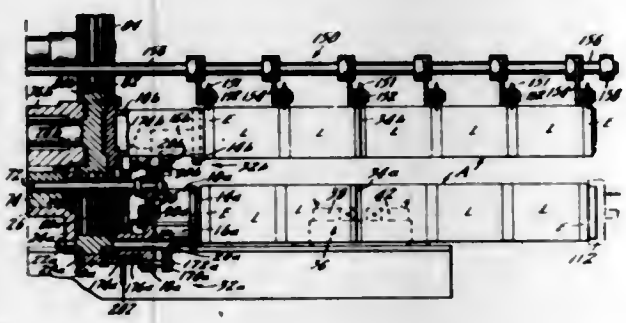


A quick release nut of compact size is slidably mounted on the feed screw of a machine tool with a cylindrical threaded block slidable in the nut and normally spring biased into threaded engagement with the feed screw threads. A push button projects from the nut, while wholly within the confines of the nut is a hollow cylindrical pusher element which actuates the free end of a lever arm pivoted to the block and body. The tension spring and pusher cylinder are co-axial, both on the same side of the block pivot, and the lever fulcrum pivot is on the other side of the block pivot.

ERRATUM

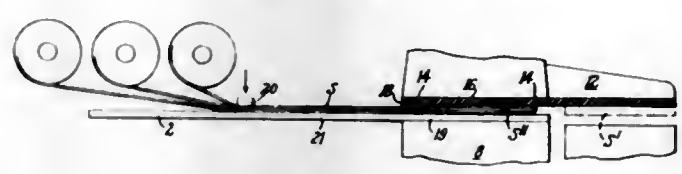
For Class 82—36 see:
Patent No. 3,368,449

3,368,434
METHOD OF AND APPARATUS FOR MANUFACTURING TUBULAR CONTAINER BODIES
Willard A. Meyer, South Salem, N.Y., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 17, 1966, Ser. No. 521,197
18 Claims. (Cl. 82—47)



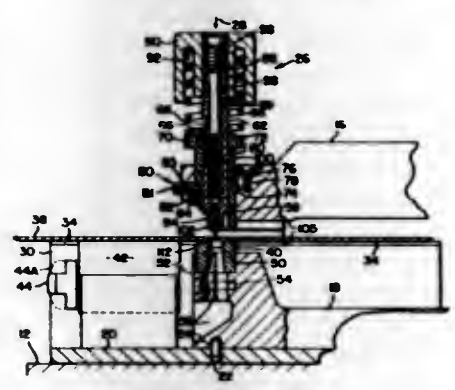
17. The method of indexing a multilabeled stick to a plurality of cutting knives mounted on a common axis in order to register the labels on the stick with the cutting knives, comprising providing an index mark on the labeled surface of said stick, moving said stick along a path of travel parallel to the axis of said cutting knives, projecting a beam of light against the surface of said stick at a point correlatable to the point at which said labels are indexed to said cutting knives, and utilizing the signal generated when said index mark intercepts said beam of light to arrest the movement of said stick when in properly indexed position.

3,368,435
METHODS AND APPARATUS FOR CUTTING SHEET MATERIAL
John S. Bastable, Leicester, England, assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Feb. 8, 1966, Ser. No. 525,923
Claims priority, application Great Britain, Feb. 12, 1965, 6,121/65
5 Claims. (Cl. 83—23)



1. A method of cutting sheet material from a supply of indefinite length which comprises the steps of clamping a lay of sheet material to an infeed portion of a feeding table, moving an end portion of the lay on the infeed portion of the table between a beam and a bed of a press, causing relative movement of approach of the beam and bed to cause cutting means supported on the beam to cut the sheet material against said infeed portion, causing relative movement of separation of the beam and the bed to relieve pressure on the sheet material while retaining the material against movement of withdrawal by holding means carried by the beam, releasing the sheet material from the table and causing a movement of withdrawal of the table without moving the sheet material to carry the infeed portion of the table from between the beam and bed of the press and to carry an outfeed portion of the table therebetween, and completing relative movement of separation of the bed and the beam to release the material for movement on the outfeed portion of the table.

3,368,436
APPARATUS FOR PERFORATING SHEET MATERIAL
Ralph L. Weisbeck, Cheektowaga, N.Y., assignor to Unipunch Products, Inc., a corporation of New York
Filed Oct. 30, 1964, Ser. No. 407,662
4 Claims. (Cl. 83—140)



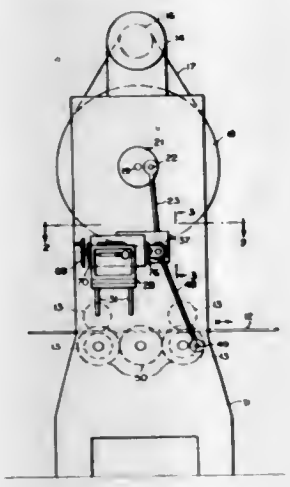
3. In a punch and die cutting assembly, a supporting arm member, a stripper sleeve member mounted and guided in a bore of said arm in axial alignment with a die of said assembly, a punch member mounted and guided

axially in said sleeve, stripper spring means carried on said sleeve and surrounding said punch and an enlarged knob means mounted on the top of said punch and overlying the top of said spring and having outer sidewalls extending down towards the stripper sleeve for axial adjustment of said punch.

3,368,437
ADJUSTABLE FEED ASSEMBLY

Arthur M. Bennet, Pittsford, N.Y., assignor to Erdle Perforating Company, Rochester, N.Y., a corporation of New York

Filed Nov. 15, 1965, Ser. No. 507,767
2 Claims. (Cl. 83—244)

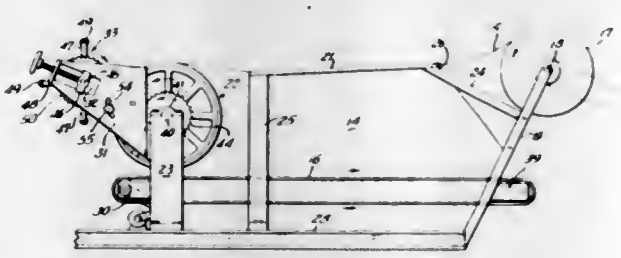


I provide an attachment for a punch press whereby the feed of the stock or sheet metal to be punched may be varied by a simple adjustment without interrupting the operation of the machine.

3,368,438
AUTOMATIC VARIABLE LENGTH WEB CUTTING MACHINE

John T. Frydryk, Springfield, Mass., assignor to Johnson & Johnson, a corporation of New Jersey

Filed May 23, 1966, Ser. No. 552,060
5 Claims. (Cl. 83—336)

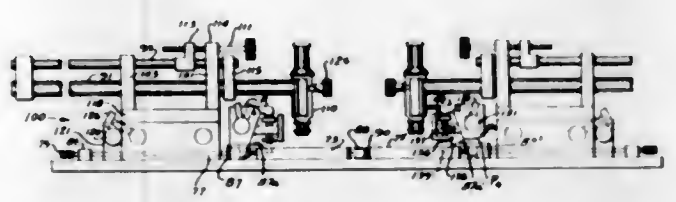


1. An automatic machine for cutting pieces of sheet material from continuous strips and readily adjustable so as to cut pieces of varying length which comprises: a rotatable cutting cylinder carrying at least one cutter movable axially of the cylinder and adapted to cut through a strip of material passing circumferentially around the cylinder from edge to edge of the strip to sever successive pieces of material from the strip as the cylinder rotates, front and rear clamping means clamping front and rear portions respectively of each of the pieces of material to the cylinder during and after the aforesaid cutting operation, a tucking mechanism for engaging the circumference of the cutting cylinder as it rotates to push material on the surface of said cylinder into a slot in the cylinder after the front clamping means have engaged the front edge portions of the material and before the rear clamping means have engaged the rear edge portions of the material and means responsive to the relative rotative position of the cylinder for actuating said clamping means to release the front end of each piece of material when the front edge of the piece passes under the midpoint of the bottom of said cylinder and for actuating said rear clamping means holding the same piece of material to release the rear end of said piece when the rear end of this piece of material reaches the midpoint of the bottom of said cylinder.

3,368,439
APPARATUS FOR PREPARING MULTIPAGE PRINTING

George W. Bungay, Jr., Brooklyn, N.Y., assignor to Electrographic Corporation, New York, N.Y., a corporation of New York

Original application May 5, 1965, Ser. No. 453,245, now Patent No. 3,288,063, dated Nov. 29, 1966. Divided and this application Oct. 11, 1965, Ser. No. 510,135
3 Claims. (Cl. 83—437)

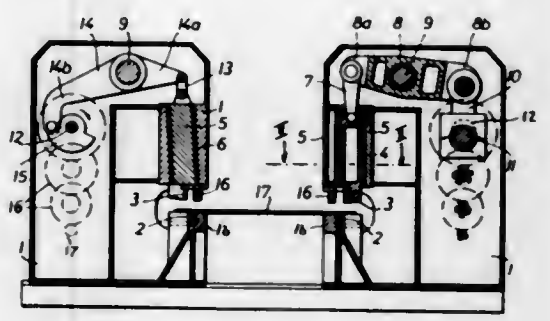


Registering and punching apparatus for accurate assembly of multipage printing plates. A bed plate structure is provided with a plurality of opposed page mold holding clamps, each of which can be shifted backward and forward by means of a micrometer adjustment so as to locate a page mold accurately on the bed plate. Each page mold is provided in advance with register marks along at least two of its sides, preferably two adjacent sides. The apparatus also includes at least one and preferably two micrometer traversed microscopes. These are provided in order that the page molds may be located with extreme accuracy on the bed plate. A set of punches are fixed on a frame supporting the bed plate in a position to accommodate page molds of predetermined size and are provided on plural sides, preferably two sides, of the bed plate. By operating these punches, register holes may be accurately punched on two adjacent sides of the individual page mold.

3,368,440
SHEARING MACHINES FOR TRIMMING SHEET MATERIAL

Karl Griese, Dusseldorf-Rath, Germany, assignor to Maschinenfabrik Sack G.m.b.H., Dusseldorf-Rath, Germany, a corporation of Germany

Filed Apr. 1, 1966, Ser. No. 539,362
4 Claims. (Cl. 83—513)



1. A shearing machine for trimming sheet material, comprising a frame structure, a stationary lower blade on said structure, a reciprocating upper blade for shearing action with said lower blade in a given cutting plane,

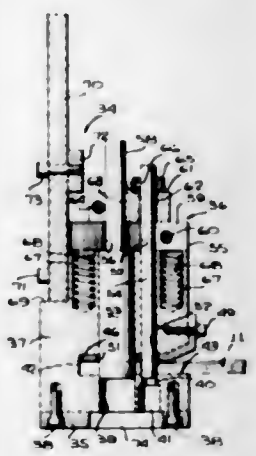
a slider guiding said upper blade for reciprocation in said plane, means guiding said slider for movement in a direction inclined to said plane, drive mechanisms connected to said upper blade and to said slider respectively and having a driving cycle for causing said upper blade to move downward in said plane to make a cut and then moving said slider with said upper blade away from the cut so that upward movement of said upper blade takes place in a plane offset from said cutting plane.

3,368,441
APPARATUS FOR PUNCHING LOCATING HOLES IN LIPS OF STACKED PLASTIC BAGS

Thomas E. Piazze, Mount Vernon, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Application Apr. 16, 1964, Ser. No. 360,219, now Patent No. 3,274,869, dated Sept. 27, 1966, which is a division of application Ser. No. 203,567, June 19, 1962. Divided and this application Apr. 8, 1966, Ser. No. 541,315

12 Claims. (Cl. 83—588)



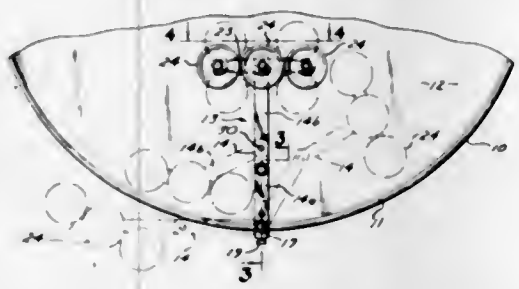
A punch apparatus is provided for receiving an inaccurately disposed stack of plastic bag lips, the apparatus including a support having bores therein which carry punch members and a transverse slot communicating with the bores, in which a stack of bag lips is received. One punch member forms a locating hole, and the other punch member intersects a bag lip edge and removes a portion of the same. The punch members are adapted for simultaneous movement and have a novel coupling arrangement. The punch members may take on various configurations.

3,368,442
PERCUSSION INSTRUMENTS

Charles S. Wilcoxon, 2530 Jameston Drive, Rocky River, Ohio 44116

Filed July 13, 1967, Ser. No. 653,132

6 Claims. (Cl. 84—411)



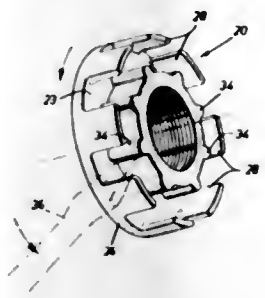
There is disclosed herein a sound instrument for attachment to drums which comprises an apparatus for suspending said sound instrument over the drum head and making contact therewith whereby playing the drum causes the sound instrument to play.

3,368,443
FLANGED NUT

Thomas L. Faul, Skaneateles, N.Y., assignor to Aqua-Marine Mfg. Limited, Toronto, Ontario, Canada

Filed May 8, 1967, Ser. No. 636,751

5 Claims. (Cl. 85—32)



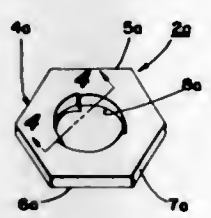
A nut having an annular flange projecting outwardly from a central, internally threaded hub. The flange has a number of spaced, upstanding teeth around its outer periphery and the hub has axial ribs on its outer periphery, thus enabling a pointed tool such as a screw-driver to be inserted between two teeth and engaged with a rib for the purpose of tightening or loosening the nut.

3,368,444
SELF-TAPPING FASTENER

Robert J. Holton, Rocky River, Ohio, assignor to Tinnerman Products, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Dec. 29, 1965, Ser. No. 518,751

13 Claims. (Cl. 85—32)



A self-threading fastening device adapted for assembly with a threadless member including, a body having an opening therein. The opening has a continuous axially extending surface having a plurality of arcuate thread-cutting projections which extend radially into the opening and are formed from the material of the body and from cut-out portions made in the axially extending surface. Each thread-cutting projection extends angularly across a respective cut-out portion and has a leading end commencing in the axially extending surface adjacent one side of the cut-out portion and a relatively wider trailing end terminating at the opposite side of the cut-out portion.

3,368,445
STAPLE

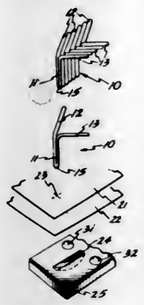
Joseph J. Trzesniewski, 1711 W. Lincoln Ave., Milwaukee, Wis. 53215

Continuation of application Ser. No. 401,859, Oct. 6, 1964. This application Dec. 2, 1966, Ser. No. 607,109

6 Claims. (Cl. 85—49)

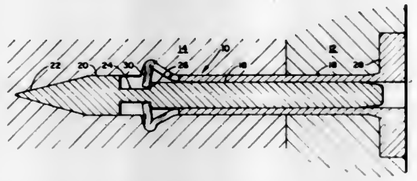
A staple for fastening sheets of material together and formed of a leg having a penetrating point at one end and two diverging arms branching from the opposite end. The penetrating point is forced through the sheets of material and the leg is bent into engagement with one side of the material. The two arms are bent relative to the leg into

engagement with the opposite side of the material with the leg being disposed between the two arms to cooper-



ate with them for firmly clamping the sheets of material between the pair of arms on one side and the leg on the other side.

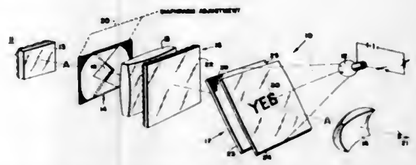
3,368,446
CLINCHING NAIL
Charles A. Glenn, 92 Four Mile Road, West Hartford, Conn. 06107
Filed Jan. 21, 1966, Ser. No. 522,181
1 Claim. (Cl. 85—84)



A clinching nail having a tubular outer shell with a pin member disposed therein, the pin member having a portion of increased diameter at one end which tapers to a work penetrating end. The pin member also has a recess therein which defines a shoulder and the tubular outer member has a plurality of extensions which are folded on themselves to form deformable tabs, the folded over portion of the tabs being disposed in the recess in the pin member with their ends adjacent the shoulder whereby movement of the pin member relative to the tubular member causes outward deformation of the tabs.

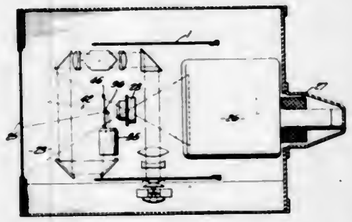
3,368,447
COMPARISON PHOTOMETER USING REFLECTIVE PATTERN
Edwin H. Land, Cambridge, and Dexter P. Cooper, Jr., Lexington, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Apr. 13, 1964, Ser. No. 359,113
10 Claims. (Cl. 88—23)

A comparison photometer is disclosed which utilizes a target pattern of light-reflective areas interspersed with light-transmissive areas. One light source illuminates a background area visible through the light-transmissive areas while another light source illuminates the reflective areas of the patterned target. Superimposed on the reflective pattern is an index symbol rendered in terms of a low density tone. The index symbol is uniquely intelligible against the pattern of reflective and transmissive areas only at substantial photometric balance between the two light sources. Any substantial departure from photometric balance results in concealment or camouflage of the index symbol because of the relatively high



contrast then exhibited between the reflective and light-transmissive of the patterned target.

3,368,448
INTEGRATED NAVIGATIONAL SITUATION DISPLAY WITH HIGH EFFICIENCY LIGHT BEAM COMBINER
Erich S. Guttmann, Pasadena, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Oct. 4, 1965, Ser. No. 492,672
15 Claims. (Cl. 88—24)



A light beam combiner making use of two projection lenses and a miniature reflector or micro-prism is described. One lens projects a pattern from a first source, a cathode ray tube as shown, directly onto a viewing screen.

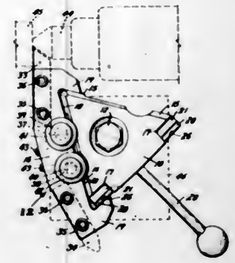
A second lens of a retro-focal type has a small diameter exit pupil at a predetermined distance on its output side, through which all of its output light passes before diverging into an output cone of light. This second lens projects a second pattern from a second source, an illuminated photographic film as shown.

The relation of these components in such that the axes of the lenses are at an angle and the small exit pupil of the second lens falls within the exit cone of light of the first lens. The miniature reflector or micro-prism is located at the said exit pupil and is oriented to redirect light from the second lens in substantially the same direction as the output cone of light from the first lens. The miniature reflector or micro-prism is at least as large in reflective surface as the effective area of the said exit pupil, but small as compared to the cross-sectional area of the output cone of light of the first lens at the location of the miniature reflector or micro-prism. Accordingly, the combination of beams from both lenses is effected with minimum loss of light transmission efficiency.

3,368,449
TOOL POSTS FOR LATHES
Jesse M. Robinson, 2118 S. Kalamath, Denver, Colo. 80223
Filed Oct. 11, 1965, Ser. No. 494,843
5 Claims. (Cl. 82—36)

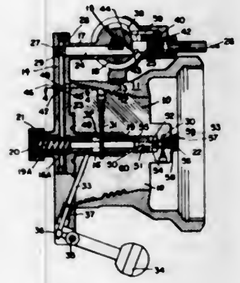
A solid metallic block having an equilateral-triangular horizontal cross-section adapted to be mounted for rotation about its vertical axis upon a lathe cross slide and

provided with an elongated double-ended tool holder having hooked portions at its extremities which can be hooked about the triangular corner edges of a selected face of said block to support said holder horizontally



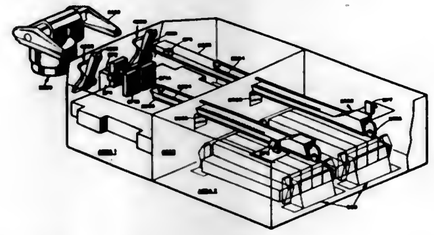
across said face, said block being provided with means for adjustably presetting the vertical position of said holder thereon and with expanding elements which can be expanded against said hooked portions to lock said holder in the preset vertical position.

3,368,450
BREECH MECHANISM FOR A RECOILLESS GUN
Francis W. Dietsch, Levittown, Pa., assignor to the United States of America as represented by the Secretary of the Army
Filed Oct. 20, 1966, Ser. No. 588,691
12 Claims. (Cl. 89—1.705)



1. A breech closure mechanism for a recoilless gun comprising:
- a breech bar having a longitudinally extending spindle and rotatably mounted about a fixed transverse post, said spindle having transversely apertured wall means,
- a spring biased hammer longitudinally slidable in said spindle for actuating a longitudinally movable firing pin and having arcuate slot means and a peripheral notch therein,
- a closure rotatably mounted upon said spindle and having a forward aperture slidably receiving said firing pin and aligned with said hammer,
- a camming member secured to said closure and extending through said apertured wall means and into said arcuate slot means for retracting said hammer upon rotation of said closure,
- a sear member slidably mounted in said bar and having one end portion engageable in said hammer notch when said hammer is retracted, and
- means for moving said sear one end in and out of engagement with said hammer notch.

3,368,451
GUIDED MISSILE LAUNCHING SYSTEM
Myron J. Bauer, St. Paul, and Arthur G. Blomquist, Minneapolis, Minn., Robert E. Carlberg, McLean, Va., and Garold A. Kane and John S. Scheurich, Minneapolis, and Richard C. Wilson, Champlin, Minn., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 22, 1959, Ser. No. 848,163
4 Claims. (Cl. 89—1.802)



1. In combination with an automatic guided missile handling and launching system of the character described,
- a missile launcher,
- a ready service mechanism for storing and selectively cycling in either a clockwise or counterclockwise manner one or a plurality of guided missiles, which plurality may be of a similar or assorted different types and shifting one or more thereof in either of two directions in either one or both of two ordinate planes and/or either or both of two abscissa planes for further selection of any one of said assortment of guided missiles,
- means for elevating a selected one of the missiles in an additional vertical plane from a transferred position in the uppermost of said ordinate planes to an overhead position in spaced adjacency with respect to said transferred position,
- means vertically spaced from said ready service mechanism for shifting a selected one of said assorted types of guided missiles from said last mentioned means of the ready service mechanism to additional handling apparatus of said system operatively associated with said handling system for further disposition of said elevated guided missile ultimately to said missile launcher,
- a missile carrying track means connected between said launcher and said ready service mechanism,
- said ready service mechanism further having a pair of functionally interrelated cooperative longitudinally spaced frame systems for shuttling said assortment of guided missiles in one or more of two parallel horizontal planes, and for one or more of two substantially parallel vertical planes, said spaced frames providing at least a pair of spaced upper and lower shuttling tiers,
- cooperative hoist means positioned at opposite sides of each of said pair of cooperative spaced frames with the hoist means on the corresponding sides of said longitudinally spaced frames being operatively coupled for contemporaneous movement to sequentially transfer said plurality of guided missiles between said upper and lower shuttling tiers of said ready service mechanism,
- said spaced frames each carrying an individual centrally disposed hoist means of said means for elevating a selected one of said missiles from a transfer position,
- means for correlating the function of said individual hoist means to provide conjoint movement thereof in unison during elevational transferring of a selected missile from said ready service mechanism to said shifting mechanism,

a ballistically enclosing housing structure for said ready service mechanism,

said structure having an apertured wall therein configured to permit passage therethrough of a missile weapon having fins and wings assembled thereto,

blast door type closure means positioned to normally close and seal said aperture and operatively actuated in correlative relation with operation of said ready service mechanism for movement to open the closure means for the aperture thereof for passage of an ordnance weapon therethrough for loading on the missile launcher and for subsequent closure prior to missile launching, thereby to absorb the blast occurring with missile firing,

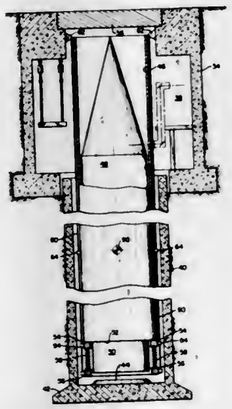
at least one feeder mechanism for transporting said selected ordnance weapon through said aperture in said ballistically enclosing structure wall and to said launcher for launching, and hydraulically controlled means for operating said movable blast door type closure means.

3,368,452

SHOCK ISOLATION SYSTEM

John D. Fredrickson, St. Louis, Mo., and Bruce Hanna, Littleton, Colo., assignors to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland

Filed Apr. 19, 1965, Ser. No. 449,081
9 Claims. (Cl. 89—1.816)



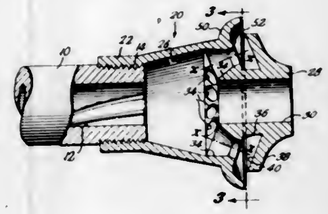
1. A shock isolating ground storage and launching system for missiles subject to bombardment forces, comprising: an elongate, generally vertically extending enclosure set into the ground and adapted to house a missile in launch attitude; a vertically extending launch tube arranged within the enclosure with freedom of movement in all directions and adapted to receive a missile in launch attitude; and support means for said launch tube and missile assembly including an upper ring beam surrounding and connected to the lower portion of said launch tube; a lower ring beam spaced below said upper ring beam; a plurality of compression springs extending between said ring beams; a plurality of support members secured to the upper end of said enclosure and spaced about its periphery; an elongate, flexible suspension element secured at its upper end to each of said support members; the lower ends of said suspension elements being secured to the outer margin of the lower ring beam; said elements, in repose, extending vertically and parallel to each other; guide means on said upper ring beam slidably receiving said elements; and guide means on said launch tube slidably receiving said elements; said last mentioned guide means being located in a horizontal plane passing substantially through the center of gravity of the missile and launch tube assembly; whereby shock forces applied to said enclosure are resolved into horizontal and vertical components passing through the center of gravity of the assembly.

3,368,453

MUZZLE BRAKE

John J. Shaw, 310 NE. D St., Grants Pass, Oreg. 97526

Filed Mar. 24, 1966, Ser. No. 537,191
5 Claims. (Cl. 89—14)



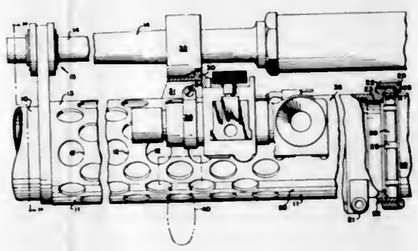
A one-piece body muzzle brake is threaded on the outer end of a gun barrel. A plurality of spaced discrete tapered holes allow gases to escape outwardly to impinge on a baffle surface to reduce the recoil, and a further deflector surface receives gases deflected by said baffle surface, the deflector surface sloping forwardly to deflect sound waves forwardly of the muzzle brake to reduce the sound reaching the user's ears.

3,368,454

ACCESSORY MOUNTING MEANS

John H. Peck, Fountain Valley, and C Walton Musser, Palos Verdes Estates, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Sept. 22, 1966, Ser. No. 582,205
7 Claims. (Cl. 89—14)



1. In a weapon having a thin walled large calibre barrel and a spotting rifle, a substantially cylindrical sleeve having a forward portion with circumferentially spaced, inwardly directed means for engaging a forward surface of said barrel and a rearward portion with internal lugs for non-rotationally engaging mating means on said barrel,

means for locking said sleeve upon said barrel,

said sleeve having a plurality of lateral surface openings substantially throughout its length,

a forward bracket extending from said sleeve forward portion and having means for supporting a forward portion of said spotting rifle, and

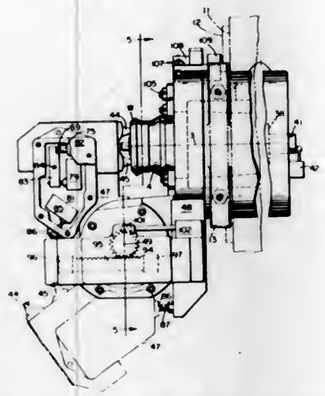
means secured to said sleeve rearward of said bracket for supporting a rearward portion of said spotting rifle.

3,368,455

GEAR CUTTING MACHINE WITH STOCK-DIVIDER

Charles G. Ellwanger, Rochester, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York

Filed Dec. 10, 1965, Ser. No. 512,870
9 Claims. (Cl. 90—1)



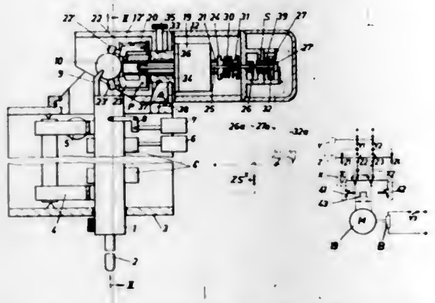
1. A gear cutting machine or the like comprising a spindle having a work support with a plane work seating face perpendicular to the spindle rotation axis and radially movable work-gripping portions, a stock-divider support, one of said supports having a centering formation located on said axis and engageable with a centering formation on a workpiece, a plunger yieldably movable in the stock-divider support along said axis to maintain said centering formations engaged and the workpiece seated upon said seating face, and jaws movable on the stock divider support to close substantially radially in approximately opposed tooth slots of the workpiece to thereby rotate the workpiece on said seating face about said axis into a predetermined angular position.

3,368,456

TRACER UNIT FOR DUPLICATING TOOL MACHINES, PARTICULARLY DUPLICATING MILLING MACHINES

Paul Kohl and Georg Schlapp, Frankfurt am Main, Germany, assignors to Nassovia Werkzeugmaschinenfabrik G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany

Filed Dec. 23, 1966, Ser. No. 604,440
Claims priority, application Germany, Dec. 24, 1965, N 27,821
18 Claims. (Cl. 90—62)



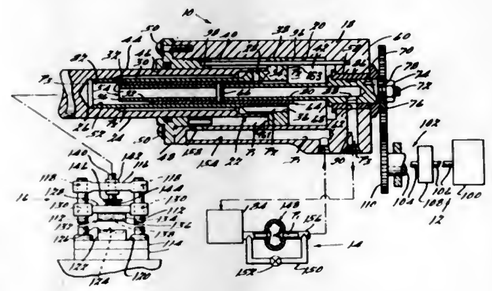
A duplicating apparatus for following a pattern which includes a separable housing, one portion of which contains a measuring head and a tracer element while the other portion contains a control unit for the head and tracer. The separable housings are arranged for axial movement one relative to the other by a rotatable device which by its movement permits changes in the measuring circle travelled by the head and tracer.

3,368,457

HYDRAULIC CONTROL ARRANGEMENT

John J. Lewakowski, Warren, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Original application Aug. 19, 1964, Ser. No. 390,680. Divided and this application Jan. 17, 1967, Ser. No. 609,900
5 Claims. (Cl. 91—39)



A hydraulic control arrangement has a housing in which is received an axially slidable pressure responsive slave piston movable with respect to the housing. A plurality of axially spaced servo ports are formed in the slave piston in order to be movable therewith. A rotary servo valve is received within the slave piston and operatively journalled to the housing so as to be only rotatable with respect to the housing while being both rotatably and axially movable with respect to the slave piston. The rotary servo valve is provided with contoured edges which when rotated are effective for at least partially opening one of the servo ports while at least partially closing another of the servo ports thereby causing the slave piston to undergo axial movement in a direction tending to cause the servo port, which was previously more fully opened, to become more nearly closed and thereby establish a hydraulic null position of the slave piston. Additional motion transmitting means, such as gears, are provided for transmitting unidirectional rotary motion from a suitable motor means to the servo valve so as to rotate the servo valve unidirectionally and thereby establish cyclic operation of the slave piston.

3,368,458

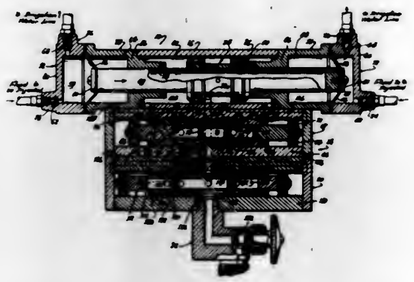
HYDRAULIC MOTOR

Lawrence P. Shinaver, 1706 S. Conlon Ave., West Covina, Calif. 91790

Filed Oct. 24, 1965, Ser. No. 504,855
4 Claims. (Cl. 91—308)

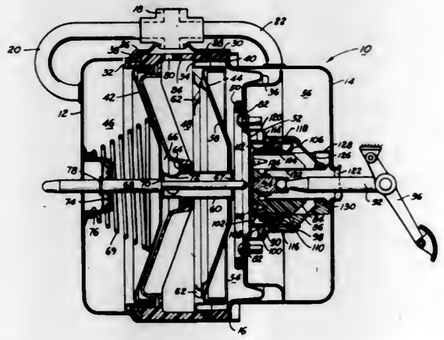
A reciprocating hydraulic motor having a power cylinder, a main valve cylinder, and a pilot valve cylinder contained in separate cylinder blocks which are releaseably

joined with seating faces thereof disposed in sealing contact, and passages communicating the cylinders through



communicating ports in the seating faces. A sleeve valve construction for use in the hydraulic motor.

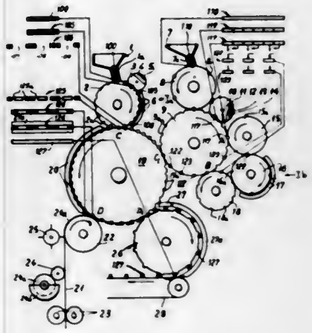
3,368,459
FLUID PRESSURE MOTOR CONSTRUCTION
Charlie N. French, Robert R. Hager, and Thomas M. Julow, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Continuation of application Ser. No. 400,503, Sept. 30, 1964. This application Oct. 17, 1966, Ser. No. 587,348
18 Claims. (Cl. 91—391)



A fluid pressure servomotor having means operatively connected to a movable wall therewithin to render its power assistance capability progressively weaker after a predetermined stroking of said wall with additional means, if desired, to limit travel of a manual control for the servomotor until power assistance is weakened or eliminated whereupon the limiting means is released to permit the necessary travel of the manual control.

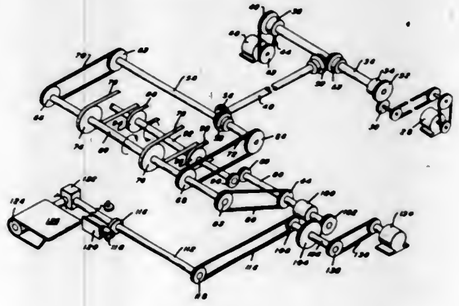
3,368,460
METHOD AND APPARATUS FOR THE PRODUCTION OF MOUTHPIECES
Bernhard Schubert, Hamburg-Lohbrugge, Germany, assignor to Hauni-Werke Körber & Co. K.G., Hamburg-Bergedorf, Germany
Filed Nov. 4, 1964, Ser. No. 408,998
Claims priority, application Great Britain, Nov. 11, 1963, 44,338/63
32 Claims. (Cl. 93—1)

Composite mouthpieces are produced by subdividing each of a series of first filter rods into a first group of $n+1$ coaxial rod-shaped members, shifting the members of each group axially to separate such members by n gaps, subdividing each of a series of second filter rods into second groups of $m \cdot n$ rod-shaped members, breaking up each second group into m subgroups by moving the members of subgroups transversely with reference to each other, shifting $m-1$ subgroups axially into transverse alignment with the remaining subgroup and with the gaps



between the members of first groups, shuffling each subgroup with a first group to form assemblies wherein members of a first group alternate with members of a subgroup, and convoluting adhesive-coated wrappers around such assemblies.

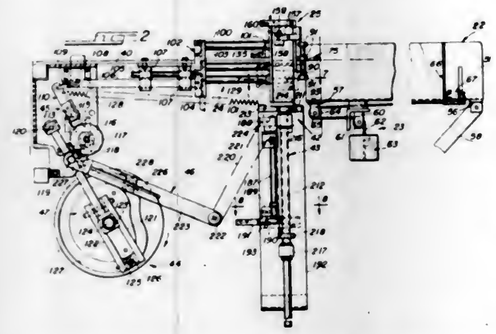
3,368,461
PAPERBOARD PROCESSING MACHINE
William Grobman, Philadelphia, Pa., assignor, by mesne assignments, to The Langston Company, Camden, N.J., a corporation of New Jersey
Filed Oct. 23, 1965, Ser. No. 503,566
5 Claims. (Cl. 93—36)



1. Paperboard processing apparatus comprising a printer-slotter machine, a folder-gluer machine, and a squaring machine all operatively interconnected in that sequence to process paperboard blanks to convert the blanks into printed, slotted and collapsed boxes, a single motor operatively coupled to drive each of said machines, and auxiliary motor means for operating at least one of said folder-gluer and squaring machines when said motor is inoperative.

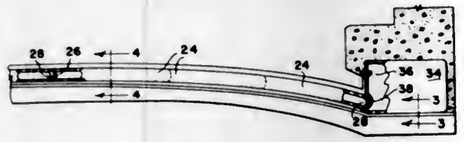
3,368,462
PAPER CONTAINER PRE-FORMING AND ERECTING MEANS
Raymond W. Guzzardo, McHenry, Ill., assignor to E. M. Melahn, doing business as Northern Illinois Machine Company, McHenry, Ill.
Filed Aug. 24, 1965, Ser. No. 482,112
12 Claims. (Cl. 93—53)

Automatic package forming mechanisms for opening collapsed milk carton blanks and forming such into three dimensional open ended tubes for subsequent formation into containers; including pneumatic feeder apparatus operable to remove a carton blank from a storage magazine and deposit the same in a partially opened condition within a three walled folding cage having two mov-



able walls which periodically actuate to fold the side wall panels of the carton about corner fold lines of the carton blank and which cage thereafter positively holds the carton panels in predetermined angular relationship while the same is mounted over a forming mandrel.

3,368,463
INFLATED PAVING-JOINT SEALER
George M. Jones, 1134 East 4620 South, Salt Lake City, Utah 84107
Filed Aug. 12, 1965, Ser. No. 479,145
5 Claims. (Cl. 94—18)

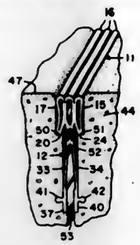


A paving joint sealing arrangement to prevent ingress of water and debris, comprising modular closed elastic tubular sections with mating concave and convex end formations installed just below the paving surface and conforming to its transverse curvature, and respective elastic end sections of closed hollow rectangular shape mating with the terminal tubular end sections installed to extend well above the curb line, all of said sections being inflated in situ to a pressure not exceeding about 20 pounds per square inch above atmospheric.

3,368,464
MEANS FOR AND METHOD OF PRODUCING CONTRACTION JOINTS
James T. Thorp, Jr., and Donald K. Brazee, St. Louis, Mo., assignors to Lambert Products, Inc., St. Louis, Mo., a corporation of Missouri
Filed Sept. 24, 1965, Ser. No. 489,995
9 Claims. (Cl. 94—18)

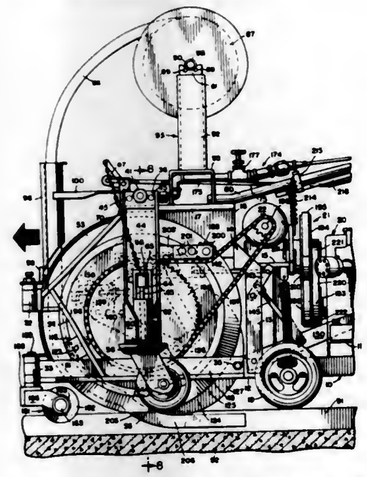
The contraction joint is sealed by a device comprising an upper strip of open-tubular material which is laterally compressible, and provides a pavement seal. The upper strip is attached to a lower strip which includes a pair of laterally, flexible legs, depending from the upper strip, the flexible legs being provided with elongate anchorage elements extending laterally from the legs. The legs have an inverted V-shape and are continuous at the apex to provide a second seal.

A method of forming a double-sealed waterproof joint is also disclosed which entails clamping the sealing de-



vice temporarily during insertion of the sealing device into the wet concrete.

3,368,465
MACHINE FOR INSERTING ELONGATED LATERALLY COMPRESSIBLE STRIPS IN CONCRETE JOINTS, AND THE LIKE
Burl D. Tonjes, Malinta, Ohio, assignor to D. S. Brown Company, North Baltimore, Ohio, a corporation of Ohio
Filed Jan. 3, 1966, Ser. No. 518,444
19 Claims. (Cl. 94—39)

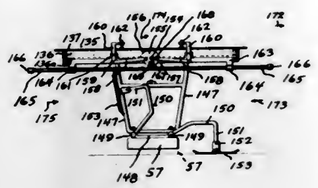


Machine for inserting laterally compressible strips in concrete joints embodying (a) power driven, canted compression discs; (b) rearwardly eccentrically mounted narrow discharge wheel, preferably with a thin edge, between discs with up and down and forward and rearward adjustability; (c) pressure rollers operating against periphery of outer faces of compression discs; (d) hinged frame; (e) lubricant applying means; (f) front guide member or wheel; (g) strip feed guide means on front portion of frame adjacent canted discs; and (h) wheel adjustability for raising canted discs to roll the machine over surfaces when not in strip-inserting operation.

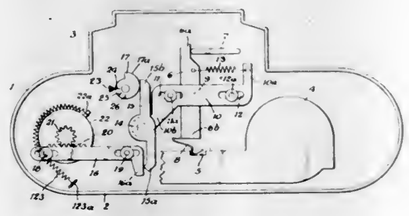
3,368,466
LONGITUDINAL STRIKE-OFF AND FINISHING SCREED FOR CONCRETE
Murray A. Rowe, Canton, S. Dak. 57013
Filed Oct. 19, 1965, Ser. No. 497,943
3 Claims. (Cl. 94—45)

An improvement for power driven finishing screeds for concrete roadways, bridge surfaces and the like including particularly a rotatable and vertically adjustable

carrier for the finishing member which allows use of a bull float and a troweling member either at the same time in combination, or the troweling member alone, and at various angles of traverse across the roadway surface.



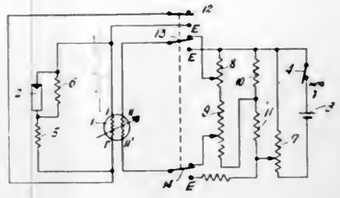
3,368,467
PHOTOGRAPHIC CAMERA WITH AUTOMATIC FILM SPEED ADJUSTMENT
Johann Hahn, Stuttgart, Germany, assignor to Zeiss Ikon Aktiengesellschaft, Stuttgart, Germany
Filed Mar. 24, 1965, Ser. No. 442,385
Claims priority, application Germany, Apr. 4, 1964, Z 10,746
6 Claims. (Cl. 95—10)



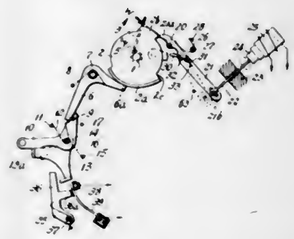
A photographic camera with a coupled exposure meter and a manually operated correction device for introducing certain corrections in the exposure value adjustment of the exposure meter, said correction device includes a member which is operatively coupled with the other control means of the camera in such a manner that a number of exposure values, including an automatically introduced film speed value and, if desired, a preadjusted exposure factor, are superimposed upon the manually corrected value to obtain the final exposure setting.

3,368,468
PHOTOGRAPHIC CAMERA WITH EXPOSURE METER HAVING COMPENSATING CIRCUIT FOR USE IN MAKING BOTH AMBIENT LIGHT EXPOSURES AND FLASH EXPOSURES
Waldemar T. Rentschler, Calmbach, Black Forest, Germany, assignor to Prontor-Werk Alfred Gauthier G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany
Filed May 25, 1965, Ser. No. 458,585
Claims priority, application Germany, May 27, 1964, G 40,700
2 Claims. (Cl. 95—10)

1. In a photographic camera, a focus control; a diaphragm setting mechanism comprising: an exposure meter comprising a first winding and a second winding, a photosensitive device connected to one of said windings to control the current therethrough in response to ambient light and a battery circuit comprising a battery and adjustable resistance means adapted to control current from said battery in said second winding in accordance with the intensity of flash sources and the setting of said focus control of the camera.



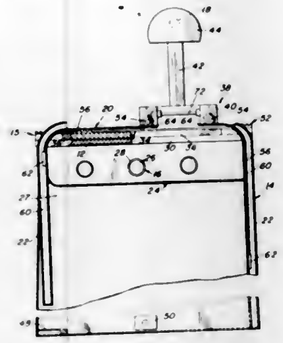
3,368,469
PHOTOGRAPHIC SHUTTER WITH ELECTRONICALLY CONTROLLED TIMING
Waldemar T. Rentschler, Gauthier-Strasse 41, Calmbach, Black Forest, Germany
Filed June 8, 1965, Ser. No. 462,252
Claims priority, application Germany, June 12, 1964, G 40,830
8 Claims. (Cl. 95—53)



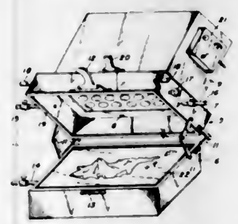
An actuating mechanism for a photographic shutter having an electronic timing device and a movable shutter blade. Driving means are provided for operating the shutter blades, and the driving means comprises a member adapted to exert a driving force along a predetermined line. An arresting lever is provided mounted on a pivot axle so that the driving force, acting along the predetermined line passes substantially through the axle. An electromagnet is connected in the timing circuit so as to be energized thereby. Mechanical means are provided for connecting the lever to the electromagnet to block the member and thereby hold the shutter blade in the open position as long as the electromagnet is energized by the circuit. A restoring spring is provided which bears upon the lever to move it out of the blocking position as soon as the electromagnet is deenergized so that the member can exert a driving force on the shutter blade to move the shutter blade to the closed position.

3,368,470
PHOTOCOMPOSING METHOD AND APPARATUS
Frank G. Higgason, Jr., Louisville, Ky., assignor to Ludlow Typograph Company, Chicago, Ill., a corporation of Delaware
Filed Apr. 26, 1965, Ser. No. 450,846
14 Claims. (Cl. 95—73)

A composition method and apparatus is provided in which a translucent composition sheet is placed between two light sources. The sheet is sensitive to the light from only one of the sources. A composition pattern is positioned between the sheet and the source to which the sheet is not sensitive so that it can be observed from the other side of the sheet. A composition element is placed between the sheet and the other light source so that the same element is used both to position the image on the composition sheet and to produce the image. Movable shades for shielding other portions of the composition sheet are provided as is a device for positioning elongated elements relative to the sheet.



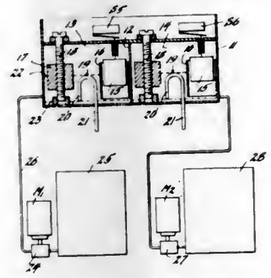
3,368,471
METHOD AND APPARATUS FOR MAKING THREE DIMENSIONAL CONTACT PRINTS
Carl J. Beato, 603 Woodland Drive, Forest Heights, Md. 20023
Continuation-in-part of application Ser. No. 22,372, Apr. 14, 1960. This application Apr. 29, 1964, Ser. No. 363,652
13 Claims. (Cl. 95—76)



6. In a photographic apparatus for producing three dimensional prints by contact printing, the combination of a table, a plurality of posts fixedly secured to said table, a mold box mounted on said posts, a three dimensional mold mounted within said mold box, a squeeze frame mounted above said mold box in a manner to be operatively connected to said posts, means for supporting a plurality of photographic elements comprising a negative and a photosensitive element within said squeeze frame, height adjusting means for controlling the position of said squeeze frame, pressurizing means connected to apply air under pressure to the upper surface of said photographic elements and said mold when the squeeze frame is secured thereover, evacuating means connected to the underside of said mold box for applying suction to the underside of said mold and the innermost one of said photographic elements, and means for photographically exposing the photosensitive one of said plurality of photographic elements when said squeeze frame is in its proper position.

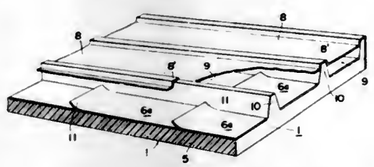
13. A method for producing a photographic image in relief accurately representing a three-dimensional subject, comprising forming two three-dimensional photographic elements presenting complementary relief faces accurately representing the relief features of the subject, one of said elements presenting a negative image accurately representing the subject and the other of said elements being photosensitive; placing said elements in registry with said complementary relief faces directed toward and in contact with each other; evacuating air from between said relief faces and applying a positive fluid pressure to one of said elements thereby establishing uniform and intimate contact between said faces; photographically exposing said photosensitive element through said negative image to form a latent positive image on said photosensitive element; separating said elements, and developing said latent image to provide a finished positive photographic image accurately representing the subject in three dimensions.

3,368,472
DEVICE FOR MAINTAINING A PHOTOGRAPHIC PROCESSING SOLUTION AT A PREDETERMINED COMPOSITION
Leo Paul Van Bouwel, Mortsel-Antwerp, and Willy Pieter Tack, Berchem-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company
Filed Dec. 21, 1964, Ser. No. 419,727
Claims priority, application Netherlands, Dec. 20, 1963, 302,435
5 Claims. (Cl. 95—89)



When a sufficient amount of photographic material has been processed to require replenishment of the processing solution, a measuring device actuates a flow of fresh solution to a measuring tank. When the desired level of solution is reached in the tank, a float stops the flow of solution therein and a self-starting siphon discharges the contents of the tank until the siphon is broken by the lower level of solution. The effective volume of the tank and the intake end of the siphon can be adjusted.

3,368,473
ROOF AND WALL CONSTRUCTION
Yoshitoshi Sohda, 53 Konno-cho, Shibuya-ku, Tokyo, and Yoshimi Sohda, 38 95-banchi, Hosoyama, Kawasaki-shi, Kanagawa-ken, Japan
Filed Nov. 20, 1964, Ser. No. 412,689
Claims priority, application Japan, Nov. 21, 1963, 38/62,277
3 Claims. (Cl. 98—31)



1. A prefabricated construction for roof or wall members comprising:
an outer plate,

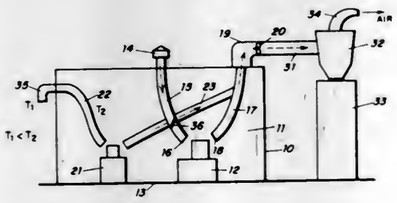
an inner insulating section including a planar layer of insulating material bounded by sheets on each side thereof,

longitudinal members arranged in parallel spaced relation and fixed to the outer plate and the inner insulating section whereby the plate and section are in spaced parallel relation,

the members, plate and section forming a ventilating section having at least one continuous channel with the members forming the sidewalls of the channel such that air currents are directed through one end of the panel and out the other and heat radiated from the outer plate to the channel is removed from the construction by the air currents, and

the sheet bounding the insulating material is formed in overlapping sections with bends in the overlap of the sections curved upwardly within the channel such that air currents are maintained in an upward direction and reverse air flow is avoided when the construction is positioned as a roof and as a wall.

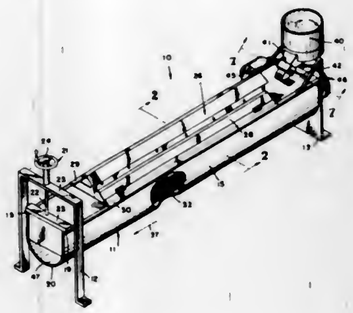
3,368,474
AIR VENTING SYSTEM
David Sklar, Nashua, N.H. (% Nashua Wood Products Inc., Merrimack, N.H. 03054)
Continuation of application Ser. No. 396,173, Sept. 14, 1964. This application Nov. 9, 1966, Ser. No. 593,224
2 Claims. (Cl. 98—115)



Apparatus for removing undesirable fumes and foreign matter from a work area in an enclosure with little disturbance of the surrounding atmosphere. Inlet conduits and outlet conduits communicating with the air exteriorly of the enclosure are positioned with their openings adjacent waste generating areas in a manner to direct lateral flow of air across the waste generating areas. Air propelling means are housed in the outlet conduits to pull air from the exterior through the inlet conduits across the waste generating areas, and to exhaust the air laden with fumes and foreign matter to the exterior through the outlet conduits.

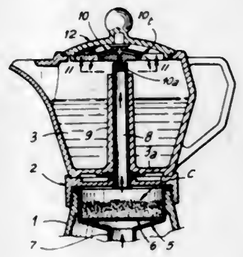
3,368,475
MACHINE FOR TREATING SOYBEANS AND THE LIKE
Harry Truax, Morgan County, near Mooresville, Ind., assignor to Harry Truax & Sons Company, Inc., Mooresville, Ind., a corporation of Indiana
Original application Oct. 19, 1966, Ser. No. 587,811, now Patent No. 3,343,961, dated Sept. 26, 1967. Divided and this application Mar. 31, 1967, Ser. No. 627,369
15 Claims. (Cl. 99—235)

A machine for treating heat sensitive, granular, organic materials, such as soybeans and the like, utilizing an infrared energy source and a storage means having sufficiently low thermal conductivity to permit thermal equilibration in the materials by their residually generated heat. The granular materials are intermittently cascaded in close proximity to the energy source until they reach a predetermined temperature and, then, the materials are transferred to the storage means. Means are provided for transferring the materials to the storage means without



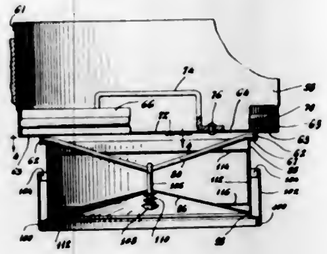
permitting any significant decrease in temperature of the materials.

3,368,476
APPARATUS FOR MAKING A BEVERAGE, FOR EXAMPLE COFFEE
Luciano Mancioli, Via della Pesa 192, Montelupo Florentino, Florence, Italy
Filed June 21, 1966, Ser. No. 559,301
Claims priority, application Italy, Sept. 2, 1965, 19,736/65
10 Claims. (Cl. 99—293)



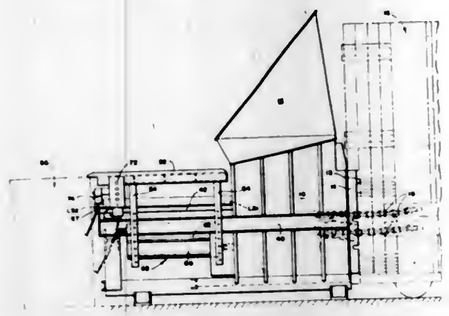
A beverage infusion apparatus comprised of a lower container, a lid mounted on the lower container and an upper container arranged to be removably supported on the lid of the lower container. In making a beverage, such as coffee, water is heated in the lower container and flows into the upper container passing through a body of coffee which provides the beverage infusion action. The passageway from the lower to the upper container is provided by a first conduit extending upwardly from the lid on the lower container to the upper end of the upper container and a second conduit secured to the upper container and disposed about the first conduit in sliding relationship. A hood member is fitted within and in sealing engagement with the upper end of the first conduit, the hood member contains a passageway communicating between the interior of the first conduit and the interior of the second container. The upper container is removable from the lower container by sliding it upwardly along the first conduit, the hook member remaining in the upper second container, preferably positioned on the upper end of the second conduit preventing any backflow of beverage into the second conduit.

3,368,477
COFFEE MAKERS
Stephen J. Ralteri, Webbs Hill Road, Stamford, Conn. 06903
Filed Sept. 14, 1965, Ser. No. 487,290
3 Claims. (Cl. 99—298)



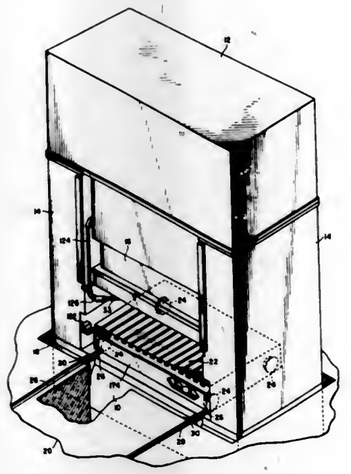
A drip type coffee maker including an upper hot water chamber and a lower coffee receptacle. A strainer assembly intermediate the chamber and receptacle comprises an imperforate conical base upon which are concentrically mounted a pair of perforated, spaced, cylindrical strainers. The inner strainer holds the ground coffee and its perforations are sufficiently large to achieve the desired water flow rate. The flow rate may be additionally controlled by an imperforate cylindrical insert in the inner chamber. The outer strainer is finely perforated to remove the fines from the brewed coffee.

3,368,478
COMPACTION APPARATUS
Milton Clar, Silver Spring, Md., assignor, by mesne assignments, to Disposal Systems Development Corporation, Washington, D.C., a corporation of the District of Columbia
Filed Sept. 9, 1965, Ser. No. 486,082
12 Claims. (Cl. 100—50)



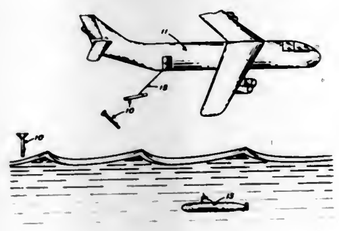
The disclosed stationary packer has a compaction blade with front-support rollers upon the floor of the compaction chamber and elevated rear-support rollers upon tracks extending behind the compaction chamber. The blade is driven by a dual hydraulic ram having an integral pair of cylinders arranged one above the other with piston rods extending in opposite directions. Hydraulic fluid is supplied to the cylinders from a system including multiple pumps with automatic controls for producing rapid movement of the blade with low hydraulic pressure and slower movement of the blade with high hydraulic pressure. The automatic control system cycles the blade and permits manual control of jogging.

3,368,479
ROLLING BOLSTER MECHANISM FOR A PRESS
Charles J. Gregorovich, St. Marys, Ohio, assignor to The Minster Machine Company, Minster, Ohio, a corporation of Ohio
Filed Feb. 16, 1966, Ser. No. 538,121
21 Claims. (Cl. 100—229)



A self-contained rolling or sliding bolster for operation with a press which has a motor embodied therein for effecting movement of the bolster into and out of the press, and includes a single motor for raising and lowering the wheels to set the bolster down on the press bed; clamping the bolster to the press bed; and locating and locking the bolster in position on the press bed.

3,368,480
FOLDING CONE SONOBUOY DELIVERY SYSTEM
Charles C. Payne, Hollywood, William R. Edwards, California, and Clifford L. Freeman, Valley Lee, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 15, 1966, Ser. No. 543,777
10 Claims. (Cl. 102—7)

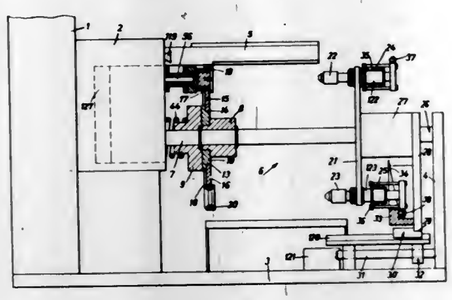


This disclosure is directed to a sonobuoy which is dropped from an airplane. The sonobuoy utilizes a folded delay mechanism which is contained in the housing of the sonobuoy and is released when the sonobuoy is ejected from the airplane. Upon water impact, a sonar transducer is released from the sonobuoy and sinks to a predetermined level. The sonobuoy is maintained on the surface of the water by a flotation chamber contained in its housing.

3,368,481
SILK-SCREEN PRINTING MACHINE FOR PRINTING ON CYLINDRICAL OBJECTS

Franz F. H. Brockmann, 3536 Westheim, Westphalia, Germany

Filed Mar. 3, 1965, Ser. No. 436,729
Claims priority, application Germany, Mar. 6, 1964, B 56,545
10 Claims. (Cl. 101—40)



The disclosure relates to a silk-screen printing machine for printing cylindrical objects such as bottles, can, containers, and the like by means of a reciprocating silk-screen and associated printing equipment. Axially spaced retaining means are provided in which the bottles or the like are mounted, and these retaining means are mounted on a turret device rotatable about a preferably horizontal axis. The turret device moves the objects to be imprinted from a loading station to a working station in which the objects are engaged with the silk-screen to be imprinted thereby. The station immediately in advance of the working station is an indexing or adjusting station wherein the article may be indexed to a certain relative angular position in annular retaining means so that, when the bottle is brought into registry with the silk screen, the printing will begin at a predetermined point on the periphery of the bottle or other article.

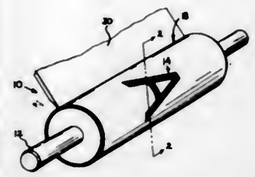
The retaining means comprise annular rings or the like, and these rings are arranged to be clutched to a rotatable shell on the adjusting or indexing means for rotation of the article. The bottom of the article, such as a bottle, is usually provided with an indexing groove or recess, and a pin is provided in association with the indexing means so that, as the indexing means rotates the bottle, this pin will engage in the indexing means of the bottle and retain the bottle against further rotation, a slip-type of drive being provided for the indexing means shell so that the shell is also halted in this position. The indexing means is then retracted from the article and the turret is advanced a step to the entrainment station wherein a second rotatable shell is advanced into clutching relation wtih the retaining ring holding the article. Associated with the second rotatable shell is an electric indexing finger which is arranged to engage in registry with the aforementioned notch in the end of the article. As the screen is then advanced, gearing interconnecting the screen and the entraining means rotates the entraining means, together with the retaining ring and the article, to imprint the desired information on the cylindrical surface of the article.

An important feature of the disclosure is that both the indexing or adjusting means and the entrainment means are mounted on a common support plate which is reciprocable axially of the turret, and means are provided, in driving association with the main drive of the printing apparatus, to retract this support plate during advance of the turret and to project this support plate when the turret is stationary so that one article is properly indexed while a second article is being imprinted.

3,368,482
INTAGLIO PRINTING FROM STENCIL WRAPPED ABOUT CYLINDER

Kenneth G. Lusher, Perrysburg, and Lowell J. Wells, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio

Continuation of application Ser. No. 376,291, June 8, 1964. This application Aug. 8, 1966, Ser. No. 579,795
4 Claims. (Cl. 101—153)

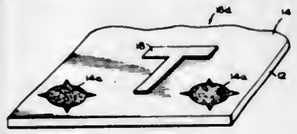


1. In apparatus for printing, a non-porous elastomeric body having an external surface, a decorating screen, means securing said decorating screen in intimate contact onto said surface, said decorating screen having a printing image on the external surface thereof, and means for externally applying ink to said image.

3,368,483
TWO-COLOR LITHOGRAPHIC PRINTING FORM, METHOD OF PREPARING SAME, AND METHOD OF USE

Robert S. Storms, Dayton, Ohio, assignor to The Duriron Company Inc., Montgomery, Ohio, a corporation of New York

Filed May 10, 1965, Ser. No. 454,554
9 Claims. (Cl. 101—450)



A lithographic printing master for transferring ink of more than one color to a printed object in a single pass. A normally oleo-hydrophobic substrate is etched to render at least a portion thereof oleo-hydrophilic. A portion of the etched surface is then coated with a oleophilic, hydrophobic material to produce a master which has a portion thereof repellant to either water or oil based ink, a portion repellant to water based ink and attractive to oil based ink and a portion which, when coated with water based ink, is repellant to oil based ink.

3,368,484
PAPER OFFSET MASTER

William P. Fairchild, San Diego, Calif., assignor to Kelco Company, San Diego, Calif., a corporation of Delaware

No Drawing. Filed Apr. 4, 1966, Ser. No. 539,650
21 Claims. (Cl. 101—463)

1. A process for forming a direct image paper offset master, said process comprising coating a high wet strength paper with an aqueous coating composition containing an inert pigment and a water soluble salt of a colloidal cellulose sulfate having a D.S. of 1 to 3 and having a viscosity at a 1% concentration in an aqueous media in excess of 20 cps. as measured by a Brookfield Synchro Electric Viscometer, Model LVF, at 60 r.p.m. and a temperature of 25° C., said salt being characterized as one which in aqueous solution gives a pH from in excess of 6 to about 7, drying said coated sheet and treating the sheet with an aqueous solution of a soluble potassium salt in a sufficient amount to insolubilize the said cellulose sulfate salt such that it is water resistant.

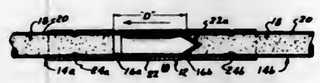
ERRATUM

For Class 102—7 see:
Patent No. 3,368,480

3,368,485
NONEXPLOSIVE DETONATING FUSE DIRECTIONAL INTERRUPTER

Robert L. Klotz, 16 Park Circle, Conyngham, Pa. 18219

Filed Apr. 8, 1966, Ser. No. 541,228
11 Claims. (Cl. 102—27)

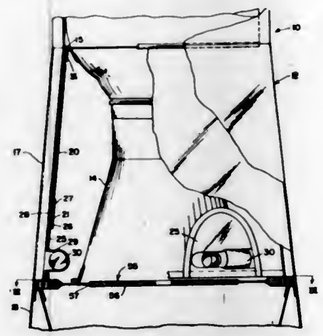


A nonexplosive, unidirectional, detonating wave interrupter for use with a detonating fuse comprising spacer means creating a dual sensitivity in said fuse whereby a detonating wave traveling in one direction through the fuse is continuous, and a wave traveling in the opposite direction will be interrupted. The spacer means includes means holding different portions of the fuse in spaced-apart relation whereby a detonation wave traveling in one direction is transmitted through said spacing to the other portion, while a wave traveling in the other portion, while a wave traveling in the other portion of the fuse is interrupted by the spacing between the fuse portions.

3,368,486
SINGLE ACTION SEPARATION MECHANISM

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Whitney McCormack, Dallas, Tex., and Arthur W. Sotherlund, Jr., Arlington, Tex.

Filed Jan. 29, 1963, Ser. No. 254,847
6 Claims. (Cl. 102—49.5)

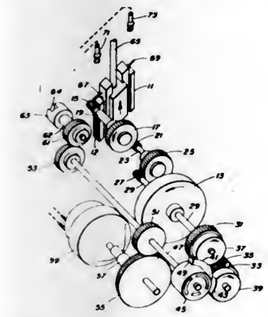


1. A combination stage separation and spin-up device comprising: an upper stage; a skirt forming a part of said upper stage; pockets formed in said skirt; inserts detachably connected to said skirt and fitting within said pockets; spin rockets carried by said inserts; a lower stage; a split ring having one portion fixed to said skirt and the other portion carried by said lower stage; threads formed on said split ring; a frangible diaphragm between said stages; said frangible diaphragm having an annulus with threads, said annulus threads engaging the threads of said split ring to join said stages; slots formed about the periphery of said frangible member to structurally weaken said frangible member at designated points; bearing means between said split ring and said lower stage whereby ignition of said spin rockets provide relative movement between said stages; said upper stage having a propulsion unit with a nozzle directed against said frangible diaphragm whereby energization of said propulsion unit causes said frangible diaphragm to rupture at said designated points disjoining said annulus threads from said split ring threads thereby separating said stages; said inserts dropping from said skirt upon separation of said upper and lower stages.

3,368,487
DELAY ARMING APPARATUS

Timothy J. O'Connor, Rockville, and Louis J. De Sabla, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy

Filed Feb. 27, 1967, Ser. No. 619,538
6 Claims. (Cl. 102—70.2)

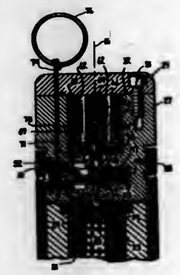


A delay arming device utilizing an accleration force responsive mass affixed to a rack gear. A pair of switch contacts is closed by the travel of the rack gear. The rack gear engages a flywheel through a gear train. The flywheel actuates a pair of rotating discs having arcuate cut-out portions which come into alignment with each other only when the flywheel has rotated a prescribed number of revolutions. When alignment of the discs occurs, a stepping relay operated by the closing of the rack gear switch contacts rotates a switch into a closed position, thereby energizing an arming circuit.

3,368,488
ARMING AND FIRING MECHANISM

Virgil H. Johnson and John L. Hill, Champaign, Ill., assignors to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware

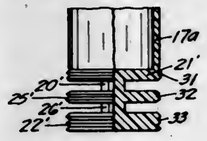
Filed Oct. 22, 1965, Ser. No. 501,522
16 Claims. (Cl. 102—81)



An arming and firing mechanism which is responsive to conditions of hydrastatic pressure includes a sensitivity operable trigger which can function only after the device

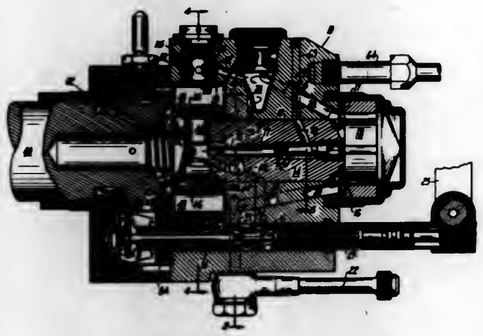
is at a predetermined hydrostatic pressure and at such pressure, the device is then prepared for firing by means of a pressure-responsive device which moves, enabling access of a striker to a detonator which impacts against the detonator when a triggering mechanism is operated. The triggering mechanism is a mechanical operation which swiftly biases the pin against the charge.

3,368,489
SHOTSHELL OVER-POWDER WAD AND SHOT CUP
George L. Herter, Waseca, Minn., assignor to Herter's Inc., Waseca, Minn., a corporation of Minnesota
Filed Apr. 26, 1966, Ser. No. 545,292
5 Claims. (Cl. 102—95)



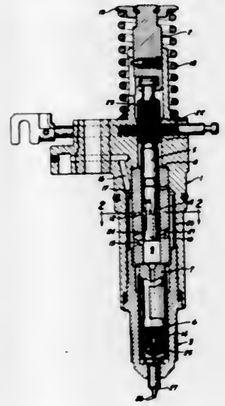
An over-powder wad and shot cup for a shell casing is constructed of compressible and flexible material such as polyethylene, and is provided with a flat, powder-engaging disc connected to the circular base of the shot cup by a compressible, plastic post extending axially of the wad and shot cup structure. A sealing and centering disc is connected to the post between the bottom of the shot cup and the flat powder-engaging disc, and is provided with circular bands of teeth about its outer periphery for sealing against the inner wall of the cartridge case and gun barrel to prevent the leakage of combustion gases. The outer peripheries of the shot cup base and the flat powder-engaging disc may also be provided with outwardly projecting teeth.

3,368,490
FUEL PUMP AND PRESSURE EQUALIZATION MEANS THEREFOR
Michael A. Virello, Bristol, Conn., assignor to Standard Screw Company, Wilson, Conn., a corporation of New Jersey
Filed Nov. 1, 1965, Ser. No. 505,948
12 Claims. (Cl. 103—2)



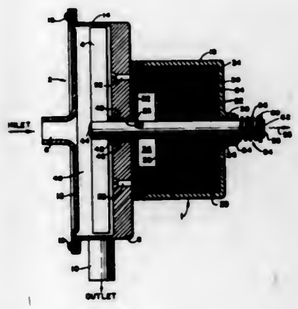
A fuel pump for pressurizing fuel to a high pressure and delivering the pressurized fuel to a distributor passage of a rotating distributor which has an outlet port sequentially registrable with a plurality of delivery passages connected to the several injection nozzles supplied by the pump, wherein the rotating distributor has a plurality of equalizing passages between the distributor passage and ports on the periphery of the rotating distributor which are registrable simultaneously with each of the delivery passages after the delivery of fuel thereto so as to equalize the residual pressure in the delivery passages and including a delivery valve between the fuel pump and the distributor passage for maintaining a positive pressure in the distributor passage and the delivery passages.

3,368,491
FUEL INJECTION PUMP
David E. Shook and Robert J. Dunlap, Milwaukee, Wis., assignors to Murphy Diesel Company, Milwaukee, Wis., a corporation of Delaware
Filed June 22, 1966, Ser. No. 559,509
2 Claims. (Cl. 103—41)



A fuel injection pump of the type employing a plunger in a cylindrical member having an inlet port and a pressure release port connecting with a source of fuel, and a pressure relief port in the cylindrical member disposed to be uncovered by the plunger just ahead of the uncovering of the pressure release port.

3,368,492
EXTERNAL ARMATURE BIAS AND SEALING MEANS FOR MOTOR PUMP UNIT
Robert J. Seyler, 8 Pansmith Lane, West Islip, N.Y. 11795
Filed Jan. 20, 1966, Ser. No. 521,903
4 Claims. (Cl. 103—87)



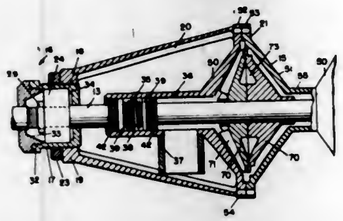
A motor pump unit having an electric motor and a fluid impeller, the armature shaft of the motor acting as the prime mover of the impeller. A sealing ring disposed integrally and annularly of the armature shaft provides a seal between the impeller casing and the motor housing by rotatively abutting the deepest wall of a recessed portion provided annularly within the wall of the casing. An end of a bushing sleeve which is flush with said deepest wall is also rotatively abutted by said sealing ring, said recessed portion and said bushing sleeve in combination providing a seat for said sealing ring. A coil spring acts to bias said armature whereby said sealing ring is urged into seating engagement with said recessed portion and said sleeve bushing, said coil spring being disposed annularly of said armature shaft and outside of the motor housing at the end of the latter which is remote with respect to said impeller casing.

3,368,493
GUIDE VANE ARRANGEMENT
Masayoshi Terajima, Hitachi-shi, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Dec. 8, 1965, Ser. No. 512,490
Claims priority, application Japan, Jan. 25, 1965, 40/3,612, 40/3,613
3 Claims. (Cl. 103—97)



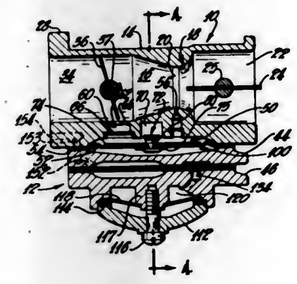
A radial flow turbo machine, particularly a Francis pump-turbine, wherein the guide vanes are pivotally mounted about axes arranged parallel to each other and in a circular row for movement between a closed position and an open position. The ratio of the line CD to the line AE being within the range between 0.86 and 1.0, and the ratio of the radiuses r_1–r_2 to the line AE falling within the range between 0.15 and 0.05.

3,368,494
MULTI-STAGE CENTRIFUGAL PUMP
Ethridge F. Ogles, % Moe Pump Co., Inc., % Reeves Packing Co., Ada, Okla. 74820
Continuation-in-part of application Ser. No. 419,247, Dec. 17, 1964. This application Nov. 14, 1966, Ser. No. 614,374
3 Claims. (Cl. 103—108)



1. A multi-stage centrifugal pump assembly comprising a drive shaft, a plurality of pump housings concentrically mounted about said shaft, an impeller and a manifold in each pump housing fixed to said shaft, a fluid passage connecting said pump housings, a fluid inlet at one end of said passage, a fluid outlet at the other end of said passage, a bearing seal at one said one end of said passage, a closure for said passage at said other end, one end of said shaft extending through said seal, a bearing assembly mounting on said one end of said shaft, and means for driving said shaft connected to said one end, each said impeller being in the form of a cone having blades thereon directing fluid towards the periphery of said cone and further having secondary blades positioned adjacent said periphery.

3,368,495
FUEL FEED SYSTEM AND FUEL PUMP
Robert K. Turner, Toledo, Ohio, assignor to The Tillotson Manufacturing Company, Toledo, Ohio, a corporation of Ohio
Filed Feb. 7, 1966, Ser. No. 525,605
11 Claims. (Cl. 103—152)



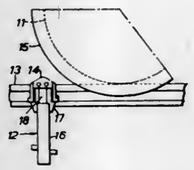
The invention embraces a fuel feed system embodying a fuel pump construction having a flexible pumping diaphragm actuated by varying fluid pressure, the pump being equipped with a fuel inlet flap valve arrangement wherein fluid pressure for actuating the diaphragm is utilized to exert pressure upon the fuel inlet valve of the pump to force the inlet flap valve toward closed position on a fuel delivery movement of the pumping diaphragm and to assist in opening movements of the fuel inlet valve during suction movements of the pumping diaphragm.

3,368,496
TRANSPORTATION SYSTEM
James B. Falk, Florissant, and Clyde H. Parmelee, Chesterfield, Mo., assignors to McDonnell Aircraft Corporation, St. Louis, Mo., a corporation of Maryland
Filed Oct. 7, 1966, Ser. No. 585,014
7 Claims. (Cl. 104—18)



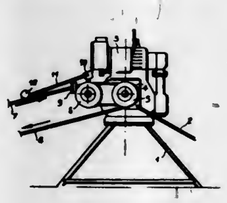
A transportation system having bodies for moving people, vehicles and cargo in which a substantially level subsurface conveyor of endless or loop configuration is connected by acceleration and deceleration conveyors with a series of load-unload stations at substantially ground surface level such that load carrying bodies can be moving in non-collision courses in the system continuously under the control of means that monitors the effects of gravity, friction and windage losses upon the bodies, and applies motive power in accordance with the need therefore.

3,368,497
SPEED CONTROL DEVICES FOR FREE-RUNNING RAILWAY VEHICLES
Thomas D. H. Andrews, Cheltenham, Peter E. Checkley, Charlton Kings, and Colin R. Little, Cheltenham, England, assignors to Dowty Mining Equipment Limited
Filed Nov. 24, 1965, Ser. No. 509,485
Claims priority, application Great Britain, Nov. 26, 1964, 48,115/64
3 Claims. (Cl. 104—162)



In a telescopic device having a cylinder member mounted on a railway track so that the piston member is contracted into the cylinder and then extends as a vehicle wheel rolls over the device, and in which the fluid pressure is controlled during said contraction and extension whereby the piston member exerts either a retarding force or an accelerating force against the vehicle wheel, an element directly engageable by the wheel is connected to the head of the piston member by a resilient mounting which cushions the impact of an approaching wheel against said element.

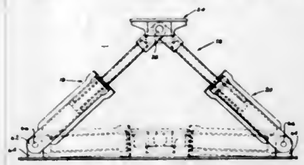
3,368,498
DISASSEMBLABLE AND TRANSPORTABLE SKI-TOW
Carlo Doveri, Via 24 Maggio 12, Pontedera, Italy
Filed Nov. 4, 1964, Ser. No. 408,827
2 Claims. (Cl. 104—173)



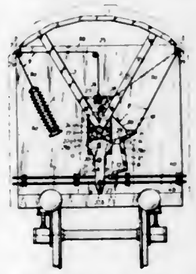
A disassemblable and transportable ski-tow device comprising as main component parts a driving station with supporting frame, internal combustion engine, safety rope-releasing means and a rope-returning station with similar supporting frame. The two stations are located at the opposite terminal of a closed circuit, stretched rope-line. The device, readily transportable by two persons, includes also a special vise-shaped handgrip element for towing skiers uphill, and can be assembled wherever desirable in very short time, thus rendering it suitable for use by small independent groups of skiers.

3,368,499
COLLAPSIBLE HITCH
Dallas W. Rollins, St. Charles, Mo., and Richard G. Powell, Houston, Tex., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Feb. 7, 1966, Ser. No. 529,602
16 Claims. (Cl. 105—368)

A collapsible hitch for securing the kingpin of a trailer on a railway flat car and having a pair of legs arranged in an inverted V-shape with each leg comprising reciprocable fluid pressure means for cushioning the hitch in addition to moving the hitch in a generally vertical direction between collapsed and erect positions. A fluid line provides fluid communication between the separate fluid pressure means of each leg to permit a flow of fluid therebetween thereby to provide a closed system with fluid flowing between the legs upon exertion of impact forces against the hitch. Fluid is metered from one of the legs when a predetermined fluid pressure is reached in the associated fluid pressure means thereby to minimize any continual back and forth movement of a trailer.

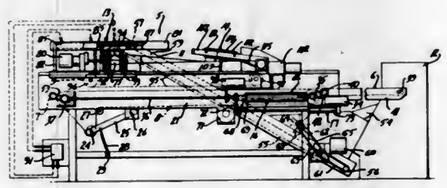


3,368,500
OPENING AND CLOSING DEVICE FOR TILTABLE ROOFS OF BOX CARS
Karl Raab, Wiesbaden, Helmut König, Minden, Westphalia, and Christian Stiefel and Wilhelm Blank, Aachen, Germany, assignors to Waggonfabrik Talbot, Aachen, Germany
Filed Nov. 3, 1965, Ser. No. 506,220
12 Claims. (Cl. 105—377)



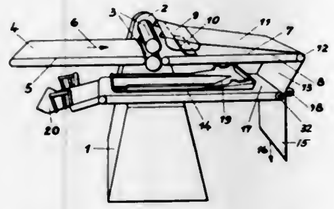
Freight car having open top with roof tiltable bodily laterally in either direction to close or open the top with the weight of the roof structure being counterbalanced by spring devices connected to the bearings about which the roof tilts together with a device for tilting the roof to and from closed position in either direction.

3,368,501
FOOD DISTRIBUTING APPARATUS
Harvey G. Kuhlman, N. 56, W. 21466 Silver Spring Road, Menomonee Falls, Wis. 53051
Filed Feb. 8, 1965, Ser. No. 430,960
16 Claims. (Cl. 107—1)



A conveyor is provided to carry a series of rows of pizza bases sequentially through a sauce applicator, a sausage applicator and a shredded cheese applicator. The sauce applicator sprays a suitable sauce onto the bases as they move therethrough and the sausage applicator automatically applies individual pieces of meat in spaced relation onto the pizza bases. The cheese applicator includes a main transfer conveyor having a plurality of laterally spaced belts which carry the rows of pizza bases from the sausage applicator. A cheese conveyor is mounted above the main transfer conveyor and receives the shredded cheese from a lift conveyor in mounds extending longitudinally thereacross. A rake assembly spreads the cheese over the cheese conveyor before the conveyor drops the shredded cheese onto the pizza bases. A tined beater is rotatably mounted in closely spaced relation to the discharge end of the cheese conveyor to discharge a closely regulated amount of the shredded cheese from the cheese conveyor onto the pizza bases as they pass beneath. Return conveyors are provided to transfer any shredded cheese which drops between the belts back to the lift conveyor.

3,368,502
DOUGH-ROLLING DEVICE
Rudolf Elgner, Markt Einersheim, Germany, assignor to A. Fritsch KG., Markt Einersheim, Germany, a company of Germany
Filed June 6, 1966, Ser. No. 555,307
Claims priority, application Germany, June 30, 1965, F 46,477
11 Claims. (Cl. 107—4)

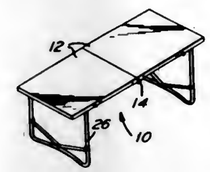


1. A dough-rolling device comprising, in combination, a pair of coacting pressure rollers, an upper transport conveyor disposed posteriorly of said rollers in the direction of travel of the dough through the device, a lower transport conveyor disposed below the upper conveyor, a draw mat extending from substantially an intake end of the upper conveyor adjacent to said rollers to a discharge end of said conveyor and from said discharge end to an intake end of the lower conveyor and below the level of said intake end to terminate in a freely hanging end, and a pressure plate disposed above the lower conveyor substantially parallel thereto.

3,368,503
PROCESS FOR MAKING BREAD LOAVES
Ralph E. Gaylord, Edina, Minn., assignor to General Mills, Inc., a corporation of Delaware
Filed Oct. 8, 1965, Ser. No. 494,083
4 Claims. (Cl. 107—54)

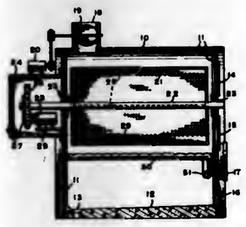
1. A bread making process, comprising:
(a) forming a plurality of ribbons of dough which overlie one another in layers and have a separating medium between adjacent layers of said dough,
(b) cutting said ribbons transversely into a loaf length,
(c) final proofing said loaf length of dough,
(d) performing a baking operation on said loaf length of dough, and
(e) cutting said loaf length transversely to make from said loaf length stacks of bread pieces corresponding in size and shape to conventional bread slices.

3,368,504
LOCKING MECHANISM FOR FOLDABLE TABLES
Boris Cohen, Merion Station, Pa., assignor to All-Luminum Products, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed June 28, 1967, Ser. No. 649,531
6 Claims. (Cl. 108—131)



An automatic locking mechanism for foldable tables having shiftable interengaging bracing members, comprising a latch member on one of the bracing members, an abutment member on the other of the bracing members, and a longitudinally extending flange on one of the bracing members overlying the other bracing member. The locking member and abutment prevent axial movement of the bracing members, and the flange maintains the bracing members in coplanlar relation.

3,368,505
NON-CONTAMINATING INCINERATOR FOR CONSUMMATE BURNING OF TRASH AND DISPOSAL OF WASTE
Arthur E. Harrison, 820 W. 9th St., Cheyenne, Wyo. 82001
Filed Jan. 18, 1966, Ser. No. 521,294
2 Claims. (Cl. 110—18)

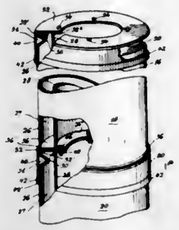


The incinerator of the present invention maintains sterile conditions and prevents contamination of the atmosphere in the burning of trash within a portable compact housing for a motor driven, reticulate trash-receiving drum rotated in proximity to a flame-producing fuel line; and a sprinkling system within the housing cooperates with a spark-arresting flue for complete removal of the burnable material and waste without exposure of the waste to the atmosphere.

3,368,506
STACK SECTIONS WITH EXPANSION MEANS
Richard E. Lawrence, 50—25 71st St., Woodside, N.Y. 11377
Filed Sept. 16, 1966, Ser. No. 579,938
5 Claims. (Cl. 110—184)

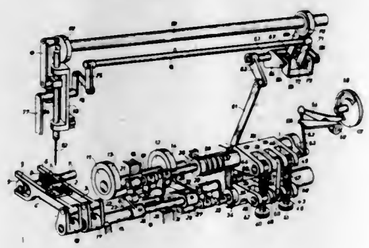
A smokestack for the conveyance of hot gases having a sectional body formed of superposed tubes, each section including outer and inner spaced tubular walls, the hot gases adapted to pass through the inner wall, the space between the outer and inner wall defining a dead air space, means for securing the superposed sections to each other, and means in the dead air space to accommodate for the difference in thermal expansion between

the outer and inner walls thereof in a direction of their length. Such means constituted by an annular accordion-



like fold in one form and a T-shaped plate in another form.

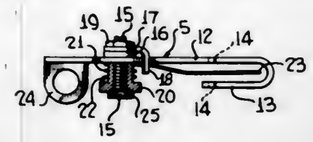
3,368,507
FEEDING MECHANISM FOR SEWING MACHINES
Hans Orth, Alsenborn, Pfalz, Germany, assignor to G. M. Pfaff AG., Kaiserslautern, Pfalz, Germany, a corporation of Germany
Filed Oct. 12, 1965, Ser. No. 495,039
Claims priority, application Germany, Oct. 31, 1964, P 35,412
3 Claims. (Cl. 112—209)



In a sewing machine, the work fed is pre-stressed to a varying degree, to counteract distortion of the seam being sewn resulting from varying characteristics of the sewing material, such as different types of material, varying elasticity of the fabric, etc., by the provision, in addition to the conventional main feed dog located below the stitching plate and behind the needle, as viewed in the feeding direction, of a pair of auxiliary feed dogs located, respectively, above and below said plate and in front of said needle. All three feed dogs, being operated in synchronism to effect conventional composite rectangular work feed movements, are fitted with individual feed stroke adjusting means of the type including a rotary adjusting shaft, to vary the respective feed strokes in proportion to the angular adjustments of said shafts. The latter are fitted with plural control means to allow adjustment of all said shafts in unison, for controlling the stitching length, on the one hand, and to allow individual adjustment of the differential feed strokes between said main feed dog and said auxiliary feed dogs, for adapting the device to the sewing of materials of different characteristics, on the other hand.

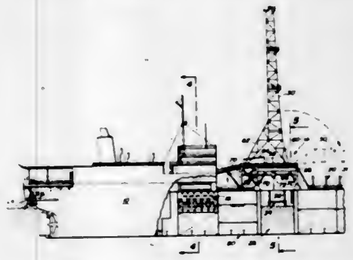
3,368,508
NEEDLE THREAD TAKE-UP FOR DOUBLE CHAIN STITCH SEWING MACHINES
Eugen Angele, Stuttgart, Wurttemberg, Germany, assignor to Union Special Maschinenfabrik, G.m.b.H., Stuttgart, Wurttemberg, Germany
Filed Oct. 22, 1965, Ser. No. 501,257
10 Claims. (Cl. 112—245)

A needle thread take-up device is provided, adapted to be carried by a vertically movable needle bar, the device including thread guide means in the form of horizontally spaced members with thread-receiving eyelets therein, and a torsion spring carried between the horizontally spaced members, with a free end of the spring adapted to engage and tension thread carried between the eyelets. The



vertical movement of the spring, in cooperation with the vertical movement of the needle bar facilitates the desired tensioning during ascent and descent of the needle, for facilitating the desired take-up of the thread, thereby using the inertia forces operative upon the free end of the spring to advantage.

3,368,509
DRILL SHIP
George R. Knight, Jr., Port Washington, N.Y., and Norman W. Penney, Ridgewood, N.J., assignors to John J. McMullen Associates, Inc., New York, N.Y., a corporation of New York
Filed June 21, 1966, Ser. No. 559,268
9 Claims. (Cl. 114—0.5)



An offshore single hull drilling ship having the characteristics of a tanker provided with a vertical drill well located near the ship's pitching axis and formed by four walls spaced inward and fore and aft from adjacent longitudinal and transverse bulkheads so as not to interfere with the principal bulkhead system of the ship. A double sectioned vertically adjustable work platform is located within the well and a rail mounted hoist mechanism travels from a position over each section to a position over the main deck transferring gear therebetween. Pressure tanks, ballast water, and drill water are stored in the outboard wing tanks of the hull and mud pumps, agitators, and other equipment are located in the centralmost compartments on a mid deck or flat. A platform above the drill well supports the derrick for drilling operations therethrough. A passive stabilizer is provided to roll stabilize the ship.

3,368,510
MINELAYING SUBMARINE
Samuel A. Humphrey, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 1, 1964, Ser. No. 402,061
2 Claims. (Cl. 114—16)

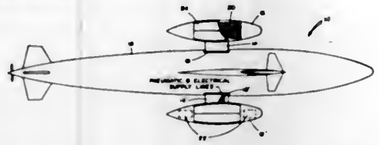
1. In a marine mine deploying system for utilization with a submarine, the combination comprising:

mounting plate means fixedly attachable to a submarine hull;

at least one hydrodynamically streamlined pod adaptable for initially storing and subsequently deploying a plurality of mines;

mine holding and releasing means disposed within each pod for providing an outboard capability for carrying and laying a plurality of mines;

fairing means fixedly attachable to each pod and releasably attachable to said mounting plate means so as to provide cantilever support of each pod from a submarine;

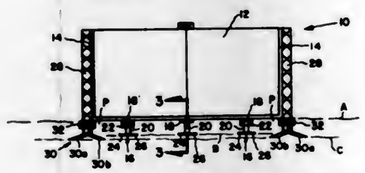


ballast tank means disposed in the forward and aft sections of each pod for controlling the buoyancy and trim of each pod; and

pneumatic supply line means connected at one end thereof to said ballast tank means to provide variation in the ballast tank means,

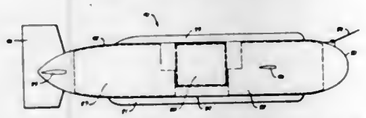
whereby suitable control of said ballast tank means will enable each pod to be initially attached via said mounting plate means and said fairing means to a submarine when the submarine is surfaced and to be subsequently detached from a submarine after having deployed in a submerged condition a plurality of mines.

3,368,511
HYDROFRAME FOR WATER SURFACE CRAFT
Nelson A. Frost, 136 N. Main St., Port Chester, N.Y. 10573
Filed May 2, 1966, Ser. No. 546,799
6 Claims. (Cl. 114—66.5)



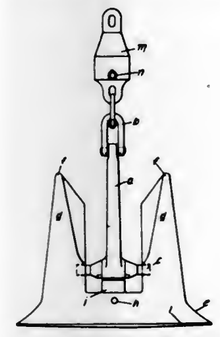
A water surface craft with an unsupported interior and longitudinal beams extending from bow to stern functioning as hydrofoil elements upon attainment of a certain water speed.

3,368,512
SUBMERSIBLE BARGE
Tamiro Watari, Kobe-shi, Japan, assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Apr. 8, 1966, Ser. No. 541,334
Claims priority, application Japan, Oct. 30, 1965, 40/66,647
4 Claims. (Cl. 114—74)



Apparatus for transporting large quantities of hydrocarbon products under water, the apparatus consisting of a water-tight vessel which is constructed with predetermined compartmentation such that end compartments of the vessel are constructed to be fluid-tight while central compartmentation is constructed to be air-tight, and the compartmentation as between the end compartments and the center compartments is volumetrically proportioned such that the buoyancy of the vessel is the same when either (a) all compartments are filled with hydrocarbon cargo or (b) the end compartments are occupied with sea water and the center compartment is maintained void.

3,368,513
SHIP ANCHORS AND STOWAGE
Herbert Leslie Dove, Fareham, England, assignor to National Research Development Corporation, London, England, a British corporation
Filed Aug. 15, 1966, Ser. No. 572,529
Claims priority, application Great Britain, Aug. 19, 1965, 35,702/65
3 Claims. (Cl. 114—210)



Apparatus for stowing an anchor in an aperture in the hull of a ship with one guide means which can be a guide ball with a pin attached to the anchor chain and a second guide means which can be two cam shaped surfaces within the aperture, the two guide means cooperating to align the anchor to facilitate entry into the aperture. The crown of the anchor can be fitted with a plate to close the aperture when the anchor is stowed so that there is no projection from the natural fairness of the hull plating.

3,368,514
SYMMETRICAL SELF-ALINING CABLE FAIRING
Raymond E. Kelly, Panama City, Fla., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 22, 1965, Ser. No. 502,734
5 Claims. (Cl. 114—235)



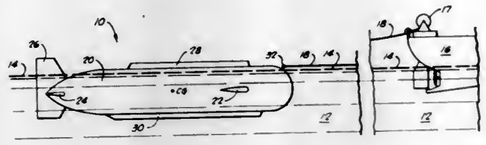
1. A faired cable which maintains a substantially streamlined geometrical configuration while being towed at any attitude through a fluid medium comprising in combination:

a cable, having a substantially circular cross-section and a predetermined length, capable of being towed through said fluid medium; and

a plurality of flexible, resilient, substantially uniformly-spaced thrums effectively connected radially to the outer surface of said cable around the entire circumference thereof and along a predetermined length thereof and in such manner and with such density that an optimum streamlined disposition is acquired thereby in the slip-stream contiguous with said cable,

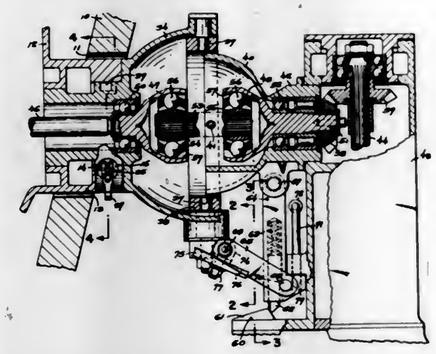
as it is being towed at any attitude through said fluid medium.

3,368,515
SUBMERSIBLE BARGE
Michimasa Endo, Nishinomiya-shi, Suma-ku, Kobe-shi, Japan, assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed May 20, 1966, Ser. No. 551,616
Claims priority, application Japan, Feb. 4, 1966, 41/6,485
5 Claims. (Cl. 114—235)



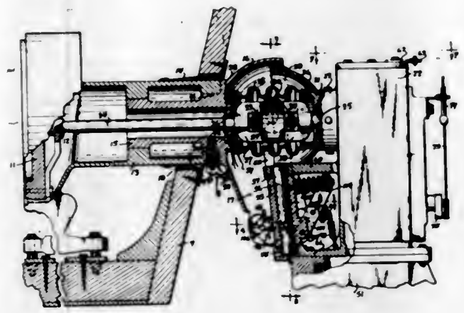
A vessel for holding and transporting under water a quantity of liquid cargo having a known specific gravity, the vessel being constructed with predetermined volumetric compartmentation and ballasting such that the buoyancy of the cargo-loaded vessel becomes a controlling variable along with the speed of tow and the length of the tow line as the vessel is towed through the water and maintained in a submerged attitude due to the forces acting thereupon.

3,368,516
THROUGH-TRANSOM MARINE PROPULSION UNIT
Charles E. MacDonald, Hoquiam, and John W. Anderson and Jerry C. Barker, Seattle, Wash., assignors, by mesne assignments, to Eaton Yale & Towne, Inc., a corporation of Ohio
Continuation of application Ser. No. 746,920, July 7, 1958. This application May 15, 1961, Ser. No. 112,163
18 Claims. (Cl. 115—35)



4. A marine drive for a vessel having a stern closure means, a prime mover disposed within said vessel forward of said stern closure means, an outboard power leg operatively connected with said vessel and being disposed rearward of said stern closure means, propeller means disposed at a lower end of said power leg, power leg supporting means comprising a portion positioned on the aft side of said stern closure means and connected with said vessel, a first mounting means coincident with a steering axis of said outboard power leg, a second mounting means coincident with a tilt-up axis of said outboard power leg, unitary intermediate means located on the aft side of said stern closure means and being oscillatably connected with said power leg supporting means by one of said mounting means, said unitary intermediate means being oscillatably connected with said power leg by the other of said mounting means, a power transmitting means passing through an opening in said stern closure means and drivingly connecting said prime mover with said propeller means, said power transmitting means comprising a vertical shaft means in said power leg which extends upwardly in the power leg no higher than a short distance above said tilt-up axis so that said power leg is movable to a tilt-up position, said power transmitting means further comprising a universally flexible torque transmitting means disposed on or near each of said axes whereby during steering or tilt-up of said outboard power leg, said power transmitting means is articulated through said universally flexible torque transmitting means thus providing a torque transmitting connection to said propeller during either tilt-up or steering of said power leg.

3,368,517
MARINE THROUGH-TRANSOM PROPULSION UNIT
Charles E. Macdonald, John W. Anderson, and Jerry C. Barker, Seattle, Wash., assignors, by mesne assignments, to Eaton Yale & Towne Inc., a corporation of Ohio
Filed Sept. 21, 1959, Ser. No. 841,105
11 Claims. (Cl. 115—41)



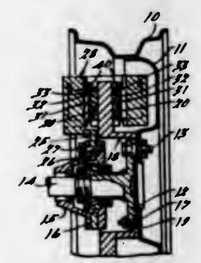
1. In a through-transom drive, in combination with a boat hull having a transom and an inboard motor, a mounting member anchored to said hull forwardly of said transom and presenting a hollow portion extending rearwardly through said transom, a hollow rearwardly open shell member interfitting with said hollow portion and occupying a position behind said transom, mounting apparatus pivotally mounted on said shell member for fore and aft swinging movement toward and away from said transom, an outboard power leg carrying a propeller at its lower end and pivotally mounted on said mounting apparatus for lateral steering movement relative to said hull, and drive means for transferring power from said inboard motor through said mounting member and shell member to said propeller via said power leg, said drive means including universal joint means located between the transom and the power leg and extending through said mounting apparatus, said power leg presenting a forwardly open shell member which interfits with the rearwardly open shell member and with the latter produces a guard housing investing the universal joint means, said composite guard housing having much the appearance of a ball when viewed from above, the pivot mounting for the mounting apparatus being located on a substantial diameter of the ball.

3,368,518
COLLAPSIBLE FLEXIBLE AUTOMATIC SIGNAL DEVICE
David D. Anthony, 1935 Maryland Ave., Columbus, Ohio 43219
Filed June 3, 1966, Ser. No. 555,144
1 Claim. (Cl. 116—63)



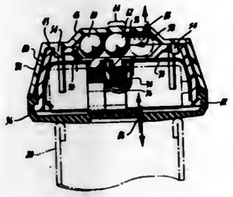
1. A signaling device for use when learning to park a vehicle comprising, in combination, a base member, an opening formed therein adjacent one edge thereof, two guard members coextensive with a length of said base, each guard member being located on a respective side of said opening; resilient mounting means positioned in said opening; and a vertically extending rod supported by said resilient mounting means, each of said guard members including an inclined surface coextensive with the length of said base, the highest point of incline of said surface being located adjacent to and approximating the height of said resilient mounting means whereby a vehicle riding said inclined surface would depress said rod from the vertical without damaging said resilient mounting means and audible warning means supported by said rod.

3,368,519
AUDIBLE SIGNAL FOR DISK BRAKES
Anthony E. Ruda, Detroit, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Sept. 28, 1964, Ser. No. 399,522
4 Claims. (Cl. 116—67)



A brake shoe for a disk brake wherein the shoe comprises a metal backing plate having a wearable lining secured to one face thereof. The material of the backing plate, which is made from metal, is sheared to form one or more projections extending toward the working face of the lining. These projections are arranged to engage the braked face of the disk or rotor when the lining has almost worn through and provide an audible signal to the vehicle driver indicating that the brake shoe should be replaced.

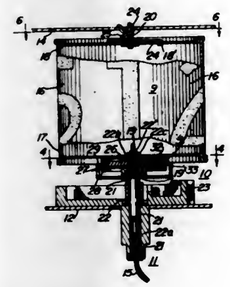
3,368,520
PRESSURE-VACUUM INDICATOR
Heiko T. De Man, Orinda, and James A. Beaton, San Lorenzo, Calif., assignors to Dynamic Research Corporation, Moraga, Calif., a corporation of California
Filed June 25, 1964, Ser. No. 377,977
12 Claims. (Cl. 116—70)



1. A gauge for indicating the direction of gas flow with respect to the ventilation of a crankcase in an automobile engine, comprising: a housing defining an enclosed channel and having opposed light-transmissive wall portions defining an indicating zone along the channel; illuminating means arranged to selectively project a beam of light through said indicating zone; said housing having vapor admitting apertures adjacent each end of said channel; and first and second light-conductive indicator means disposed in said channel intermediate said apertures,

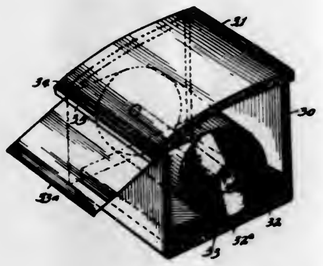
said indicator means being movable to a first position in response to a positive pressure condition within said channel wherein said first light-conductive indicator means is disposed in the path of said light beam, and to a second position in response to a negative pressure within said channel wherein said second light-conductive indicator means is disposed in the path of said light beam, said pressure conditions being attributable to the direction of vapor passage through said vapor apertures.

3,368,521
VEHICLE SAFETY-SPACED TRAILING-SIGNAL DEVICE
Marvin J. Wilson, 5145 N. Octavia, Skokie, Ill. 60076, and Edward E. Johnson, 7348 Ridge Ave., Chicago, Ill. 60645
Filed Mar. 3, 1966, Ser. No. 531,576
1 Claim. (Cl. 116—116)



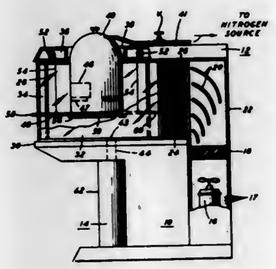
The essential concept of this invention involves a rotating element bearing on its face a series of numerals and actuated by means associated with a moving part of a vehicle to effect the selective exposure of one numeral at a time, through a sight-opening in a housing member, and in direct proportion to the speed of the vehicle, to indicate the safe-driving distance that a trailing vehicle should be from the vehicle having the unit installed on the rear thereof.

3,368,522
WET WIPE SHEET DISPENSER
Nat Cordis, deceased, late of Silver Lake, Wis., by Gladys S. Cordis, executor, Chicago, Ill., assignor of two-thirds to Carl F. Jensen and one-third to Gerald T. Doble, both of Rosemont, Ill.
Application Nov. 19, 1964, Ser. No. 412,872, which is a division of application Ser. No. 73,874, Dec. 5, 1960. Divided and this application June 24, 1966, Ser. No. 563,332
7 Claims. (Cl. 118—43)



There is disclosed herein a multiple supply of sequentially delivered, disposable sanitary cleansing and wiping sheets; and apparatus for storing such sheets in a wetted condition and for dispensing the sheets on demand ready for use.

3,368,523
LAMINAR FLOW WORK STATION
Edward J. Becker, Millington, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 13, 1965, Ser. No. 455,574
11 Claims. (Cl. 118—49)



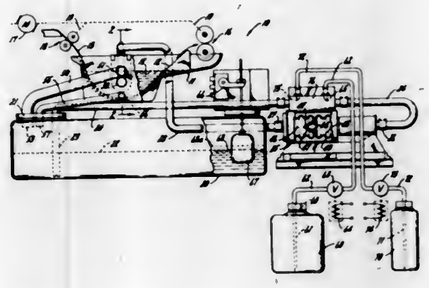
In a hooded work station a horizontal laminar flow of filtered air clears a horizontal workface and a bell jar moves down until its lower lip rests on the workface. In that position the jar interior can be evacuated. A horizontal plate extends outwardly from the lip across the work station. This prevents eddy currents that are imparted to the laminar flow above the lip by the bell jar surface from disturbing any workpiece below the bell jar.

3,368,524
FINISH ROLL GUARD
Robert Q. Whaley, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 13, 1966, Ser. No. 564,795
1 Claim. (Cl. 118—244)

In an apparatus for the production of synthetic filaments in which downwardly moving filaments are drawn across a rotating finish-applicator roll prior to wind-up, the improvement of a yarn deflector guard mounted above and in lateral proximity to the finish roll, the guard being in the normal free-fall path of the filaments to deflect loose filaments outwardly away from the finish roll to prevent filament wraps on the roll.

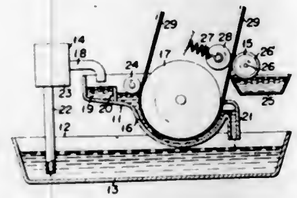


3,368,525
LIQUID DEVELOPER SYSTEM FOR PHOTOCOPY MACHINE
Leo D. Sacre, Prospect Heights, Ill., assignor to American Photocopy Equipment Company, Evanston, Ill., a corporation of Illinois
Filed Oct. 4, 1965, Ser. No. 492,746
1 Claim. (Cl. 118—637)



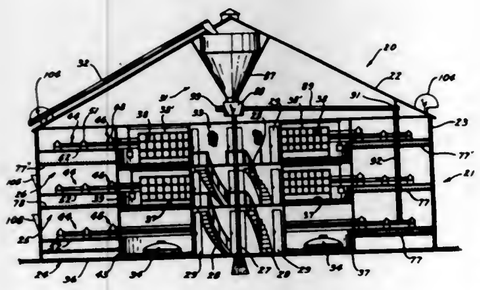
A liquid developer system for a photocopy machine including a developer tray having means for guiding copy sheets therethrough, an enclosed reservoir bottle below the level of the tray, a liquid pump connected between the bottle and the tray for pumping developer liquid from the bottle into the tray, an overflow line connected from a working level at the top of the tray to the reservoir bottle, and a drain line connected from the bottom of the tray to the reservoir bottle. The overflow line is relatively free of restriction while the drain line is restricted so that the body of developer liquid is maintained at the working level while the pump is running, but permitting total draining of the tray when the pump is shut off. Replenisher bottles of liquid vehicle and toner are connected through replenisher lines to the developer system for replacing consumed developer liquid. Control valves are provided in the two replenisher lines, with the vehicle replenisher valve being controlled by a float switch mounted in the reservoir bottle at a position designed to maintain a level of developer liquid well below the top of the reservoir bottle to provide space for the developer liquid drained from the tray.

3,368,526
APPARATUS FOR DEVELOPING ELECTROSTATIC LATENT IMAGES BY LIQUID DEVELOPING SYSTEM
Yushi Matsumoto, Tokyo, and Hirokazu Ono, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Nov. 28, 1966, Ser. No. 597,276
Claims priority, application Japan, Dec. 1, 1965, 40/73,556
6 Claims. (Cl. 118—637)



A liquid developing apparatus including an arcuate channel formed between a rotatable cylinder and a container with an electrode. In order to obtain a clear picture, the speed of a liquid developer in said channel is made to be substantially equal to that of rotation of said cylinder to form a latent image on a recording wheel carried by the peripheral surface of said cylinder. Thereafter squeeze means squeeze the recording sheet bearing the latent image to remove an excess liquid.

3,368,527
POULTRY RAISING AND LAYING HOUSE
William J. Conover, Rhodes, Iowa, assignor to Black, Sivalls & Bryson, Inc., Kansas City, Mo., a corporation of Delaware
Filed Apr. 11, 1966, Ser. No. 541,634
7 Claims. (Cl. 119—18)



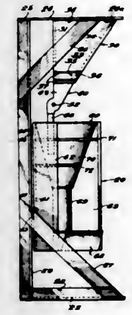
1. A poultry raising and laying house comprising:
a bin having a roof and a substantially circular upstanding wall enclosing at least one floor;
an annular section of each said floor spaced from and concentric with the center of the bin;
annular feed trough means mounted adjacent each said floor section;
means for automatically supplying feed to said trough means;
means movable about said trough means for distributing feed thereabout;
annular watering means mounted adjacent each said floor section; and
means disposed about each said floor section and below said trough means and said watering means for receiving poultry droppings, and operably connected to and receiving water from said watering means for fluidly removing the droppings therefrom.

3,368,528
SIMULATED DOG-BONE AND METHOD OF MAKING THEREOF
Leo C. Ganoe, Curwensville, Pa., assignor to Superior Pet Products, Inc., Curwensville, Pa., a corporation of Massachusetts
Filed Mar. 21, 1966, Ser. No. 536,082
15 Claims. (Cl. 119—29)



A simulated animal bone made of a sheet of rawhide having turned-in end portions to provide a greater thickness on the ends thereof than a central portion and rolled to form the shape of a bone and dried to hardness.

3,368,529
ANIMAL FEEDING SYSTEM WITH INDIVIDUALLY ADJUSTABLE RATE OF FEED
Robert G. Ferris, Harvard, Ill., assignor to Starline, Inc., a corporation of Illinois
Filed Feb. 3, 1966, Ser. No. 524,802
6 Claims. (Cl. 119—51.11)

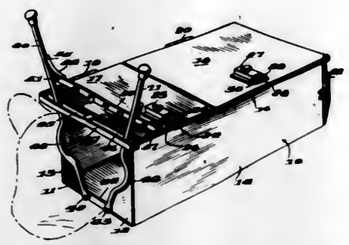


A system for feeding a group of cows during milking including variable speed feed delivery means at each feeding position, means for establishing a single time period which is applicable to all said feed delivery means, and means for adjusting the drive means of each feed delivery means to cause the associated delivery means to dispense material in an unbroken flow at a selected rate of flow which is uniform throughout the time period, so that different cows may receive different quantities of feed during said period.

3,368,530
ANIMAL HOLDER AND RESTRAINING DEVICE
Henry E. Bearss, 724 Chestnut St., Minonk, Ill. 61760
Filed Feb. 17, 1966, Ser. No. 528,275
1 Claim. (Cl. 119—99)

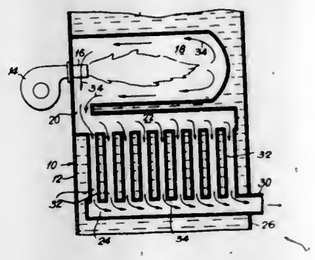
An elongated rectangular housing which is open at the forward end thereof and is closed at the rear end thereof by a door, means secured to the forward end of the housing which is adapted to releasably grip the neck of a small animal disposed within the housing with its head

extending out through the open end of the housing, the top wall of the housing being provided with openings



through which access is had for treating different body sections of an animal within the housing, and hinged lids by which said openings are closed.

3,368,531
VAPOR GENERATOR
Eugen F. Fehr, Wallisellen, Zurich, Switzerland, assignor to Oil Therm A.G., Zurich, Switzerland
Filed June 7, 1966, Ser. No. 555,819
Claims priority, application Switzerland, June 9, 1965, 8,058/65
10 Claims. (Cl. 122—136)

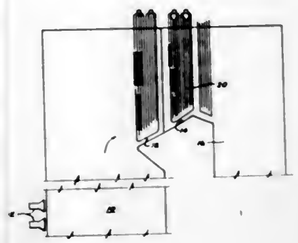


A vapor generator is disclosed as having a burner arranged in the forward end of a fire box extending longitudinally of the furnace. A pair of spaced mains extend parallel to the longitudinal direction of the fire box, and the fire box communicates with one of these mains. The two mains are interconnected by a plurality of ducts extending in parallel relation between the two mains. The second of the two mains has an outlet connected to the flue.

In a modification of the invention, there are two input mains connected to the fire box and each input main is connected by a plurality of parallel ducts to a respective output main, the two output mains being connected to the flue.
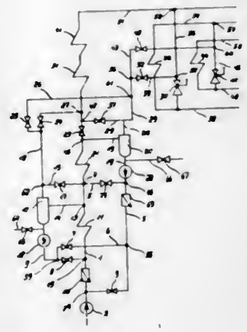
3,368,532
HIGH TEMPERATURE STEAM HEATERS AND TUBE ARRANGEMENT THEREFOR
Everett C. Lewis, Avon, and James Jonakin, Simsbury, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 16, 1965, Ser. No. 514,299
5 Claims. (Cl. 122—367)

A steam heating surface positioned in the combustion gas stream of a coal fired vapor generator. This surface is so disposed that the tube wall temperature would normally be between 1050 and 1300° F. This surface is comprised of tubular members which have radially extending fins and intermediate the fins on the upstream side of the tubes there is disposed a high temperature refractory. The



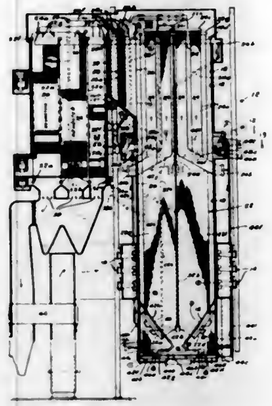
construction of the fins is such as to effectively retain this refractory in place.

3,368,533
METHOD OF STARTING FORCED-FLOW STEAM PRODUCERS
Klaus Knizia, Nochen uber Engelskirchen, Germany, assignor to L. & C. Steinmuller G.m.b.H., Gummersbach, Germany
Filed Feb. 14, 1966, Ser. No. 527,001
Claims priority, application Germany, Feb. 13, 1965, St 23,363
11 Claims. (Cl. 122—406)



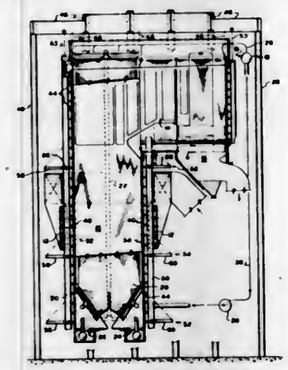
The present invention relates to a forced-flow steam producer having main conduit means adapted to be connected to a steam consumer and comprising feed water supply means and evaporator heating surface means communicating therewith and also comprising first and second superheater heating surface means in series with each other and with said evaporator heating surface means, and furthermore including first circuit means shunting said evaporator heating surface means and comprising a steam and water separating vessel and a pump while second circuit means lead from a point of said main conduit means between said evaporator heating surface means and said feed water supply means to a point of said main conduit means between said first superheater heating surface means and said evaporator heating surface means. This arrangement is provided with control means which permit operating the two circuits steamwise during the start of the steam producer in parallel arrangement with each other and subsequently with increasing firing of said steam producer to continuously operate the second circuit and the first superheater heating surface means steamwise in series with each other.

3,368,534
MULTIPLE PASS DESIGN FOR ONCE-THROUGH STEAM GENERATORS
Walter P. Gorzegno, Florham Park, N.J., Frederick H. Weber, Syosset, N.Y., and Robert H. Pal, East Orange, N.J., assignors to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York
Original application May 27, 1964, Ser. No. 370,604, now Patent No. 3,324,837, dated June 13, 1967. Divided and this application Feb. 2, 1967, Ser. No. 613,641
2 Claims. (Cl. 122—480)



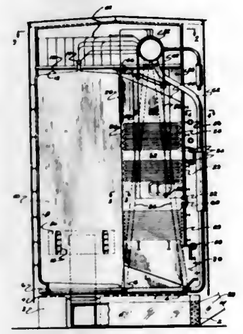
A once-through vapor generator in which the convection section of the generator includes three passes in parallel, two of the passes housing intermediate and low pressure reheat surfaces respectively, the third pass housing an economizer section with accompanying advantages.

3,368,535
VAPOR GENERATOR CONSTRUCTION
Konrad S. Svendsen, Bloomfield, and Willburt W. Schroedter, West Hartford, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 20, 1965, Ser. No. 514,780
20 Claims. (Cl. 122—510)



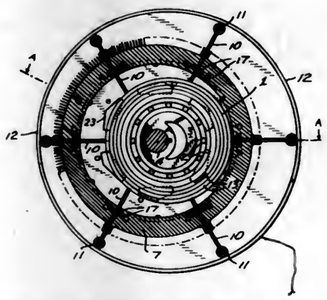
A construction for stiffening the walls of furnaces and gas passes of vapor generators so that they can withstand sudden increases of pressure within the furance or gas pass. The construction includes vertically extending steel beams positioned about the furnace or gas pass and hung from the upper end in a manner which permits limited lateral movement of the beams. Buckstays are secured to these beams and extend transversely of them with these buckstays being positioned about the furnace or gas pass at vertically spaced elevations. The ends of the buckstays associated with opposite walls of the furnace or gas pass are connected together by means of a tube which in turn is connected into the circuit of the vapor generator so that this tube will thermally expand commensurate with the furnace or gas pass wall tubes.

3,368,536
BOTTOM SUPPORTED STEAM GENERATOR
Robert P. Sullivan, Chattanooga, Tenn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed June 13, 1966, Ser. No. 556,942
7 Claims. (Cl. 122—510)



A steam generator is formed of two independent stable support structures. One of these is the general steam generating surface including the tubes lining the walls of the unit. A second and independent structure is formed by having the steam drum supported by the downcomers. Flexible tubing connecting these two structurally independent structures permits each one to expand relative to the other. The concentrated loads due to the heating surface located within the flues are thrown into the second independent support structure thereby decreasing the load which must be carried by the first support structure.

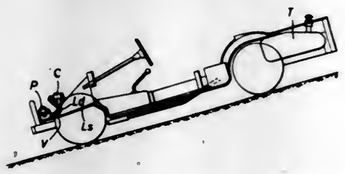
3,368,537
INTERNAL COMBUSTION ENGINE
Luis Lorenzo Cavallone and Antonio Trifiletti, Buenos Aires, Argentina, assignors, by direct and mesne assignments, of seventy-five percent to said Trifiletti and twenty-five percent to Luis J. S. Cavallone, Orange, N.J.
Filed Aug. 23, 1965, Ser. No. 481,530
2 Claims. (Cl. 123—16)



An internal combustion engine of the rotary drum type having a fixed casing and a cover therefor. A driven shaft is journalled in the casing. The shaft drives an eccentri-

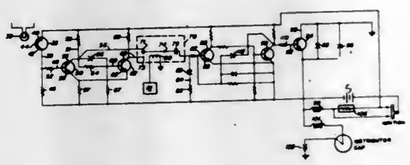
cally mounted drum which in operation reciprocates progressively in segmentally defined cylinders bounded by radially oriented blades which are caused thereby to slide in the casing. A floating ring is mounted on the blades and also moves in an eccentric, reciprocating fashion. Compressed air is forced into each cylinder through a port in the casing which is opened and closed by the operating drum. A second port in the cover also opened and closed by the drum provides escape for the products of combustion. The location of the ports relative to the drum and their control thereby results in the drum having a greater expansion stroke than compression stroke which affords improved operating efficiency for the engine. Means are provided to render the casing and cover fluid leak proof.

3,368,538
FUEL PUMP FOR MOTOR VEHICLES
Heinz Pauli and Günter Frohberg, Neuss (Rhine), Germany, assignors to A. Pierburg Auto- und Luftfahrt-Geratebau K.G., Neuss (Rhine), Germany
Filed Nov. 2, 1965, Ser. No. 506,092
Claims priority, application Germany, Nov. 6, 1964, P 35,457
3 Claims. (Cl. 123—136)



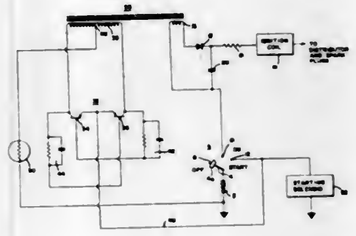
The combination of a fuel pump for a motor vehicle, the pump including a fuel outlet and a fuel inlet, each having a spring-biased valve located therein, a spring-loaded shut-off valve connected to the outlet, the shut-off valve including a closure member, means defining a valve chamber on one side of the diaphragm, means defining a fuel chamber on the other side of the diaphragm, a spring acting on the closure member to hold the member in a closed position, means defining a first passage interconnecting the outlet with the valve chamber, and means defining a second passage interconnecting the inlet with the fuel chamber. Thereby the pressure of fuel delivered by the pumps acts on the one side of the diaphragm to move the closure member from the closed position to an open position against the action of the spring, and negative pressure in the inlet acts on the other side of the diaphragm to assist the movement of the closure member against the spring.

3,368,539
BREAKERLESS IGNITION SYSTEM
Donald G. Kidwell, Chamblee, Ga., assignor of twenty-five percent to G. D. Murphy, Jr., and twenty-five percent to Erle Cocke, Jr.
Filed Oct. 23, 1965, Ser. No. 503,669
3 Claims. (Cl. 123—148)



A contactless ignition system for delivering pulses to an output transformer across a spark producing element of an internal combustion engine having in combination a slotted disc rotatable between a light source and a photoelectric device, transistorized circuitry for providing high voltage pulses to said transformer, and switching means for abruptly reversing the conducting state of the circuitry for retarding the spark when engine manifold vacuum drops.

3,368,540
ELECTRONIC IGNITION COMPENSATION
Clifford M. Ault, 5341 Glencairn Lane, Indianapolis, Ind. 46226
Filed Mar. 4, 1966, Ser. No. 531,943
3 Claims. (Cl. 123—179)



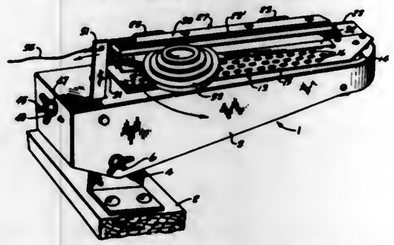
1. In an internal combustion engine ignition system, the combination which comprises,
a battery including a positive terminal and a grounded negative terminal;
an ignition coil having an output end adapted for connection with the spark plug of the engine, and an input end;
ignition switch means including START and RUN positions;
first means operable when said switch means is in the RUN position for connecting said positive battery terminal with the input end of said ignition coil;
second means operable when said switch means is in the START position for supplying a starting current to the input end of said ignition coil; and
temperature-responsive means operable when said switch means is in the START position for controlling as a function of ambient temperature the magnitude of the starting current supplied to said ignition coil,
said first means including a secondary winding and a rectifier means connected in series between said ignition switch means and the input end of said ignition coil and a filter capacitor connected in parallel with said secondary winding and said rectifier,
said second means including a primary winding inductively coupled with said secondary winding and circuit means including an oscillator means,
said temperature responsive means including a temperature-responsive resistor, wherein said oscillator means comprises a pair of electronic devices each having a pair of power circuit electrodes and a control electrode, the ends of said primary winding being connected with corresponding first power circuit electrodes of said electronic devices, respectively, the other power circuit electrodes of said devices being connected with the START contact of said ignition switch, said temperature-responsive resistor being connected at one end with the center of said primary winding and at the other end with said grounded negative terminal, and a pair of resistance capacitance biasing networks each connecting the control electrode of one device with the first power circuit electrode of the other device, respectively.

3,368,541
TREADLE CONTROLLED BALL-TOSSING DEVICE
Lloyd A. Brink, Goldendale, Wash., assignor to Tru-Step, Inc., Goldendale, Wash., a corporation of Washington
Continuation-in-part of application Ser. No. 330,672, Dec. 16, 1963. This application June 15, 1964, Ser. No. 375,277
12 Claims. (Cl. 124—7)



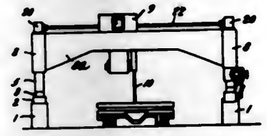
8. A batting practice device for tossing a ball to be struck by a batter, comprising an elongated base disposed with its length substantially horizontal, an elongated ball-tossing arm, pivot means connecting an end portion of said arm to said base to dispose said arm overlying said base in generally horizontal position when cocked, a ball-receiving cup carried by said arm at a location spaced from said pivot means, resiliently-contractable means engaged between said base and said ball-tossing arm and spaced from said pivot means for exerting an upward swinging force on said arm, an elongated substantially horizontal treadle separate from said ball-tossing arm and overlying said base with the length of said treadle generally parallel to the length of said base and the length of said treadle also generally in alignment with the length of said ball-tossing arm in cocked position, with one end of said treadle adjacent to the swinging end of said ball-tossing arm in cocked position and engageable in latching engagement with such ball-tossing arm when in its cocked position to hold said arm in cocked position, and means guiding said treadle for endwise movement from arm-latching position upward and lengthwise away from said arm to release it from cocked position for upward ball-tossing movement.

3,368,542
TARGET TRAP WITH FRICTION-REDUCING TARGET HOLDER
Vernon F. Dale, Onalaska, Wis. 54650
Continuation-in-part of application Ser. No. 446,534, Apr. 8, 1965. This application Oct. 20, 1965, Ser. No. 505,582
11 Claims. (Cl. 124—8)



A target trap having a trigger operated rotatable arm provided with adjustable guide means cooperable with a target for projecting the target, the guide means and throwing arm being formed to support the target at two spaced portions thereof.

3,368,543
MECHANICAL SAWS
Angelo Ronzani, Levico, Italy, assignor to S.p.A. Secoblitz Industria Meccanica, Levico, Trento, Italy
Filed Aug. 27, 1964, Ser. No. 392,561
Claims priority, application Italy, Aug. 30, 1963, 18,080/63
2 Claims. (Cl. 125—13)



A stone sawing apparatus having a saw blade supported on a horizontally and vertically adjustable gantry and a rotatably adjustable work carriage mounted for movement beneath the blade. Vertically adjustable supports for the gantry are formed of hollow cylindrical vertical base members on which the gantry is vertically slidable. Adjustment is provided by means of a nut mounted on a projection in the upper portion of the support members with a screw connected to the gantry for vertical movement.

3,368,544
SELF-CLEANING GRILL AND INSTANT CHARCOAL LIGHTER
Richard W. Duncan, 4272 Down Ridge Road, Palm Beach Gardens, Fla.
Filed Jan. 10, 1966, Ser. No. 519,715
12 Claims. (Cl. 126—25)

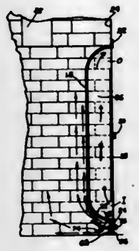


1. A self-cleaning grill and instant charcoal lighter, including, in combination, a fire box adapted to contain combustible material for igniting charcoal, and an assembly rotatively mounted on said fire box, said assembly being disposed in one position on said firebox for igniting the charcoal and in another position for the cooking operation, and said assembly providing a member for supporting charcoal in the initial ignition thereof and also including a further member for receiving said ignited charcoal upon rotation of said assembly on said fire box for the cooking operation.

3,368,545
AIR HEATING DOOR ON A FIREPLACE
Harold R. Ibbitson, 123 Phillips St., Hanson, Mass. 02341
Filed May 5, 1965, Ser. No. 453,289
1 Claim. (Cl. 126—121)

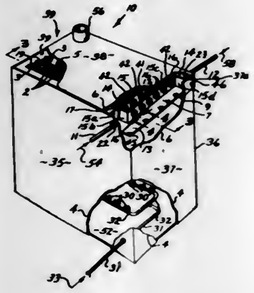
1. Heating apparatus in combination with a fireplace, said apparatus comprising a heating member having a back extending into the interior of said fireplace, a front spaced forwardly from said back to thereby provide an air passage, means connecting said back and front, said front being spaced at its lower and upper extremities from

the bottom and top of said back to thereby provide an inlet and an outlet respectively for said passage, the lower extremity of said back being spaced from the bottom of the fireplace, a draft member extending into the latter space having holes therethrough to permit passage of air



to the fireplace chamber, and a deflector in said latter space inwardly of said draft member having an upper guide extending rearwardly into the fireplace chamber and a lower guide extending rearwardly into the fireplace chamber and spaced below said upper guide.

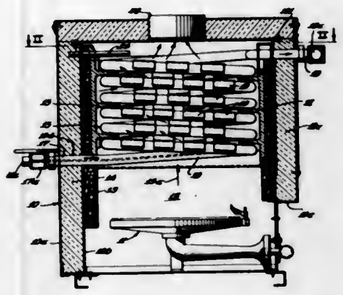
3,368,546
POOL HEATER
Charles E. Wade, Covina, Calif., assignor to Purex Corporation Ltd., Lakewood, Calif., a corporation of California
Filed July 26, 1965, Ser. No. 474,565
5 Claims. (Cl. 126—350)



A heater for swimming pools and the like having a housing containing a heat source and a water inlet-outlet header mounting a number of separate heat exchangers which are removable through a side opening in the header for cleaning and repair in the header through which the heat exchangers are inserted into the header, the heat exchangers having concentric passages through which water flows from an inlet passage to an outlet passage in the header in such manner that the water is heated within the heat exchangers with minimum condensation on the external surfaces of the exchangers.

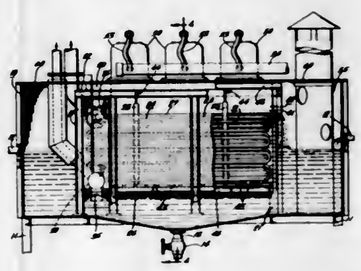
3,368,547
FINNED-TUBE HEAT EXCHANGER
William A. Hale, 4503 N. Knoxville Ave., Peoria, Ill. 61614
Filed Oct. 23, 1965, Ser. No. 503,323
8 Claims. (Cl. 126—350)

A water tube type heat exchanger is provided with sheet metal fins mechanically fixed in place thereon in appropriate position to improve transfer efficiency. The fins may be employed as spacing means, in addition to their heat transfer function, for positioning the adjacent coils of a multiple coil tube and, further, the fins may be provided with a configuration substantially controlling the flow of



heat transfer medium, such as combustion gas, along and around the water tube coil. A number of specific embodiments of fin construction are disclosed.

3,368,548
HIGH CAPACITY SUBMERGED HOT GAS HEAT EXCHANGER
Joseph J. Santoleri, Wayne, and James E. Richardson, Norristown, Pa., assignors to Thermal Research & Engineering Corporation, Conshohocken, Pa., a corporation of Delaware
Filed Feb. 24, 1966, Ser. No. 529,786
5 Claims. (Cl. 126—360)



A submerged hot gas heat exchanger for heating extremely cold liquid such as nitrogen to change its state from the liquid state to the gaseous state. The hot gas heat exchanger includes a tank containing a heat transfer liquid, a plurality of burners surrounded by a shroud depending downwardly into the tank, a weir surrounding the shroud to direct hot gas from the burner outwardly at the bottom of the tank into the liquid contained within the tank and a plurality of tubes within the tank outside of the weir through which the liquid to be heated and converted to the gaseous state is caused to pass.

3,368,549
DIAGNOSTIC SWABS
Fred S. Barr, Bristol, Va., and Galen F. Collins, Bristol, Tenn., assignors to The S. E. Massengill Company, Bristol, Tenn.
Filed Oct. 19, 1964, Ser. No. 404,852
7 Claims. (Cl. 128—2)

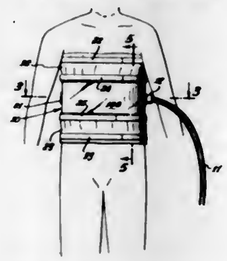
1. An arrangement for making a culture of microorganisms from animal or human tissue by direct contact of the tissue with a culture medium, said arrangement comprising an elongated support contacting and carrying

substantially only a mass of sterile solidified culture medium at an end of the support, and a sterile container



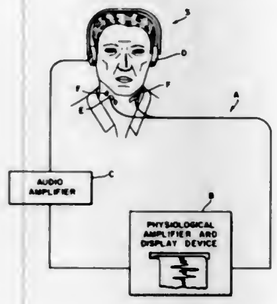
removably housing said support carrying said mass of sterile solidified culture medium.

3,368,550
RESPIRATORY CUIRASS
Harry Glascock, Los Angeles, Calif. (620 E. Dyer Road, Santa Ana, Calif. 92705)
Filed Apr. 26, 1965, Ser. No. 450,850
4 Claims. (Cl. 128—2)



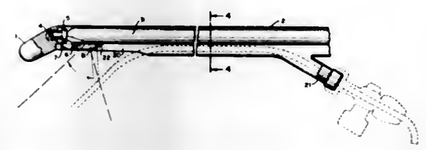
A relatively rigid one-piece respiratory cuirass **10** provides at upper and lower ends spaced body encircling openings. Disposable flexible skirts **22** and **23** cooperate with the cuirass to define a sealed space to which positive and negative pressure may be applied as by the aid of a connector **12**. The cuirass **10** is substantially transparent to X-rays, and the connector **12** is located at the side whereby the cuirass is adapted for use in cinefluorography.

3,368,551
METHOD FOR CORRECTING SUBVOCALIZATION
Curtis D. Hardyck, Berkeley, Calif. (211 Medical Science Bldg., Medical Center, San Francisco, Calif. 94122)
Filed Oct. 11, 1965, Ser. No. 494,558
3 Claims. (Cl. 128—2)



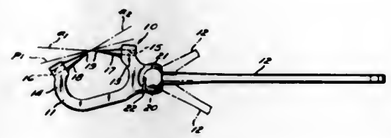
1. The method of correcting subvocalization of a subject while the subject is reading comprising the steps of: detecting vocal muscle activity of the subject while the subject is reading; producing a signal from the detected vocal muscle activity with the signal varying in accordance with the amount of vocal muscle activity; directing the signal to the subject whereby the subject can control the signal by controlling the amount of vocal muscle activity.

3,368,552
ENDOSCOPE DEVICE
Alfred Böttcher, Leipzig, Germany, assignor to VEB Medizintechnik Leipzig, Leipzig, Germany
Filed Nov. 26, 1965, Ser. No. 509,831
8 Claims. (Cl. 128—4)



1. An endoscope device comprising; an elongated housing having a front portion and a back portion, optical means comprising objective means disposed in said housing and extending substantially to said front portion, ocular means operable with said objective means and being disposed in said back portion, resilient means disposed in said front portion in cooperating relationship with said objective means, means for effecting displacement of said objective means axially of said housing, lever means disposed adjacent said objective means, means for operatively coupling said lever means to said resilient means, said lever means being adapted to be pivoted about an axis from a rest position in said housing to an operating position over a predetermined angular range in response to an axial movement of said objective means, the arrangement being such that the free end of said lever means is disposed outwardly of said housing during said operating positions thereof, wherein said housing and said objective means therein define a duct therebetween substantially at one side of said objective means, said duct being adapted to guide therethrough an operating instrument to a position adjacent said lever means.

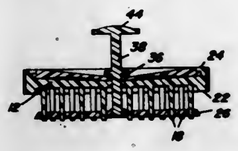
3,368,553
TOOTH-CLEANING AND MASSAGING DEVICE
James B. Kirby, P.O. Box 2735, Pompano Beach, Fla. 33062
Filed Jan. 29, 1965, Ser. No. 428,958
13 Claims. (Cl. 128—62)



A device for cleaning the teeth which has a handle and a pair of spaced arms mounted on the handle. An elastic tooth-cleaning and gum-massaging pick is mounted on the end of each of the arms and each pick has a relatively wide base which tapers to a narrowed end portion. The picks are mounted on each arm so that the distance between the narrowed end portions of the picks is less than the thickness of the average humna tooth so that the

picks are guided into and out of the spaces between the teeth adjacent the gums and so that the narrowed ends of the picks may massage and stimulate the gums in the spaces.

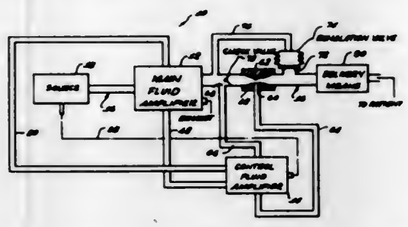
3,368,554
SELF-CLEANING HAIR WASHER AND MASSAGER
Shao Hwa Chou, 250 W. 105th St., New York, N.Y. 10025
Filed Aug. 19, 1965, Ser. No. 480,932
5 Claims. (Cl. 128—67)



1. A self-cleaning scalp massager and hair washer comprising a body member, said body member having a generally circular central portion, said central portion having a flat underside, a plurality of resilient fingers projecting downwardly from the underside of said central portion, a centrally disposed vertical aperture through the central portion of said body member, said body member including an integral peripheral flange having a first portion projecting downwardly below the underside of said central portion of said body member and a second portion projecting upwardly from said central portion of said body member, a cleaning plate normally contiguous with the underside of said central portion of said body member, said cleaning plate having perforations through which said fingers extend, said cleaning plate being slidable on said fingers, said cleaning plate including a centrally disposed upwardly facing coupling means in alignment with said central aperture in said body member, an annular groove in the inwardly disposed face of said upwardly projecting portion of said peripheral flange, a normally convex disk-like spring member, said spring member having a peripheral edge complementary to and removably retained in said annular groove, a centrally disposed vertical aperture in said spring member in alignment with said vertical aperture and said body member, a plunger member having a first and a second end, said first end of said plunger member being removably coupled with said coupling means and said cleaning plate, said second end of said plunger means slidably received in said apertures in said body member and said spring member and extending upwardly above said spring member, a spring member engaging abutment integral with said plunger, said engaged stop being positioned so as to coact with said spring member to normally bias said cleaning plate against the underside of said central portion of said body member.

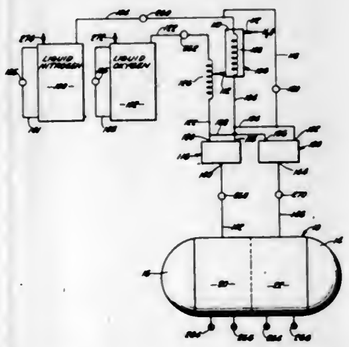
3,368,555
RESPIRATION APPARATUS WITH FLUID AMPLIFIER
Noel F. Beasley, Santa Monica, Calif., assignor to Puritan Compressed Gas Corporation, Kansas City, Mo., a corporation of Missouri
Filed Dec. 2, 1965, Ser. No. 511,588
9 Claims. (Cl. 128—145.8)

1. In respiration apparatus including a source of pressurized gas and delivery means, the combination of:
main conduit means adapted to connect the source and the delivery means; a main fluid control means in said main conduit means having an inspiration state in which flow takes place from said source to said delivery means and an expiration state in which said flow is terminated, said control means being actuated by means applying pressure signals to move said control means between its inspiration and expiration states;
flow responsive means in said main conduit means intermediate said control means and said delivery means and having a pair of sensing ports at which pressures of different magnitudes are sensed during flow through said main conduit means; and
a control fluid amplifier coupled to said control means and having a power nozzle connected to said source, inspiration and expiration outlet channels for receiving, alternately, a control stream of gas issuing from said power nozzle and connected to said means for



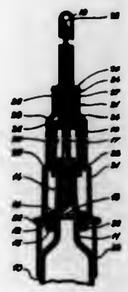
applying pressure signals whereby said control means is actuated to its inspiration state when said control stream is flowing through said inspiration outlet channel and being actuated to its expiration state when said control stream is flowing through said expiration outlet channel, and first and second control nozzles coupled to said first and second sensing ports, respectively and arranged to issue pressure signals to direct said control stream between said inspiration and expiration outlet channels.

3,368,556
HYPERBARIC VESSELS
Raymond W. Jensen and Robert J. Garon, Los Angeles, Calif., assignors to Wyle Laboratories, El Segundo, Calif., a corporation of California
Filed Jan. 13, 1964, Ser. No. 337,314
6 Claims. (Cl. 128—204)



1. In a hyperbaric vessel arrangement, an enclosable pressure vessel, a first source of cryogenic material in liquid phase condition at low temperature and high pressure, a second source of other cryogenic material in liquid phase condition at low temperature and high pressure, a first withdrawal line communicating with said first source, a second withdrawal line communicating with said second source, pressure means operatively associated with the respective sources to induce movement of the cryogenic materials through the respective lines, vaporizing means within the respective lines to convert the respective materials to gaseous phase condition, said vaporizing means including heat exchange means to raise the temperature of the cryogenic materials in the respective lines to predetermined levels; gas mixing means in operative communication with the respective lines and operative to physically intermix the gaseous materials, said gas mixing means including valve means having a first intake port communicating with said first withdrawal line, a second intake port communicating with the second withdrawal line, orifice means operatively associated with the respective lines and arranged to proportion the flow of the respective gaseous materials therethrough in determined relation to each other by volume, said orifice means being in communication with said conveying means thereby accomplishing intermixture of said gaseous materials, conveying means establishing communication between the mixing means and the vessel and arranged to deliver intermixed gaseous material thereto to create in the vessel a pressure condition greater than atmospheric, and vent means to controllably vent said vessel in response to the pressure conditions therein while maintaining the pressure therein greater than atmospheric.

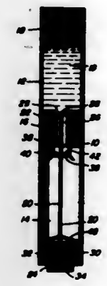
3,368,557
AMPOULE WITH ACTUATABLE COVER AUTOMATICALLY READYING AMPOULE FOR INJECTION
Vagn Hassing, Farum, and Ejnar Kristian Jeppesen, Bagsvaerd, Denmark, assignors to Novo Terapeutisk Laboratorium A/S, Copenhagen, Denmark, a Danish joint-stock company
Filed May 24, 1965, Ser. No. 458,009
Claims priority, application Denmark, May 28, 1964, 2,674/64
5 Claims. (Cl. 128—221)



An injection ampoule with a two-part cover which is actuatable axially on the ampoule for automatically ejecting an outer part of the cover exposing the injection needle and placing it in communication with the ampoule contents thereby readying the ampoule for injection by a single movement of the cover.

3,368,558
TWO COMPARTMENT CARTRIDGE
Stanley J. Sarnoff, 7801 Woodmont Ave., Montgomery County, Md. 20014, and John W. Balenger, Montgomery County, Md.; said Balenger assignor to said Sarnoff
Filed Aug. 21, 1964, Ser. No. 391,836
2 Claims. (Cl. 128—218)

In a cartridge wherein medicament is stored in one compartment thereof and a double pointed needle in another compartment, means are provided to prevent the needle from piercing a wall separating the needle from the medicament compartment prior to full emergence of the



opposite end of the needle through a wall separating the needle compartment with the ambient atmosphere.

3,368,559
HYPODERMIC INJECTOR WITH SAFELY HELD RELEASE MEANS
Stanley J. Sarnoff, 7507 Hampden Lane 20014, and George B. Calkins, 6806 Selkirk Drive 20034, both of Bethesda, Md.
Filed Sept. 17, 1965, Ser. No. 488,055
8 Claims. (Cl. 128—218)

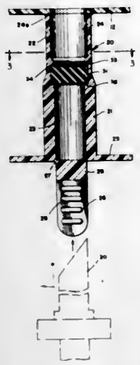


2. A spring propelled control element for a hypodermic injector comprising a shaft of resilient material, a spring seat at one end of the shaft, a slotted portion in the shaft extending from adjacent one end of the shaft but removed from the end thereof and extending toward the spring seat, a detent on the shaft adjacent to said one end of the shaft and positioned intermediate the length of the slotted portion, said detent comprising a surface sloping divergently in the direction of the spring seat end of the shaft and a second surface intersecting the first surface and extending laterally from the shaft, the slotted portion between the second surface and the seat end of the shaft being longer than the remaining portion.

3,368,560
OUTLET FITTING FOR PLASTIC PARENTERAL SOLUTION CONTAINER
Theodore H. Gewecke, Milledgeville, Ga. 31061
Filed Oct. 7, 1965, Ser. No. 493,760
4 Claims. (Cl. 128—272)

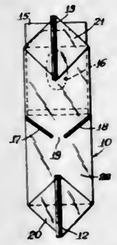
An outlet fitting for a plastic container. The fitting comprises a unitary tube having a fluid entry end and a fluid discharge end with a flow passage extending therethrough. The flow passage portion at the discharge end has a smaller bore than that of the passage portion at the entry end, and the different sized bores cooperate to define an annular shoulder. A disc-like plug is mounted

in the larger bore between the annular shoulder and an annular inwardly extending rib in the larger bore portion,



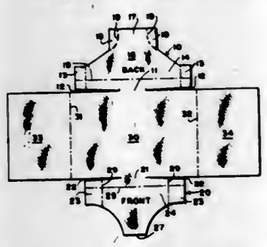
the rib and shoulder cooperating to upsettably confine the plug.

3,368,561
PEDIATRIC URINE COLLECTOR
Richard E. Ericson, Barrington, and John K. Lloyd, Skokie, Ill., assignors to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed July 28, 1964, Ser. No. 385,615
10 Claims. (Cl. 128—275)



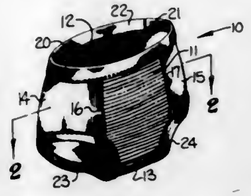
A pediatric urine collector adapted for adhesive attachment to the ch ld's body and having an upper chamber into which the child's outer genitals protrude and a lower chamber for collection of the urine. The two chambers are separated by a thin funnel-like throat formed by downwardly converging sealed areas which lie in a plane substantially normal to the plane of the top and bottom seals of the collector so as to make each of the two chambers three-dimensional.

3,368,562
ONE-PIECE FOLDED DIAPER
Anneliese Vogt, New York, N.Y.
(144 Knickerbocker Ave., Paterson, N.J. 07500)
Filed Nov. 16, 1964, Ser. No. 411,346
3 Claims. (Cl. 128—284)



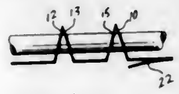
A one-piece fabric diaper which is folded to form a form-fitting garment having an integral multi-ply pad element.

3,368,563
PANTY WITH PILE CENTER PANEL
Stanley C. Scheler, Charlotte, N.C., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 471,216, July 12, 1965. This application June 6, 1966, Ser. No. 555,612
9 Claims. (Cl. 128—288)



1. A panty adaptable for use on an infant comprising front, rear, crotch and side portions formed of pliable material and being secured together to form a self-sustaining panty having waist and leg apertures and which may be easily placed on and removed from an infant without the necessity of pinning or the like, and pile yarns penetrating through the pliable material in at least the crotch portion and forming raised pile on one surface of the pliable material defining the inner surface of the panty and interknit stitch loop chains on the other surface of the pliable material for anchoring the pile yarns thereto.

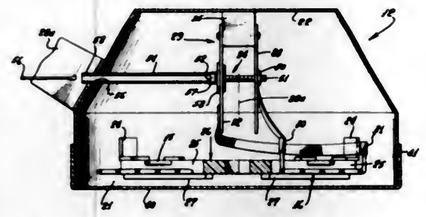
3,368,564
TUBE ANCHOR AND GUIDE DEVICE
Richard C. Selix, 1549 N. Gordon Ave., Hollywood, Calif. 90028
Filed Feb. 18, 1965, Ser. No. 433,713
5 Claims. (Cl. 128—348)



An anchor and guide for medical tubing, which is adhesively secured to a support surface adjacent the patient, or to his person, and is composed of panels hinged together so as to be selectively positioned in any desired angular relationship, whereby openings in the panels will allow tubing to slide if the panels are erect, but will bind the tubing if the angular relationship is increased. Medical tubing is therefore selectively bound in place, or allowed to glide in a selected path.

3,368,565
ELECTROTHERAPEUTIC TREATMENT HEAD WITH TUNING MEANS
William Denis Kendall, Los Angeles, and Frank A. Yarger, Sylmar, Calif., assignors, by direct and mesne assignments, to Dynapower Systems Corporation of California, Santa Monica, Calif., a corporation of California
Continuation-in-part of application Ser. No. 304,468, Aug. 26, 1963. This application Apr. 2, 1965, Ser. No. 445,111
3 Claims. (Cl. 128—404)

The disclosure concerns an electrotherapeutic treatment head incorporating within a metallic shell primary and secondary coils, an adjustable capacitor having flexed plates and a tuner for the capacitor. In order to facilitate adjustment of the tuner, a tubular guide is provided to



extend within the shell in alignment with the tuner and a side opening in the shell to receive insertion of an elongated tool operable to adjust the tuner.

3,368,566
FILTER CIGARETTE
Souren Z. Avedikian, 34 Athens Road, Short Hills, N.J. 07078
Filed June 17, 1964, Ser. No. 375,779
1 Claim. (Cl. 131—10.7)

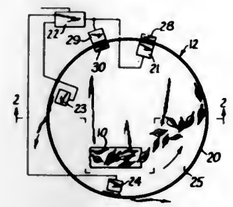


The invention relates to a cigarette having a burnable charge of relatively inexpensive material, a composite filter having mechanical filtering means for removing particulate material and chemical reacting materials for removing some noxious gases from the gas stream and a terminal charge of relatively high quality tobacco at the mouth end of the cigarette for providing a tobacco flavor to the exiting gas stream.

3,368,567
METHOD OF PRODUCING A TABLET CONTAINING A TOBACCO CONCENTRATE
Ralph W. Speer, Memphis, Tenn., assignor to Morton Pharmaceuticals, Inc., Memphis, Tenn., a corporation of Tennessee
No Drawing. Filed Mar. 23, 1965, Ser. No. 442,200
2 Claims. (Cl. 131—143)

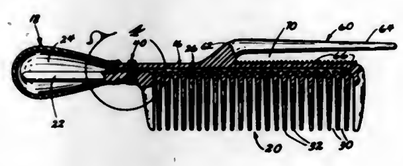
1. A method of producing a tobacco concentrate comprising providing finely comminuted dried leaf tobacco, subjecting the dried tobacco to an aqueous phase and concentrated mineral acid, subjecting the mixture to agitation, neutralizing the excess acid in the mixture, withdrawing the liquid from the mixture, applying the liquid to an absorbent, inert, edible base, to the extent that it constitutes less than 10% of the said base, permitting the liquid to dry, and then compressing the resultant material into tablet form.

3,368,568
METHOD AND APPARATUS FOR ORIENTING, ALIGNING AND CONVEYING TOBACCO LEAVES
Kenneth E. Love, Oak Ridge, and Charles L. Moulton, Knoxville, Tenn., assignors to True-Grade, Inc., Oak Ridge, Tenn., a corporation of Tennessee
Filed Apr. 27, 1966, Ser. No. 545,650
15 Claims. (Cl. 131—149)



1. The method of aligning and orienting tobacco leaves or the like which comprises depositing unaligned and unoriented leaves in a stream upon a carrier at a station spaced from the edge thereof, rotating said carrier to impart centrifugal force to said leaves through frictional contact therewith, said leaves comprising a relatively heavy central tapered stem and relatively light tissue extending laterally from said stem, the center of gravity of said leaf being located toward the thicker part of the stem, said centrifugal force in said relatively heavy stem being greater than in said tissue portion and causing said leaf to move radially outwardly stem first to orient said leaf with respect to said carrier, and intercepting said radially moving leaf by a circumferentially moving wall, against which said leaf is pressed by centrifugal force, said leaf contacting the circumferentially moving wall stem first to cause said leaf to be pulled stem first by said wall and thereby to orient itself against said wall with the stem of the leaf aligned with the direction of movement of the wall.

3,368,569
HAIR GROOMING DEVICE
Paul A. Lawrence, 1660 Beaver, Des Moines, Iowa 50310
Filed Dec. 16, 1964, Ser. No. 418,631
9 Claims. (Cl. 132—116)

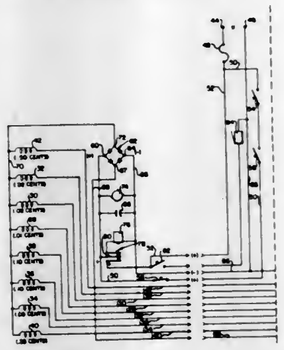


A device having a frame with a plurality of teeth on opposite sides of the frame, a finger member secured to the frame and extending in substantially parallel relationship to the longitudinal axis of the frame along a portion of the length of the frame, the teeth on the portion of the frame along which the finger extends extending towards the finger with their outer ends terminating in spaced relation thereto. The finger on the frame extends longitudinally outwardly of the frame outer end. The device may include a fluid chamber and a passageway communicating between the chamber and outlet ports adjacent the teeth of the comb. A pump means may be provided to transfer the liquid from the chamber to the outlet ports.

3,368,570
CONTROL SYSTEM FOR CHANGE-DISPENSING ACCOUNTING MACHINES

Charles S. Nagy and Laymon C. Hoskins, Dayton, and William J. Scott, Kettering, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Jan. 3, 1967, Ser. No. 606,837
6 Claims. (Cl. 133—2)

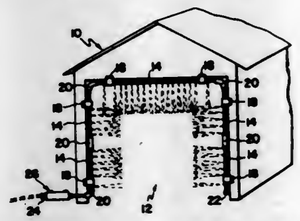


An electrical circuit for a change-dispensing apparatus which may be used in connection with a cash register or an accounting machine. The circuit utilizes diodes in combination with solenoids which operate normally open and normally closed switches to actuate coin ejector mechanisms in accordance with the value of the change required, the value of the change being less than a dollar, and the change always being dispensed in the fewest number of coins.

3,368,571
AUTOMATIC CAR WASHING APPARATUS AND CONTROL DEVICE THEREFOR

Daniel M. Honorof, 511 Grantland Ave., West Hempstead, N.Y. 11552

Continuation-in-part of application Ser. No. 437,838, Mar. 8, 1965. This application Dec. 1, 1965, Ser. No. 510,877
6 Claims. (Cl. 134—100)



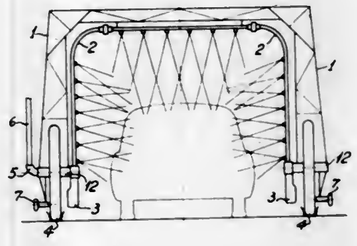
Automatic car washing apparatus having a fluid spray conduit and including a device controlling the rate of flow of a first fluid additive into a pressurized stream of a second fluid, the infused combination thereof being directed for spraying from the conduit.

3,368,572
CAR WASHING APPARATUS

Uberto Capra, Vicenza, Italy, assignor to Ceccato & C. S.p.A., Alte Ceccato, Vicenza, Italy

Filed Feb. 1, 1966, Ser. No. 524,036
Claims priority, application Italy, Feb. 18, 1965, 3,405/65; May 29, 1965, 12,037/65
8 Claims. (Cl. 134—123)

1. Apparatus for washing vehicles, such as motor cars, comprising, in combination, at least a pair of coaxial support wheels spaced axially a distance in excess of the overall width of a vehicle; a generally inverted U-shape framework including a pair of legs interconnected by a cross member; means pivotally supporting said legs, adjacent their laterally spaced free ends, on said support wheels for swinging of said frame about a substantially horizontal and transversely extending axis between a pair of opposed, substantially horizontal orientations through a substantially vertical orientation; discharge nozzle means on said framework; means supplying fluid to said nozzle means; means selectively operable to couple said framework to said wheels for swinging of said frame, responsive to rotation of said wheels, in a cycloidal arc; said selectively operable means being selectively operable

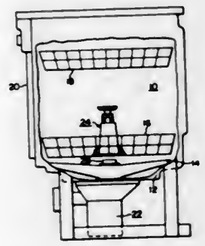


to provide for the framework remaining in a vertical attitude during rotation of said support wheels; a pair of trucks each mounted on a pair of said support wheels; said framework being mounted on said pair of trucks for its swinging movement; and selectively engageable variable transmission ratio driving means for effectively coupling said framework to at least one wheel of one truck whereby, when said framework is coupled to one wheel and said trucks effect a translatory movement, said framework will be swung through a cycloidal arc having an amplitude corresponding to the selected transmission ratio and whereby, when said trucks are stationary, said framework may be swung through a circular arc.

3,368,573
DISHWASHING APPARATUS

Joseph L. Mixon, Galesburg, Ill., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 7, 1965, Ser. No. 493,820
7 Claims. (Cl. 134—176)

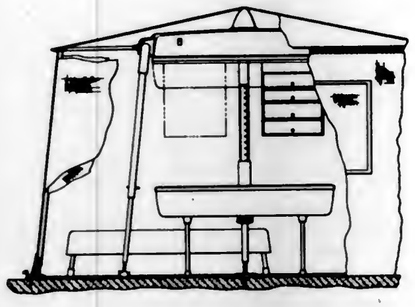


Apparatus for dispersing a stream of water in a pattern over the upper rack of a dishwasher by means of a rotatable wheel having a hub, spokes, and an outer ring, the hub having one open part through which a part of the water passes directly upwardly for producing an inner pattern, the ring having inner and outer inclined surfaces for deflecting additional water into intermediate and outer patterns, respectively.

3,368,574
CAMPING DEVICE

Louise J. Yates and Harlan J. Yates, both of 1946 Cedar Lake Blvd., Minneapolis, Minn. 55404

Filed Oct. 24, 1965, Ser. No. 504,484
8 Claims. (Cl. 135—1)

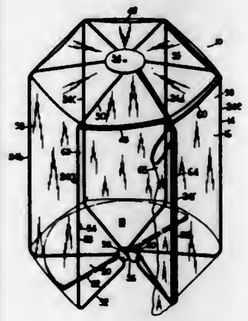


A camping device capable of being mounted on a car top by a conventional car top carrier, and including a body structure comprised of upper and lower sections formed of an insulating material. A screw and nut actuator for shifting the body sections vertically with respect to each other, and tubular guide means on the sections for guiding vertical movement thereof. Leg structures releasably engaging said upper section to support the body structure independently of the automobile.

3,368,575
PORTABLE COLLAPSIBLE SHELTER

Ruben J. Besonen, 1311 S. 16th St., Milwaukee, Wis. 53204

Filed Feb. 25, 1966, Ser. No. 530,084
9 Claims. (Cl. 135—4)

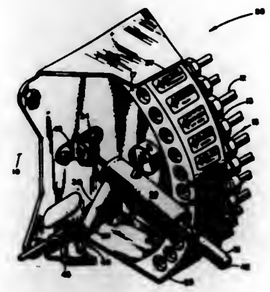


A portable collapsible shelter comprises a plurality of generally inverted L-shaped support frames which are pivotally connected so that they can be folded and unfolded to be radially disposed with respect to each other. One of the L-shaped support frames serves as a door frame which is movable between a pair of adjacent frames. A flexible fabric cover is supported by the support frames and a depending portion of the cover is attached to the movable door frame. In another embodiment of the invention, the door frame is omitted and connecting members are required between each adjacent pair of frames to rigidify the structure and support the cover which has a flap type door.

3,368,576
SINGLE LOCATION CHARGER

Jackson R. Crissey, Dallas, Tex., assignor to Ling-Temco-Vought, Inc., Dallas, Tex., a corporation of Delaware

Filed Aug. 6, 1964, Ser. No. 387,853
14 Claims. (Cl. 137—1)



1. The method of checking and regulating from one location the gas pressure in each of a plurality of containers mounted in diverse locations within an aircraft, said method comprising the steps of:

selectively and singularly coupling each of said containers with a common charging device mounted at a fixed location in the aircraft;

determining the gas pressure in each selected container by determining the gas pressure in the charging device while the charging device is connected to each selected container;

interchanging gas between each said container and the common charging device, while each container is connected to the charging device, for adjusting gas pressure in each container to a desired value;

disconnecting each container, after adjusting the gas pressure therein to said desired value, from the common charging device;

sealing each container as the same is disconnected from the charging device;

and inspecting the charging device for evidence of contamination after disconnecting a container, whereby the pressure of contaminated gas in a given container is determinable while said contaminated container remains isolated from each of the other containers.

3,368,577
FLUID PRESSURE AMPLIFIER

Ben A. Otsap, North Hollywood, Calif., assignor to The Marquardt Corporation, Van Nuys, Calif., a corporation of California

Filed Dec. 4, 1964, Ser. No. 415,943
8 Claims. (Cl. 137—81.5)

1. A fluid pressure amplifier comprising:

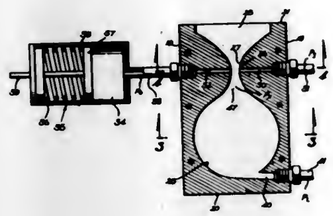
a casing containing a cylindrical fluid chamber;

a nozzle comprising a converging-diverging nozzle for connecting said chamber with exhaust pressure;

a supply port for connecting a fluid supply source with the throat of said nozzle for producing a fluid jet stream across said throat and a vortex flow in said chamber;

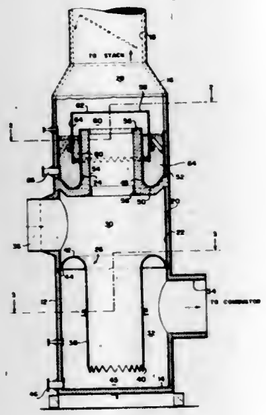
at least one output port connected with the throat of said nozzle substantially opposite said supply port for sensing an amplified output pressure; and

at least one signal input port connected with said chamber for introducing at least one variable signal pressure into said vortex to vary the static pressure



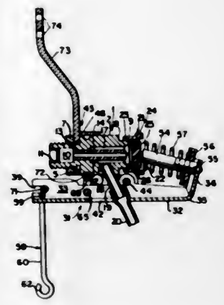
across said fluid stream and thereby deflect said stream in order to vary said amplified output pressure.

3,368,578
INTEGRAL SEAL POT ARRANGEMENT
William P. Long and William C. Chatman, Chester Township, and Kenneth A. Deghetto, Livingston, N.J., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Oct. 22, 1965, Ser. No. 501,541
5 Claims. (Cl. 137—251)



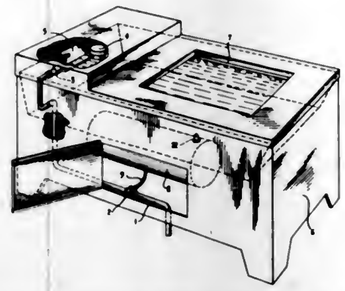
1. An integral seal pot arrangement comprising
an elongated vertically extending cylindrical metal shell;
an exhaust opening at the top of the shell, the shell bottom being closed;
lower outlet means in the vicinity of the shell bottom;
support means at the bottom of the shell;
a single supply conduit connected to said shell about midway between the shell top and bottom adapted to admit hot gas to the inside of the shell;
upper and lower baffle means above and below said supply conduit and between the supply conduit and the exhaust opening and lower outlet means respectively, each of said baffle means comprising a circular tube, a peripheral flange at one end of the tube adapted to support the tube axially in the shell, the other end of the tube being free, the flanges supporting the tubes so that the lower baffle means tube free end faces downwardly spaced from the bottom of the shell to define a first passageway and the upper baffle means tube free end faces upwardly, the baffle means flanges being welded continuously in a gas tight manner to the shell;
a second inverted cup-shaped gas-tight hood above the upper baffle means, the lower free edge of the cup-shaped hood extending below the upper baffle means free end and defining with the upper baffle means a second passageway, the second passageway communicating with the exhaust opening, and the first passageway communicating with the lower outlet means; and
means for admitting water into said shell above the upper baffle means and below the lower baffle means to levels covering said baffle means tube free ends to seal said first and second passageways to flow of gas therethrough.

3,368,579
POULTRY WATERING VALVES
James B. Godshalk, Yardley, Pa., assignor to Fox Products Company, Philadelphia, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 415,329, Dec. 2, 1964. This application Mar. 22, 1967, Ser. No. 625,267
9 Claims. (Cl. 137—403)



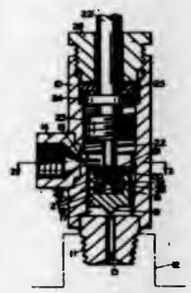
The invention provides a weight-operated poultry watering valve which can be converted from one mode of use to another simply by changing the manner in which a bracket is mounted on the valve body. The body has a longitudinally extending duct terminating in an orifice end, a chamber outside of the duct into which water from the orifice end flows when the valve is open, and a discharge opening communicating with that chamber and directed laterally of the body. A movable valve element, such as a flexible diaphragm, is carried by the valve body so as to be movable into engagement with the orifice end of the duct to close the valve, or away therefrom to open the valve. An elongated operating arm is pivotally carried by the bracket, and the bracket can be mounted selectively in either of two positions. In one bracket position, the arm extends generally lengthwise of and beside the valve body on the side thereof from which the discharge opening is directed. In the other position, the arm extends in the same general fashion, but adjacent the opposite side of the valve body. With the valve assembled with the arm in the first position mentioned, the valve can be rigidly supported, with the watering receptacle suspended from the operating arm. When assembled with the arm in the other position, the valve body is secured to the receptacle and the combination of the receptacle and valve is suspended via the operating arm.

3,368,580
MEANS AND METHOD OF SUPPLYING TREATED WATER TO LIVESTOCK
Mark L. Carter, P.O. Box 327, Hoven, S. Dak. 57450
Continuation-in-part of application Ser. No. 498,567, Oct. 20, 1965. This application Oct. 10, 1966, Ser. No. 601,247
3 Claims. (Cl. 137—412)



Apparatus for delivering water containing an automatically controlled proportion of liquid additive to an ordinary watering trough for livestock.

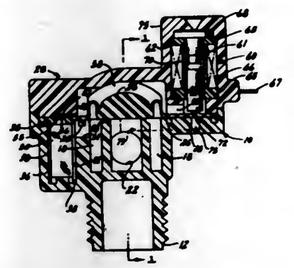
3,368,581
VALVE FOR ACETYLENE GAS AND THE LIKE WITH SAFETY SHUT-OFF
Homer Clifton Glover, Jr., 16065 NE. Rose Parkway, Portland, Oreg. 97230
Filed Sept. 24, 1965, Ser. No. 489,838
4 Claims. (Cl. 137—460)



A control valve for acetylene gas so constructed and arranged that, when the valve is open to allow the pressurized gas to pass through the gas line, any violent back pressure in the line will automatically cause the valve to close and to remain closed at least for the duration of the back pressure unless the valve is manually re-set during that time; the valve assembly, furthermore, having means causing some of the force and heat of a back pressure wave to be dissipated in the event the valve is not fully closed.

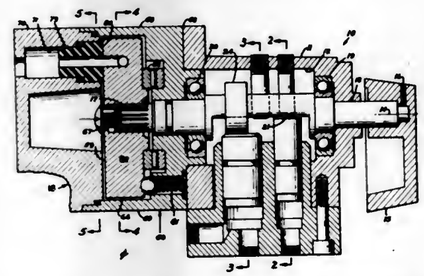
3,368,582
PILOT-OPERATED VALVE INCLUDING REMOVABLE FILTER
James A. Kozel, Franklin, and Darwin Robert Grahl, Lincoln Park, Mich., assignors to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 22, 1965, Ser. No. 450,086
7 Claims. (Cl. 137—549)

6. A pilot-operated valve comprising a valve body defining an inlet chamber outlet chamber and intervening valve seat formed in one of the valve body faces; an elastomeric diaphragm having its periphery located on said one body face and having its central portion movable toward and away from the seat; a pocket formed in said one body face in fluid communication with the inlet chamber; filter means disposed in said pocket to filter fluid passing therethrough; a diaphragm extension overlying the pocket in the valve body; a bleed opening in said diaphragm extension for accepting fluid from the filter means; a cover having one face thereof positioned on



said one value body face in clamping engagement with the diaphragm periphery and extension periphery; said cover having a pilot flow concavity in said one cover face for receiving fluid from said bleed opening and applying same to the face of the diaphragm remote from the valve seat; and solenoid means carried by the cover for controlling fluid flow out of the cover concavity; said filter means being dimensioned to fit snugly between the diaphragm extension and an opposing surface of the confining pocket.

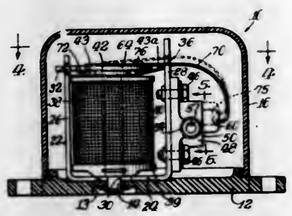
3,368,583
ROTARY VALVE OPERATOR INCLUDNG OPERATING AND CENTERING PISTON ASSEMBLIES
Paul J. Weaver, Pasadena, Calif., assignor to True-Trace Corporation, El Monte, Calif., a corporation of Connecticut
Filed May 26, 1965, Ser. No. 458,999
6 Claims. (Cl. 137—625.46)



1. A valve operator for selecting a valve position, comprising: a housing; a shaft rotatable around an axis in said housing, said shaft having a first and a second pair of reaction surfaces the members of the first pair and of the second pair of said reaction surfaces being radially spaced from said axis by a first and a second distance, respectively; a first and a second pair of force means, comprising a piston-cylinder assembly, the two assemblies of the first pair being adapted simultaneously to be joined to a common source of power, the two assemblies of the second pair being adapted selectively and individually to be connected to a source of power, the cross-sections exposed to power of the assemblies of the second pair of force means being greater than those of the first pair,

each said pair of force means including two elements, the elements of each of said last-named pairs being oppositely directed against a respective one of the reaction surfaces of a respective pair thereof; a first and a second pair of stop means, each pair of stop means comprising a stop member respective to one of said elements and obstructively in the path of movement thereof, the elements of the first pair of force means being coupled to produce simultaneous equal and opposite torques on the shaft through the respective first pair of reaction surfaces, the elements of the second pair of force means being adapted to exert non-simultaneous forces on the reaction surfaces of the second pair of a magnitude to overcome the torque of the opposing forces on the first pair of said reaction surfaces so as selectively to turn the shaft to a first or a second off-central position and, when the forces are equal on the elements of the second pair of force means, to enable the first pair of force means to turn the shaft to a central position, the first pair of stop means preventing the first pair of force means from turning the shaft to an off-central position, and the second pair of stop means preventing the second pair of force means from turning the shaft past respective off-central positions.

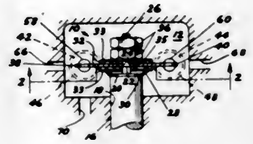
3,368,584
SOLENOID OPERATED VALVE ASSEMBLY
Gordon J. Fairbanks, Indianapolis, Ind., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Jan. 4, 1966, Ser. No. 518,574
10 Claims. (Cl. 137—625.65)



1. In combination, a solenoid, a valve body having at least first and second passageways therein, a valve member movable between a first operative position placing said first and second passageways in communication and a second operative position interrupting communication between said first and second passageways, resilient means adjacent its one end being mounted for movement relative to said solenoid and at its other end being connected to said valve member, said resilient means normally disposing said valve member in one of its operative positions, and said resilient means being movable upon energization of said solenoid whereby to effect movement of said valve member from said one operative position to the other.

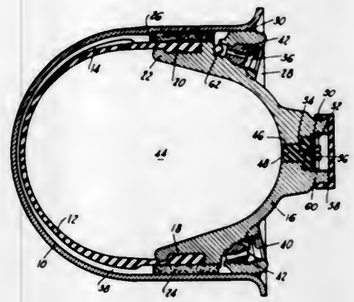
3,368,585
FRICTION DRIVE MECHANISM
Frank C. Karasinski, Jr., Utica, Mich., assignor to Holley Carburetor Company, Warren, Mich., a corporation of Michigan
Filed Mar. 29, 1965, Ser. No. 443,405
12 Claims. (Cl. 137—636)

1. A friction clutch mechanism comprising an input shaft; a pair of friction members fixedly secured to rotate with said shaft; an output member mounted freely on said shaft and confined between said friction members; resilient means confined between the outer face of one of said friction members and an abutment formed on said shaft; means for holding said pair of friction members, said output member and said resilient means together in a pre-



determined torque relationship; and an element positioned adjacent said output member, said element being at times contacted by said output member.

3,368,586
ACCUMULATOR
Charlie N. French and Thomas M. Julow, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Filed Sept. 1, 1965, Ser. No. 484,229
6 Claims. (Cl. 138—30)

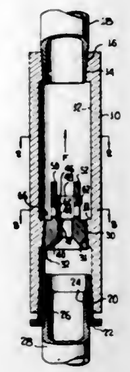


A clamping ring for joining a bladder to an end structure of an accumulator which closes the space between the end structure and the outer shell of the accumulator except for minute passages through the ring permitting fluid flow so as to prevent extrusion of the bladder because of internal pressure.

3,368,587
FLOW CONTROL APPARATUS
Arthur N. Wells, Belmont, Calif., assignor to Apparatus Controls, San Carlos, Calif., a corporation of California
Filed Nov. 19, 1964, Ser. No. 412,374
13 Claims. (Cl. 138—44)

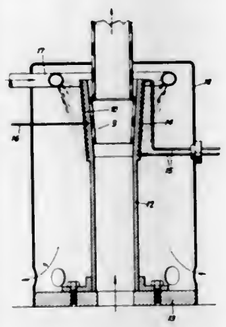
1. Flow control apparatus comprising elongated tubular laterally imperforate body means adapted to be connected to fluid flow conduit means, said body means having a central cavity formed therewithin, a nozzle portion supported by said body means and extending at least partly into said cavity to define an annular space between said nozzle portion and said body means, said nozzle portion having an axial bore formed therethrough, said bore including a tapered entry portion, an elongated axially extending intermediate throat portion of substantially uniform diameter in communication with said entry portion, and an elongated axially extending chamber portion of substantially uniform diameter in communication with said throat portion, said chamber portion opening into

said central cavity, said chamber portion having a greater cross sectional area than said throat portion, said nozzle



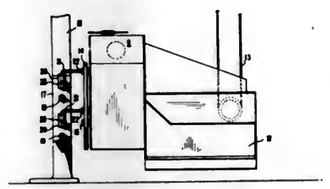
portion having a plurality of holes formed therein and providing communication between said chamber portion and said annular space.

3,368,588
SMOOTH PRECISION DIMENSIONAL BODIES OF VITREOUS MATERIAL AND METHOD AND APPARATUS FOR PRODUCING THE SAME
Otto Meyer, Wohlen, near Bern, Switzerland, assignor to Ronor S.A., Bern, Switzerland, a Swiss corporation
Continuation-in-part of application Ser. No. 357,608, Apr. 6, 1964. This application Aug. 17, 1966, Ser. No. 572,950
Claims priority, application Switzerland, Apr. 5, 1963, 4,402/63; Jan. 24, 1964, 905/64; Aug. 18, 1965, 11,626/65
9 Claims. (Cl. 138—178)



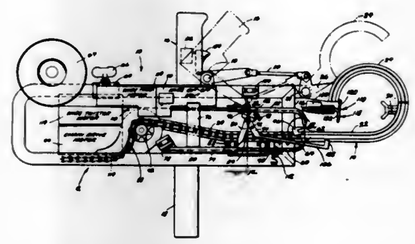
A method and apparatus for forming an accurately dimensioned surface on a vitreous body which includes placing a vitreous body surface having the approximate dimensions desired inside an accurately dimensioned metallic mold and maintaining the surface of the vitreous body to be accurately dimensioned in contact with the accurately dimensioned mold surface while both have a temperature above the upper limit of the transformation temperature of the vitreous material and cooling both the mold and the vitreous body while they remain in contact to a temperature below the upper limit of the transformation range of the vitreous material.

3,368,589
MOUNTING FOR BOBBIN STRIPPER
Franklin E. Luckey, Rte. 1, Box 550-D-6, Mount Holly, N.C. 28120
Filed June 7, 1966, Ser. No. 555,910
5 Claims. (Cl. 139—264)



1. In an automatic bobbin-changing loom having bobbin winding means, replenishing means, bobbin stripping means mounted on the loom frame for removing residue yarn from exhausted bobbins and conveying means for returning stripped bobbins to the bobbin winding means, the improvement comprising vertical pivot means mounting said bobbin stripping means on said loom frame, said pivot means including lock means for locking the bobbin stripping means in operable position, whereby upon release of said lock means said bobbin stripping means may be pivotally swung out of operable position to facilitate repair of said loom and associated bobbin handling equipment.

3,368,590
WIRE-TYING MACHINE
David P. Welden, N. Indiana Ave., Iowa Falls, Iowa 50126
Filed June 28, 1965, Ser. No. 467,665
16 Claims. (Cl. 140—93)



A wire-tying device having a generally U-shaped track for extending around workpieces to be tied, a chain movable on the track and carrying a hook means adapted to engage wire and move it along the track around the workpieces, and a wire twister for engaging the ends of the wire and tying them around the workpieces. The track may be opened by pivoting one leg outwardly to provide an access opening to receive and remove workpieces from inside the track. The hook means on the movable chain may include a pair of grooves which intersect, one of the grooves being deeper than the other groove, the other groove receiving the tying wire and the one groove receiving the free end of a U-shaped rod element in the wire twister.

3,368,591
FLUID OR LIQUID GAS SPRAY ASSEMBLED WITH TRANSPARENT GRADUATED CONTAINER AND DEVICE FOR RECHARGING AND DISCHARGING THE FLUID INTO ANOTHER CONTAINER

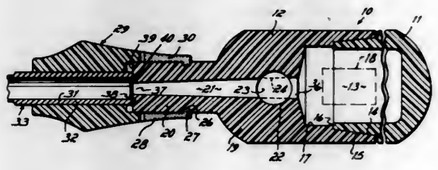
Michele Zerbetto, Via Varese 5, Rome, Italy
Filed Dec. 30, 1964, Ser. No. 422,266
Claims priority, application Italy, Nov. 25, 1964, 25,159/64
3 Claims. (Cl. 141—20)



1. A sprayer for pressurized fluids and liquid gases comprising: an injection-moulded perfectly transparent hollow body of cellulose acetate, said body having a bottom wall, said body having a cylindrical side wall extending from said bottom wall, said side wall having a smooth interior surface and having graduations thereon for indicating the volume of the liquid at any given time, said body having an open upper end with a flange projecting outwardly at a right angle from said upper end, said flange having an upper surface provided with a plurality of concentric grooves, a valve having a lower cylindrical portion which extends into the body and engages the smooth interior side wall of the body, said valve having a sealing gasket engaging the concentric grooves of said flange, said valve having an outer circumferential edge folded over said flange and securing said valve to the body with the sealing gasket and the edge sealing the valve to the body, and said valve having a resilient complementary member removably mounted thereon for activating the valve.

3,368,592
DEVICE FOR MIXING AMALGAM AND LOADING IT INTO A TUBE

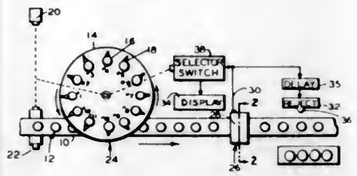
Charles J. Thiel, 625 6th Ave., and Louis J. Michaels, 1210 6th Ave., both of Dayton, Ky. 41074
Filed Oct. 22, 1965, Ser. No. 501,098
6 Claims. (Cl. 141—69)



1. A device for loading amalgam into a tube comprising,
- a capsule having walls forming a closed receptacle,
- an elongated passageway in an end wall of said capsule,
- a tube removably mounted on the end wall at the outer end of said passageway and forming a continuation of said passageway, and
- said tube and passageway being concentric at their junction, and at their junction said tube having a larger inside diameter than said passageway, thereby forming an outwardly facing annular shoulder in said passageway at the junction of said tube and passageway which impedes movement of amalgam from said tube into said passageway.

3,368,593
ORIGINATING FILLER IDENTIFICATION SYSTEM

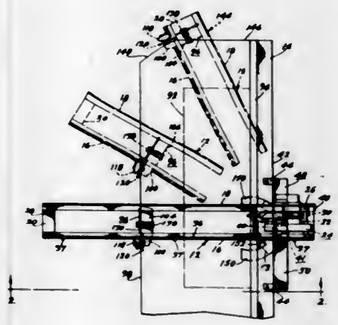
Leo G. Mamas, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Oct. 9, 1964, Ser. No. 402,851
8 Claims. (Cl. 141—83)



1. A material dispenser having a plurality of filler pockets each one of which periodically originates a filled container by filling one of a number of containers passing adjacent to said pockets, apparatus comprising:
- means to be located downstream from said dispenser for individually examining each of said filled containers and for generating a signal whenever one of said examined containers is improperly filled,
- a display having separate indication means designating each of said filler pockets, and
- switch means responsive to said signal for selectively energizing said indicator means designated for said filler pocket originating said improperly filled container.

3,368,594
MITER GUIDE FOR PORTABLE POWER SAWS

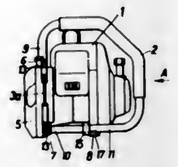
Allen L. Drumbore, Old Bethlehem Road, M.R. 1, Perkasie, Pa. 18944
Filed Apr. 18, 1966, Ser. No. 543,330
11 Claims. (Cl. 143—6)



1. A miter guide for portable power saws comprising a table, a track assembly disposed in spaced parallel relation above said table, said track assembly being adapted to receive a portable power saw for guiding said saw across said table, a pivot assembly on said table supporting one end of said track assembly and permitting a pivoting thereof to the desired angular position with respect to said table, said pivot assembly including means permitting adjustment of the pivot point of said track assembly with respect to said table and said track assembly, and positioning means slidably mounted on said track assembly spaced from said pivot assembly for releasably securing said track assembly in the desired angular position on said table, said positioning means comprising a spring-loaded plunger having means thereon adapted to engage the underside of said table.

3,368,595
MOTOR CHAIN SAW

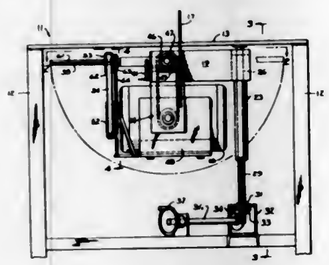
Karl Gutjahr, Wendlingen (Neckar), Germany, assignor to Andreas Stihl Maschinenfabrik, Waiblingen, Neustadt, Germany
Filed Mar. 14, 1966, Ser. No. 534,125
Claims priority, application Germany, Mar. 13, 1965, St 18,410
9 Claims. (Cl. 143—32)



1. A motor chain saw, which comprises: a driving unit including a crank case and a crank-shaft rotatably mounted in said crank case and a driving pinion rotatably connected to said crank-shaft, guiding rail means detachably connected to said driving unit, a saw chain guided by said guiding rail means and drivingly connected to said pinion, cover means detachably connected to said driving unit to cover said pinion toward the outside of said motor chain saw, handle means having two spaced portions thereof firmly connected to said cover means, and plug-socket connecting means detachably connecting said handle means to said driving unit thereby permitting withdrawal of said cover means and said handle means together as a unit from said driving unit.

3,368,596
MULTI-PURPOSE TABLE SAW

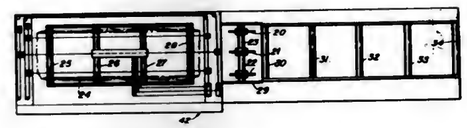
John A. Comer, 1949 W. Winton, Hayward, Calif. 94545
Filed July 9, 1965, Ser. No. 470,758
9 Claims. (Cl. 143—36)



A table saw is described in which the plane of the cutting head may be varied through 180° and which is arranged for use with a variety of cutting heads. The saw comprises a table having a carriage mounted subjacent its top for selective vertical translation relative thereto. A yoke mounted on the carriage for pivotal movement through 180° about a horizontal axis has a cutting head spindle journalled therein for rotation about an axis at right angles to the yoke axis. A crank wheel is coupled through suitable gearing to the yoke for selectively rotating such crank wheel through the 180° to position the plane of a cutting head mounted to the spindle at a desired angular position. A motor for driving the cutting head is mounted on the carriage and drive means couple such motor to the spindle in all pivotal positions of the yoke.

3,368,597
GUIDELINE PROJECTOR

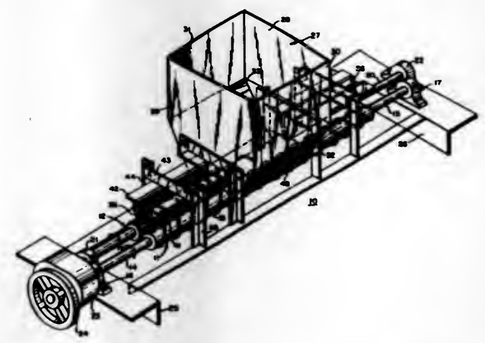
Andrew G. Carter, 2930 Lake Drive SE., Grand Rapids, Mich. 49506
Filed Nov. 9, 1964, Ser. No. 409,906
9 Claims. (Cl. 143—168)



1. In combination with a machine having means receiving workpieces for movement along a path in a particular direction, said machine having operating means for engaging said workpieces at least at one variable position within the width of said path, a guide device comprising:
- a frame having parallel guideways disposed substantially horizontally and transversely to and above said path, said guideways being formed by parallel rods;
- a light source mounted for vertical adjustment on said frame above and between said guideways, said light source being adapted to project a beam of light downwardly on said path;
- at least one pair of opposite carriers mounted in said guideways, respectively, said carriers including blocks slidably engaging said rods, said blocks having means for connection to said line members, and also having at least one hole parallel to said guide ways and a member adjustably intersecting said hole;
- a line member extending between said carriers; and
- positioning means for selectively moving said carriers in said guideways in a related movement whereby said line member remains parallel to the direction of said path; and
- control means relating said positioning means to said machine whereby said line member projects a shadow line on said path projected ahead of said operating means.

3,368,598
NUT-HUSKING APPARATUS

Atsumi Nakano, 349B Kukuau St., Hilo, Hawaii 96720
Filed Nov. 8, 1965, Ser. No. 506,674
9 Claims. (Cl. 146—8)



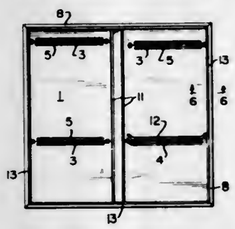
Macadamia nuts are husked by delivery to a pair of parallel counter-rotating scrolls. A pressure bar above the scrolls presses the nuts onto the scrolls to break and strip the husks from the nuts.

3,368,599
FLEXIBLE STRUCTURE CLOSURE
William J. Dailey, Santa Fe Springs, and Archie B. Miller, La Habra, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Mar. 18, 1966, Ser. No. 535,405
1 Claim. (Cl. 150—8)



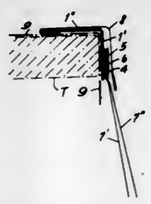
A flexible inflatable tubular boom for a flexible wing vehicle has a normally circular, resilient, peripheral enlargement at an open end thereof which is sealed by inserting therein a plate with a peripheral chamfer. A ring with an integral flange is bolted onto the plate to form a triangular enclosure for the normally circular enlargement which is thereby deformed to a flattened three-sided figure in sealing engagement with the chamfer for sealing of the tube and providing mechanical connection means therewith.

3,368,600
FOLIO CONSTRUCTION
Jerome F. Coniker, Highland Park, Ill., assignor to Coniker Enterprises, Inc., Chicago, Ill., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,845
5 Claims. (Cl. 150—28)



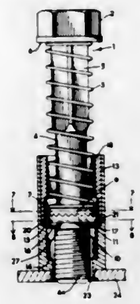
This invention discloses a folio formed of one or more sheets of a suitable plastic or other material, said sheets being sealed together and creases formed therein by heat and radio frequency waves.

3,368,601
TABLE TRIMMING
Margaret Gantert-Merz, 2532 Magglingen, Switzerland
Filed Aug. 12, 1966, Ser. No. 572,085
6 Claims. (Cl. 150—52)



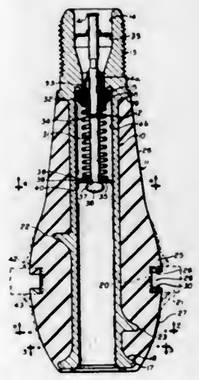
1. A table trimming comprising a frame-forming holder that includes a vertical leg enclosing the table-top and a horizontal leg lying on the circumferential side of the table-top, said two legs being formed by semistiff bands that are elastic in tension, stand at an angle to each other and are hingedly interconnected at the apex of the angle, and a flounce detachably secured to the vertical leg.

3,368,602
SELF-LOCKING CAPTIVE SCREW ASSEMBLY
Thomas R. Boyd, Rolling Hills, Calif., assignor, by mesne assignments, to Tridair Industries, Redondo Beach, Calif.
Filed Apr. 1, 1966, Ser. No. 539,335
6 Claims. (Cl. 151—13)



This disclosure describes a fastener assembly including a screw, a nut, and means for preventing the nut and screw from unintentionally separating in response to vibrational forces. In the specific embodiment illustrated this last mentioned means includes a pair of ratchet plates, one of which is fixed against rotation and the other of which is rotatable with the screw. The ratchet plates are resiliently held together and the screw is preferably resiliently urged axially relative to the nut.

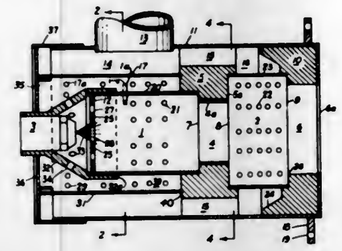
3,368,603
VALVE STEM FOR TUBELESS TIRES AND THE LIKE
Theodore F. Kuzyn, New Hyde Park, N.Y., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Mar. 30, 1966, Ser. No. 538,806
9 Claims. (Cl. 152—427)



A valve comprising a rigid tubular insert having a covering of rubber-like material held on said insert in unbonded relation thereto, the insert having thereon external projecting means engaging within the covering to prevent relative rotation between the insert and the covering while

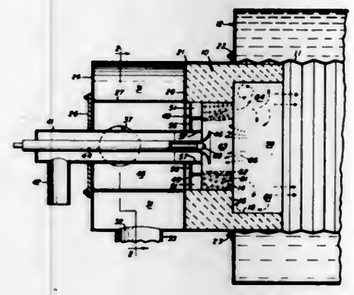
permitting the covering material to flow under stress between said projecting means, the projecting means being such as to permit mounting the valve in the opening of a support and prevent pull out of the insert from said opening and from said covering.

3,368,604
COMBUSTION APPARATUS
Paul A. Mutchler, University City, Mo., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed June 14, 1966, Ser. No. 557,493
9 Claims. (Cl. 158—4)



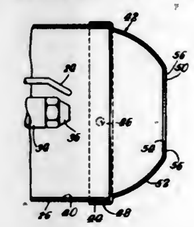
A fuel burning combustion device including two combustion chambers connected by a restrictive orifice and adapted to receive combustion air from a common air supply means so the distribution of air between the combustion chambers is in proportion to the intensity of the combustion occurring in the chambers.

3,368,605
BURNER ASSEMBLY FOR LEAN FUEL GASES
Robert D. Reed, Tulsa, Okla., assignor to John Zink Company, Tulsa, Okla., a corporation of Delaware
Filed Feb. 3, 1966, Ser. No. 524,727
2 Claims. (Cl. 158—7)



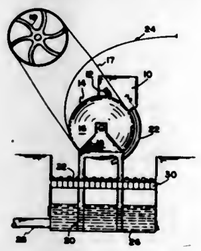
1. In apparatus for the combustion of lean fuel gases, a ceramic member having a central opening therein defined by a substantially cylindrical surface, said ceramic member having a second opening at the downstream end thereof defined by a substantially cylindrical surface of larger diameter than said central opening, an annular shoulder on the ceramic member disposed in a plane substantially at a right angle to the axis of said central opening and defining the downstream end thereof and defining the upstream end of the second opening, a tubular member extending into the upstream portion of the central opening for guiding fuel gas thereinto, means for diverting the fuel gas generally radially outwardly from said tubular member adjacent the upstream portion of said central opening, means providing an annular chamber around said tubular member, means for guiding air into said chamber, a vane unit disposed around said tubular member within the upstream portion of said central opening, said vane unit having vanes which slope in the same manner in proceeding in one direction circumferentially of the ceramic member, the downstream edge portion of each vane overlapping the upstream edge portion of an adjacent vane whereby substantially all of the air from said chamber in moving through said vanes is deflected circumferentially within the central opening and in the presence of the diverted fuel gas, and means releasing minor quantities of air from said chamber and minor quantities of fuel gas from within said tubular member at locations radially inwardly of said vane unit for axial downstream movement around said fuel diverting means.

3,368,606
COMBUSTION APPARATUS
Thomas E. Emmert, Lebanon, Ind., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed July 18, 1966, Ser. No. 566,067
5 Claims. (Cl. 158—76)



The following specification describes a fuel burner in which the fuel ejected from a nozzle is mixed with swirling axially directed air and passed through axially aligned apertures spaced around the central opening of an air cone located in front of the nozzle to establish a stable flame in front of the nozzle.

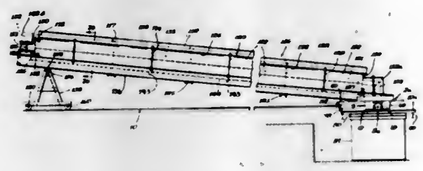
3,368,607
METHOD FOR PREVENTING METAL-LIQUID EXPLOSIONS IN CASTING OPERATION
Richard J. Maddigan, Kensington, Calif., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 500,516
1 Claim. (Cl. 164—1)



This disclosure relates to a method for preventing metal-liquid explosions in a casting operation wherein a liquid spray is used to cool the metal and liquid is thereafter collected in a sump below the casting apparatus. The method comprises mounting a support in the sump above the liquid level therein and below the casting apparatus, and placing a liquid-permeable filter on the support in the sump above the liquid level and below the casting apparatus. Thus, in this arrangement, liquid and

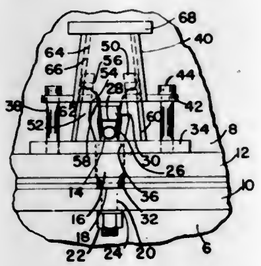
droplets of molten metal will pass through the liquid-permeable filter in a fine dispersion while a mass of molten metal will collect and solidify on the surface of the filter instead of passing through and reaching the body of liquid therebelow, whereby a metal-liquid explosion is prevented.

3,368,608
BOTTOM CASTING METHOD
James Woodburn, Jr., Wheaton, Ill., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey
Continuation of application Ser. No. 279,682, May 7, 1963, which is a continuation of application Ser. No. 122,061, June 30, 1961, which in turn is a continuation of application Ser. No. 830,428, July 29, 1959. This application Mar. 7, 1966, Ser. No. 532,452
2 Claims. (Cl. 164—130)



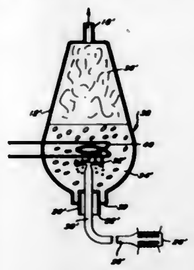
In a bottom pressure casting arrangement a plurality of elongated molds are moved into proximity with a ladle of molten metal having a pouring tube open at the top and extending downwardly into the molten metal. The molds are provided with an ingate arrangement which is engageable with the pouring tube upon combined rotational and translational movement of the mold.

3,368,609
LOCK FOR FOUNDRY FLASKS
Stanley E. Wood, 1104 5th Ave., Grafton, Wis. 53024
Filed Oct. 24, 1965, Ser. No. 504,907
5 Claims. (Cl. 164—386)



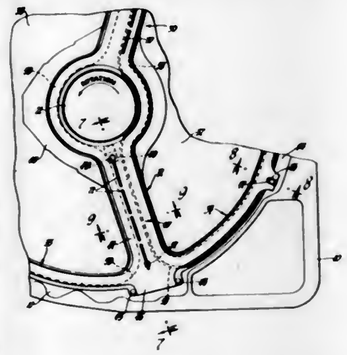
1. A lock for connecting cope and drag flasks used in a foundry and having complementary rails, said lock comprising a taper pin connected with the rail of one flask and projecting through an aperture with which the rail of the opposing flask is provided, a jaw having a lock surface complementary to that of the taper pin and normally spaced therefrom, and a wedge housing having a camming surface engageable with said jaw for camming the jaw into operative engagement with the taper pin, and means mounted on said other flask for positioning the jaw and the wedge housing and for guiding the wedge housing for reciprocation axially of the taper pin.

3,368,610
SUPERHEATING PREVENTION AND BOILING CONTROL
Herbert Kartluke and Charles A. Boyd, West Chester, Pa., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed July 8, 1965, Ser. No. 470,540
8 Claims. (Cl. 165—1)



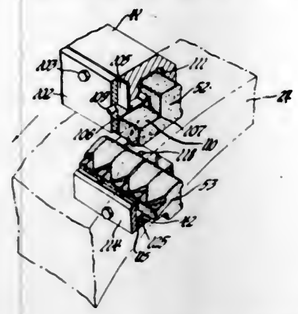
The disclosure describes the discovery of the prevention of superheating in a boiling fluid by the use of vibrational energy to produce cavitation within a heated fluid thereby providing nucleation center for the formation of vapor-containing bubbles.

3,368,611
ROTARY REGENERATOR SEAL WITH HIGH PRESSURE FLUID RECOVERY
Joseph W. Bracken, Jr., Redford Township, and Richard M. Zeek, Utica, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 21, 1967, Ser. No. 655,174
8 Claims. (Cl. 165—7)



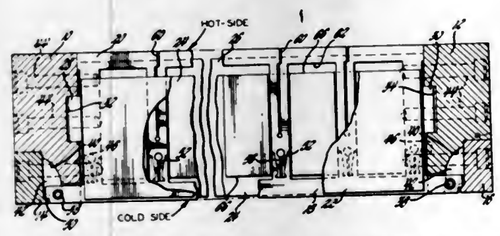
An axial-flow rotary regenerator having main and by-pass seals embodying a common seal shoe, supported from a backing plate by yieldable walls, extending around the two gas paths. There are, thus, two yieldable walls underlying the cross-arm seals. The cross-arm seals are ported and these ports, with the passage between the yieldable walls, provide a cross-connection between the two arms of the cross-arm seal and provide an intermediate pressure which is communicated radially along the cross-arms to the outer diameter of the disk and into the central hole in the matrix. The location of the ports determines the intermediate pressure and the form of the pressure gradient curve across each seal. These factors are taken in connection with the structure and location of the yieldable walls to provide a desired balance of forces and moments on the cross-arm seal.

3,368,612
REGENERATOR SEAL
Earl R. Brummett, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 9, 1966, Ser. No. 593,200
26 Claims. (Cl. 165—9)



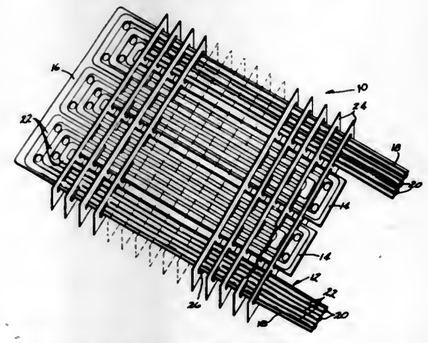
7. A rotary regenerator comprising, in combination, stationary structure including a bulkhead having an opening,
a pervious heat exchange matrix,
means mounting the matrix for movement such that the matrix passes through the opening,
the matrix being pervious to fluid flow in a direction generally parallel to the bulkhead,
the matrix having a sealing surface through which fluid flows, and including a grid-like structure dividing the surface into cells and blocking fluid flow between the cells, the cells being much wider in the direction of movement of the matrix than in the transverse direction,
a seal on the bulkhead extending transversely to the direction of movement of the matrix in contact with the said sealing surface,
the width of the seal in the direction of matrix movement being at least approximately twice the width of the cells in such direction,
the face of the seal in contact with the matrix being relieved toward the trailing portion thereof so that the contact area decreases gradually from continuous contact to no contact over approximately the trailing half of the width of the seal.

3,368,613
ROTARY REGENERATOR MATRIX SEAL WITH TENSIONING MEANS
Albert N. Addie, La Grange Park, and Jack P. Hart, Hinsdale, Ill., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 484,219, Sept. 1, 1965. This application June 12, 1967, Ser. No. 653,288
13 Claims. (Cl. 165—9)



A labyrinth sealing arrangement in a rotary regenerator matrix of the drum type. The matrix has rims which are spaced by stiffeners. Labyrinth sealing strips at the outer, cold side and inner hot side are mounted in structure which prevents any pressure loading against them by the heat transfer pack. The cold side sealing strips are held in tension between the two rims, and the hot side strips are segmented and are connected to the cold side strips so as to be aligned by the cold side strips. This tension tends to keep the cold side strips and, therefore, the hot side strips straight, and allows them to remain substantially straight notwithstanding thermal distortion of the heat transfer pack and the tendency of the sealing to distort because of temperature gradients. A cold side strip of high heat conductivity may further reduce distortion.

3,368,614
HEAT EXCHANGER
George A. Anderson, Northford, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed June 24, 1963, Ser. No. 290,052
10 Claims. (Cl. 165—82)



1. A heat exchange device comprising:
(A) a substantially flat, seamless, integral sheet metal structure having
(1) a plurality of parallel elongate spaced apart sheet elements lying in a common plane,
(2) an elongate sheet element formed integrally with said plurality of sheet elements along adjacent ends thereof, said later sheet element lying in said common plane and extending in a direction transverse to that of said plurality of sheet elements,
(B) at least one tubular passageway internally disposed within said structure and traversing said structure in a sinuous pattern over all said sheet elements,
(1) said passageway being defined by opposed portions of the thickness of said structure bulged out of the planes of opposing surfaces of said structure over said sinuous pattern thereby forming opposed spaced apart walls,
(2) said passageway having open terminal portions, and
(C) a plurality of heat dissipating fins mounted on said structure in parallel spaced apart relationship and in intimate contact with said spaced apart walls of said passageway,
(1) said fins extending transversely across said plurality of sheet elements for substantially the full width thereof and lying in planes disposed substantially perpendicularly to said common plane,
(2) each said fin having a plurality of slots formed therein and spaced apart in correspondence to said spaced apart sheet elements, said slots being at least equal in length to the width of one

of said plurality of sheet elements but being greater in width than the unexpanded thickness of said plurality of sheet elements,

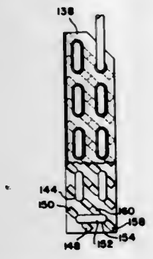
(3) each said fin further having means formed integrally therewith adjacent opposite longitudinal edges of said slots and operatively associated with said spaced apart walls for applying substantially equal and opposite moments to said fin whereby said fin remains erect and substantially perpendicular to said common plane.

3,368,615

HEAT EXCHANGER CONSTRUCTION

Richard C. Brown and Robert S. Hanson, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 2, 1965, Ser. No. 511,187
6 Claims. (Cl. 165—149)



In a preferred form, a three-piece heat exchanger construction including spaced-apart side members, a tube member having a plurality of upper and lower passes joined by a plurality of return bends to form a continuous fluid flow path, the side members supporting the return bend portions, each of the return bend portions and passes including a plurality of spaced-apart integral fins thereon, the spaced-apart integral fins on the return bends being located on the inner periphery thereof in engagement with one another to maintain a predetermined return bend radius, the passes being joined to the return bends to form a helical coil between the side members and the two passes being twisted along their length between the return bends to place the outwardly directed fins in intersecting relationship.

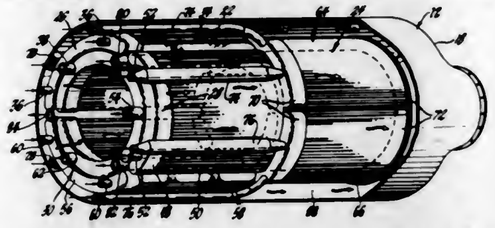
3,368,616

GAS TURBINE RECUPERATOR

James H. Adams, Mooresville, and Paul E. Beam, Jr., and Esten W. Spears, Jr., Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 1, 1966, Ser. No. 539,344
10 Claims. (Cl. 165—164)

1. A recuperator for a gas turbine engine or the like, comprising, in combination, a cylindrical housing having radially inwardly extending portions at its forward and aft ends forming an inlet and an outlet, respectively, a first set of recuperator modules disposed in said housing adjacent said inlet, each of said modules comprising an arcuate header having an inlet chamber and an outlet chamber, a plurality of circumferentially spaced axially rearwardly extending U-tubes having its free ends in communication with said inlet and outlet chambers, respectively, inlet means for said inlet chamber, and outlet means for said outlet chamber, said inlet and outlet means extending through said forward portion of said housing whereby said first set is adapted to have a fluid flow therethrough, said modules being circumferentially spaced so that said first set is somewhat annular in cross section, and radially spaced from said housing to form a first central passage within said first set and a first annular passage between said first set and said housing, a second set of recuperator modules disposed in said housing axially adjacent said first set, each of said modules comprising an arcuate header having an inlet chamber and an outlet chamber, a plurality of circumferentially spaced, axially rearwardly extending U-tubes having its ends in communication with said inlet and outlet chambers, respectively, inlet means for said inlet chamber and outlet means for said outlet chamber, said inlet means and outlet means extending through said forward portion of said housing



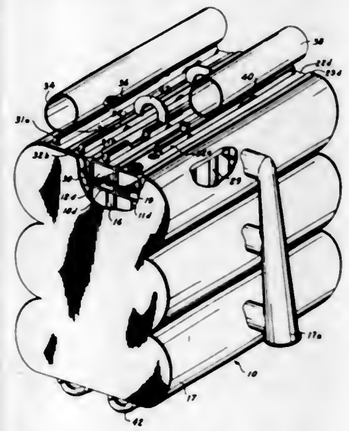
whereby said second set is adapted to have a fluid flow therethrough, said modules being circumferentially spaced so that said second set is somewhat annular in cross section and radially spaced from said housing to form a second central passage continuous with said first central passage and a second annular passage continuous with said first annular passage, and closure means mounted axially adjacent the aft end of said second set of recuperator modules to block said central passage, said closure means being axially spaced from said exit whereby said recuperator is adapted to have exhaust gases flow axially thereinto and radially outwardly into a heat transfer relationship with said first and second sets of modules and into the annular passage between said sets of modules and said housing, said exhaust gases exiting through said outlet.

3,368,617

HEAT EXCHANGER

Irwin E. Rosman and Albert Malek, Woodland Hills, Calif., assignors to The Marquardt Corporation, Van Nuys, Calif., a corporation of California

Filed Dec. 26, 1961, Ser. No. 161,840
8 Claims. (Cl. 165—175)



1. A heat exchanger comprising:

a heat exchanger cell including a plurality of tube and header assemblies having outer, low-temperature walls forming closed ducts with inner, high-temperature walls, said tube and header assemblies being rigidly joined together only along their outer, low-temperature walls in side-by-side, abutting relationship;

a sealed duct housing said cell, said sealed duct being rigidly affixed to said cell only along said outer low-temperature walls;

means placing said tube and header assemblies in hydraulic communication with each other;

first conduit means for admitting coolant to, and withdrawing spent coolant from, said cell; and

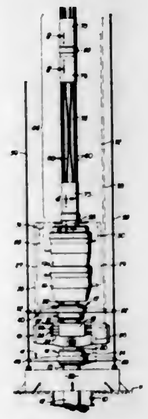
second conduit means for circulating a fluid to be cooled through said sealed duct into heat exchanger relation with said cell.

3,368,618

CONDUIT COUPLING WITH MULTIPLE FLUID LINES

Granville S. Knox, Glendale, Calif., assignor to Hydril Company, Los Angeles, Calif., a corporation of Ohio

Filed Oct. 3, 1963, Ser. No. 313,468
16 Claims. (Cl. 166—.5)



The disclosed invention concerns an underwater conduit string, the conduit having terminal flanges with ducts opening at the flanges, a differential thread connector being operable to draw the flange terminals together for bringing successive ducts into series communication. The conduit or well casing communicates with the well interior, and the ducts communicate pressure to underwater actuators. Also, the ducts may communicate with the actuators via radially outwardly opening delivery ports in a lower conduit and transfer pipes.

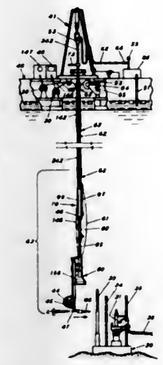
3,368,619

METHOD AND APPARATUS FOR WORKING ON UNDERWATER WELLS

William R. Postlewaite, Menlo Park, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Filed June 13, 1966, Ser. No. 557,236
6 Claims. (Cl. 166—.6)

6. The method of connecting a guideline to a submerged guidepost comprising detachably mounting a guideline coupling element adjacent the lower end of a string of pipe, said coupling element having a guideline connected thereto, lowering said string of pipe vertically from said platform to place said lower end in the vicinity of said guidepost while retaining the upper end portion of said string of pipe at said platform, determining the position of said lower end of said string of pipe in relation to said guidepost, moving the lower end of said string of pipe toward and into contact with a side wall of said guidepost in a position oriented to dispose said coupling element approximately axially above said guidepost, lowering said string of pipe from said platform while maintaining said contact between the said lower end of said string of pipe and said wall of said guidepost,



lowering and guiding said connector element into coaxial alignment with said guidepost while continuing the lowering of said string of pipe until said connector element is placed in mating engagement with a complementary connector element on said guidepost to connect said guideline to said guidepost and raising said string of pipe to said platform while leaving said guideline connected to said guidepost.

3,368,620

OIL RECOVERY PROCESS

Robert R. Harvey, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed June 18, 1965, Ser. No. 465,165
10 Claims. (Cl. 166—9)

Oil is produced from an oil stream by forming a bank of vacuoles comprising double-walled globules of an ester of a fatty acid of 12 to 20 carbon atoms and a polyhydric alcohol (a glycol or a glycerol) and water around an injection well and driving the bank of vacuoles toward an offset production well so as to displace oil thereinto, leaving the stratum of oil wet, and the displaced oil is recovered from the production well.

3,368,621

OIL RECOVERY WITH MISCIBLE DRIVES INCORPORATING IN SITU MODIFICATION OF MISCIBILITY

Joseph Reisberg, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 6, 1965, Ser. No. 511,971
3 Claims. (Cl. 166—9)

1. An improved miscible displacement method for displacing oil from reservoirs penetrated by at least one injection well and at least one production well spaced therefrom comprising:

(a) injecting a slug of liquid, preferentially oil-soluble, carboxylic acid having from 4 to 10 carbon atoms which is a precursor of a solution of a water-soluble alkali metal salt of the acid;

(b) subsequently injecting an aqueous driving medium containing sufficient alkali metal hydroxide to convert all of said injected liquid acid to its preferentially water-soluble alkali metal organic salt; and,

(c) recovering oil displaced by the injection of the liquids from the reservoirs via the production well.

3,368,622
RETARDING SPONTANEOUS IGNITION DURING REVERSE COMBUSTION

Frederick A. Klein and Ralph E. Gilchrist, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Aug. 2, 1965, Ser. No. 476,755
7 Claims. (Cl. 166—11)

Spontaneous ignition of crude oil in an oil stratum is prevented by injecting a slug of a liquid amine into the stratum surrounding an injection well and thereafter injecting air or other combustion supporting gas thru the ignition well into the stratum to be produced by reverse in situ combustion.

3,368,623
PERMEABLE CEMENT FOR WELLS

Lloyd G. Carter and Dwight K. Smith, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware

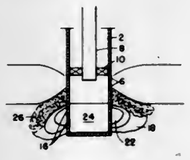
No Drawing. Filed May 3, 1965, Ser. No. 452,927
15 Claims. (Cl. 166—12)

Method of providing a permeable lining in a well by injecting into the space between the bore hole and the casing a hardenable well lining material containing a removable filler material, and removing the filler material after the hardenable material has solidified in the annular space. The lining thus formed permits the passage of formation liquids from a producing region surrounding the well into the bore hole, while restricting the passage of formation fines.

3,368,624
CONTROL OF GAS-OIL RATIO IN PRODUCING WELLS

George J. Heuer, Jr., Martin Felsenthal, and Claude L. Jacocks, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Oct. 1, 1965, Ser. No. 492,064
7 Claims. (Cl. 166—29)



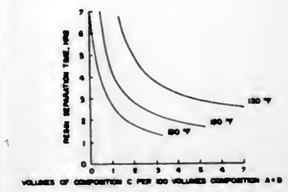
A method of decreasing the ratio of gas and/or water produced along with oil in a well by injecting therein a foaming agent and, optionally, an aqueous medium to form a foam plug in situ in the path of the gas or water.

3,368,625
PROCESS FOR CONSOLIDATING EARTH FORMATIONS

Clifford V. Wittenwyler, Union, N.J., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Aug. 24, 1964, Ser. No. 391,442
4 Claims. (Cl. 166—33)

A method for consolidating unconsolidated earth formations by forming (1) an aromatic hydrocarbon composition having at least 80% aromatics and containing a polyepoxy resin, (2) a 50–70% aromatic containing hydrocarbon solvent containing a cycloaliphatic polyamine, blending compositions (1) and (2) in approximately equal volumes and optionally adding thereto up to 7%



of a mixture of a phenol in a polar-containing solvent, and thereafter injecting and retaining the resulting blended mass into the formation until consolidation is achieved.

3,368,626
METHOD FOR CONSOLIDATING A PERMEABLE MASS

Cornelis Bezemer, Franciscus H. Meijs, and Marinus Van Zanten, Rijswijk, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

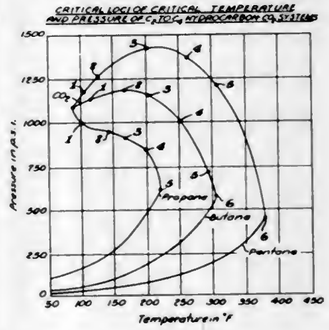
No Drawing. Filed Mar. 24, 1965, Ser. No. 442,515
Claims priority, application Great Britain, Mar. 26, 1964, 12,985/64, 12,986/64
3 Claims. (Cl. 166—33)

A method of consolidating permeable formations comprising injecting therein an organic solution containing (1) a resin forming composition and (2) a metal organic compound having at least one functional group reactive with the formation and one which is reactive with the resinous composition.

3,368,627
METHOD OF WELL TREATMENT EMPLOYING VOLATILE FLUID COMPOSITION

Robert E. Hurst and Charles F. Smith, Tulsa, Okla., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Mar. 21, 1966, Ser. No. 536,062
5 Claims. (Cl. 166—42)



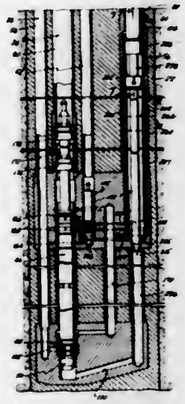
A method of stimulating fluid flow from a formation by way of a wellbore penetrating the formation which method consists essentially of injecting down the wellbore and into the formation a fluid azeotropic mixture which has a critical temperature sufficiently high or a critical pressure

sufficiently low to remain a liquid at the temperature and pressure existing during injection down the well but a critical temperature sufficiently low or a critical pressure sufficiently high for a substantial portion of such injected fluid to be converted to a gas upon a release of the pressure applied to the liquid during injection.

3,368,628
MULTIPLE ZONE WELL COMPLETION WITH COMMON INLET AND PRODUCTION TUBINGS

Clarence J. Coberly, San Marino, Calif., assignor to Kobe, Inc., Huntington Park, Calif., a corporation of California

Filed Mar. 4, 1965, Ser. No. 437,105
9 Claims. (Cl. 166—68)



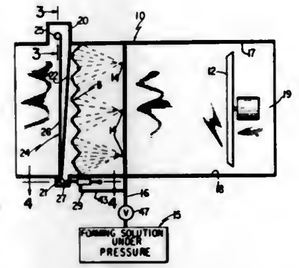
A multiple-zone oil-well completion having a common inlet tubing in communication with the various zones above its lower end and connected at its lower end to a common production tubing alongside the inlet tubing, the two tubings forming a U-tube. A fluid operated pump in the production tubing pumps oil downwardly through the inlet tubing and then upwardly through the production tubing while gas flows upwardly through the inlet tubing. A supply tubing conveys operating fluid under pressure to the pump to operate same. A fluid operated selector valve in the inlet tubing selects the zone to be produced. A fluid operated control valve in the supply tubing causes the selector valve to select a different zone each time the pump is stopped and restarted by decreasing and subsequently increasing the operating fluid pressure in the supply tubing.

3,368,629
PROTECTIVE CLOSURE FOR FIRE-FIGHTING FOAM GENERATOR

Ernest A. Joerren, Brooklyn, N.Y., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey

Filed Aug. 12, 1965, Ser. No. 479,210
12 Claims. (Cl. 169—15)

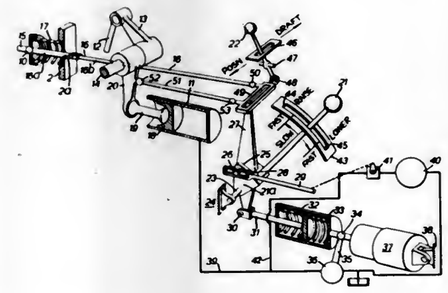
The present invention relates to a fire-fighting foam generator of the type capable of producing a high expansion foam plug which generally comprises a wind tunnel, an ignitable foam forming net at the front end of the tunnel, a fan at the rear end of the tunnel, spray nozzles for directing a liquid containing a foam forming agent onto the net located between the net and the fan, a closure such as a fire-resisting curtain for protecting the net against flame until the net has been wetted by the solution to produce the foam, and mechanism for rolling up the curtain.



3,368,630
TRACTOR POWER LIFT CONTROL

Thomas D. H. Andrews, Cheltenham, England, assignor to Dowty Hydraulic Units Limited, Cheltenham, England, a British company

Filed Jan. 5, 1965, Ser. No. 423,551
Claims priority, application Great Britain, Jan. 16, 1964, 2,009/64
10 Claims. (Cl. 172—7)



A tractor provided with a power lift and a plough-carrying hitch linkage operable by the power lift, includes a variable-delivery pump of relatively low delivery rate and a fixed-displacement pump of relatively high delivery rate, both pumps being connectable to the power lift.

For operation under draft and slow positional control, only the variable-delivery pump is operable, a control valve isolating the fixed displacement pump from the power lift.

When the control valve is opened the delivery of the second pump supplements the delivery of the first pump so that the power lift is operable at relatively fast rate.

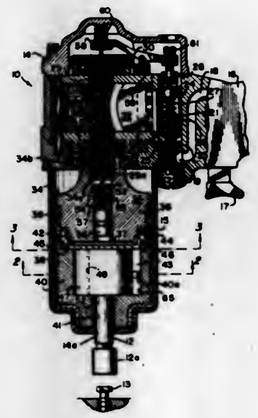
3,368,631
TORQUE CONTROL APPARATUS FOR IMPULSE TOOLS

Malcolm D. MacNaughton, Waverly, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Oct. 14, 1965, Ser. No. 495,959
6 Claims. (Cl. 173—12)

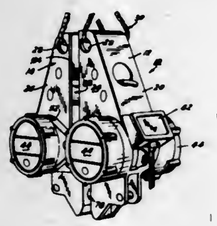
An impulse tool comprising a rotatably driven housing including a cavity containing a fluid, a rotor disposed within the housing cavity and in the fluid therein, and

sealing means operable during relative rotation of the housing and rotor to cause a rotary impulse of the rotor.



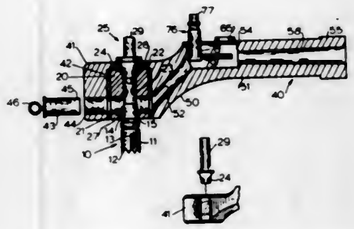
A wall defining the cavity is movable, in response to the pressure of fluid in the cavity, to bypass fluid around the rotor and cause the tool to be shut off.

3,368,632
PILE DRIVER AND EXTRACTOR
Jean L. Lebelle, 35 Rue Gounod, Saint-Cloud, Seine-et-Oise, France
Filed Mar. 18, 1966, Ser. No. 535,479
Claims priority, application France, June 4, 1965, 19,671, Patent 1,445,736
14 Claims. (Cl. 173—49)



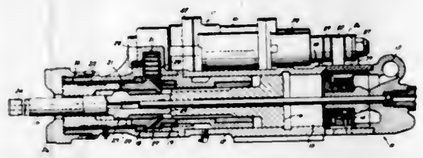
1. An apparatus for materially reducing the effort required to drive and extract elongated piling into and from soil, said apparatus comprising a pair of supports, a pair of shafts each mounted on a different support for rotation about spaced parallel axes, a pair of eccentric weights each fixed to a different shaft for rotation therewith, said weights being synchronized and phased to exert uniaxial vibratory force on the piling in a direction parallel to the longitudinal axis of the piling, the axes of rotation of the shafts lying in a plane perpendicular to said longitudinal axis, motor means driving the shafts in opposed directions at the same angular velocity, means pivotally interconnecting the supports for limited relative rocking movement about an axis parallel to the axes of the shafts, a pair of jaws located on the apparatus distantly from the pivotal axis of the supports and for rigidly gripping therebetween an upper portion of the piling, each jaw being attached to a different support, and means for selectively rocking the supports about their pivotal axis under power to move the jaws toward one another.

3,368,633
DUSTLESS DRILLING APPARATUS
David G. Moates, Roanoke Rapids, N.C., assignor to Trade Tools, Inc., Roanoke Rapids, N.C., a corporation of North Carolina
Filed Oct. 22, 1965, Ser. No. 502,073
12 Claims. (Cl. 173—60)



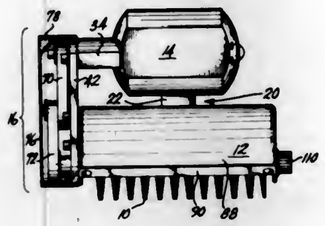
1. In combination with a percussive hammer for boring a hole in a masonry object and having adaptor means for engaging and driving a chuck, said chuck including a substantially cylindrical body having one end for engagement with said adaptor means and a socket at the other end adapted to frictionally received the end of a self-drilling expansion bit, said chuck body being provided with a traverse passageway having its axis substantially perpendicular to the axis of said body and intersecting said socket so that said end of said bit is in communication with said traverse passageway; handle means having a hollow housing open at one end for receiving said chuck while providing passage for said adaptor; a neck portion integral with and extending laterally from said housing and having a passageway communicating with said traverse passageway of said chuck, a hand grip portion integral with and forming a continuation of said neck portion and having a passageway in communication with said passageway of said neck portion and continuing the length of said hand grip portion; and means for creating a vacuum in said passageways whereby dust, chips and debris may be withdrawn from said hole and expelled through said handle means.

3,368,634
INDEPENDENT ROTATION ROCK DRILL
Earl B. Lear, Utica, N.Y., assignor to Chicago Pneumatic Tool Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 12, 1965, Ser. No. 479,113
9 Claims. (Cl. 173—105)



Briefly, the invention comprises a pneumatic rock drill of the drifter type including an independent rotation pneumatic motor unit arranged externally of the housing and having its longitudinal axis parallel to that of the rock drill. The housing of the motor unit is mounted upon the rock drill housing by means of axially slidable connections at each end of the motor unit housing. The slide connection at one end includes buffer elements which yieldably resist axial movement of the motor unit in either direction relative to the rock drill. A speed governor in the motor unit controls speed of the motor unit in a positive direction, but not in a reverse direction.

3,368,635
PORTABLE ROTARY POWER TOOLS
Albert L. Harman, Box 92, Corvallis, Oreg. 97330
Filed Mar. 2, 1966, Ser. No. 531,304
9 Claims. (Cl. 173—163)



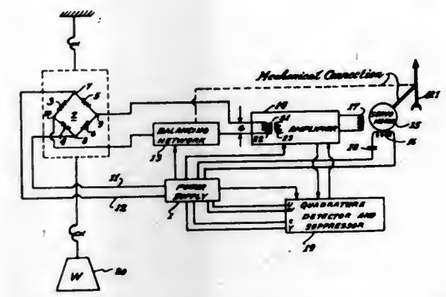
1. A portable power tool comprising a power assembly including a rotary motor having an output shaft, power transmission means having a support arm fixed relative to said motor, and extending generally radially outwardly from said output shaft, a rotary chuck at the end of said arm distal the output shaft, drive means drivingly connecting said output shaft with said chuck, and a handle extending generally perpendicularly from said motor, and including a finger operated on-off control for said motor; a removable rotary tool of cylindrical proportions having two coaxial end supports, at least one of which is engageable with said chuck; and a removable shield for enclosing a substantial portion of said tool, and including parallel first and second end walls, said first end wall including an opening, and said power tool further comprising means for rigidly, but removably, securing said first end wall, and in that manner the shield, to the support arm, in a position with the opening in such wall in registry with the chuck, and means carried by the second end wall of the shield for journaling the end support at the end of the rotary tool distal the chuck.

3,368,636
METHOD OF DRILLING A HOLE IN A PERMEABLE UNDERGROUND FORMATION AND DRILLING FLUID SUITABLE FOR CARRYING OUT SAID METHOD
Lodewijk J. Schmit Jongbloed and Nicolaas H. Van Lingen, Rijswijk, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 30, 1964, Ser. No. 414,849
Claims priority, application Great Britain, Dec. 4, 1963, 47,994/63
7 Claims. (Cl. 175—72)

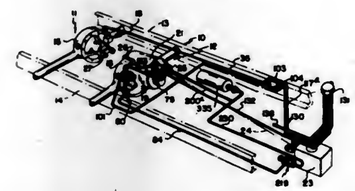
A method of plugging the formation pore space to prevent fluid loss comprising injecting into the formation via a borehole which is drilled with a fluid containing suspended particles so that the pressure in the borehole is greater than the pressure in the formation pore space.

3,368,637
QUADRATURE COMPONENT DETECTOR AND SUPPRESSOR
Joseph G. Green, Beloit, Wis., and Roberto Ortiz-Muniz, Mayaguez, Puerto Rico, assignors to Fairbanks Morse Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 1, 1965, Ser. No. 510,815
4 Claims. (Cl. 177—211)

A circuit is disclosed for suppressing an input signal in quadrature time phase relation with respect to a desired reference signal. The reference and input signals are coupled to an electrical bridge having light sources connected in the arms of the bridge. Photo resistive elements connected in the arms of a second electrical bridge selectively receive an illumination from the light sources dependent on the time phase relation of the reference and input signals. A feedback signal, generated in the second bridge responsive to said illumination, is coupled therefrom to suppress the quadrature component of the input signal.



3,368,638
TANDEM AXLE CHANGE SPEED CONTROL SYSTEM
Thomas H. Terry, Bay Village, and George L. Moldovan, Willowick, Ohio, assignors to Eaton Yale & Towne Inc., a corporation of Ohio
Continuation-in-part of application Ser. No. 415,431, Dec. 2, 1964. This application Aug. 4, 1965, Ser. No. 477,167
10 Claims. (Cl. 180—22)

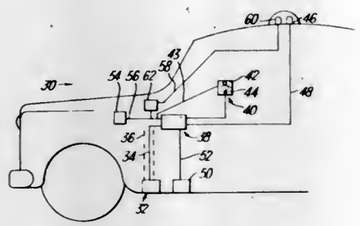


A drive mechanism comprises a pair of driving axles, each of which includes a change speed mechanism actuatable to vary the output speed of the axle. Shift means is associated with each of the change speed mechanisms and is operable to actuate the change speed mechanism to vary the output speed of the corresponding axle. An interaxle differential is drivingly connected between the driving axles and is operable to provide a differentiating action therebetween, and the interaxle differential has an interaxle differential lockout mechanism associated therewith. A control system is provided which is operable to selectively operate the shift means associated with the change speed mechanisms only after the interaxle differential lockout mechanism is deactuated.

3,368,639
APPARATUS FOR THE REMOTE ELECTRONIC CONTROL OF VEHICLE SPEEDS
Stanley Williams Deane, 601 6th Floor, Thibault House, Foreshore, Cape Town, Cape Province, Republic of South Africa
Filed Mar. 12, 1965, Ser. No. 439,398
Claims priority, application Republic of South Africa, Mar. 17, 1964, 1,288/64
7 Claims. (Cl. 180—98)

1. Speed control apparatus for the limitation of speed of motor vehicles along a traffic-carrying roadway by means of a traffic control officer stationed alongside the roadway, and which includes

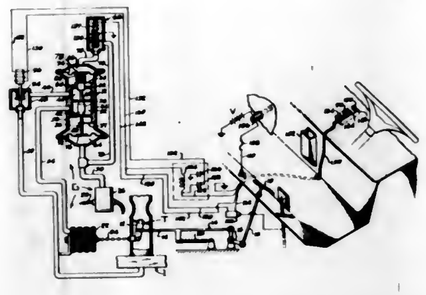
(a) loop means comprising a plurality of electrically conductive loops defining traffic control zones along the roadway and having limbs laid longitudinally on either side of a roadway, the limbs having connections at opposite ends adapted for connecting the limbs in series with each other, and adapted for connection to signal-emitting means;
(b) signal-emitting means in the form of a variable frequency transmitter adapted for positioning alongside the roadway and operable by a traffic control officer, and including
  (i) means for connection to the connections of the limbs of the loops alongside the roadway;
  (ii) indicating means for indicating in linear and time units, the speed corresponding to the frequency within the range at which it can be set;
  (iii) a tapping connection permitting variation in its output voltage to match the impedance of loop means constituted by varying combinations of loops;
(c) control apparatus adapted for mounting on a motor vehicle having an engine whose power output is controllable by a throttle, and which includes



(i) signal-receiving means;
(ii) an induction pickup coil adapted to receive speed control signals from the loop means, and connected to pass received speed control signals to the signal-receiving means;
(iii) a speed signal device adapted to receive drive from the vehicle and to generate a fluctuating current signal whose frequency of fluctuation corresponds to the road speed of the vehicle;
(iv) means for feeding the said generated fluctuating current signal into the said signal-receiving means, the said signal-receiving means having a mating circuit for superimposing upon each other currents corresponding to the said received and generated signals and adapted to provide an effective current only when the current corresponding to the generated signal exceeds the current corresponding to the received speed control signal; and
(v) responsive means adapted to respond to such effective current to bring about the closing-off of the throttle of the engine.

3,368,640
SPEED CONTROL SYSTEM FOR AUTOMOTIVE VEHICLES
Roger E. Bremer and Robert L. Dangler, Shaker Heights, Ohio, assignors to Curtiss-Wright Corporation, a corporation of Delaware
Filed Nov. 16, 1965, Ser. No. 508,050
13 Claims. (Cl. 180—108)

A movable, manually operable speed control unit which can be conveniently positioned by the driver of the vehicle or stored out of the way when not in use is provided in an automotive speed control system which includes a servo valve having pressure responsive diaphragms that can be relatively positioned to select a speed above which the valve may be controlled by said unit to decrease vehicle speed and below which the valve may be controlled by said unit to increase vehicle speed.



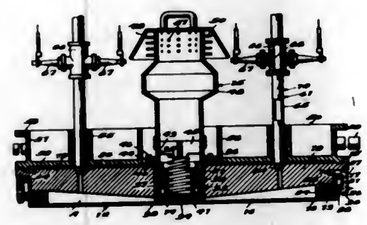
3,368,641
SOUND WAVE TRANSMITTING DEVICE
Jacques Cholet, Rueil-Malmaison, and Jean-Pierre Fail, Paris, France, assignors to Institut Francais du Petrole des Carburants et Lubrifiants, Rueil-Malmaison, Seine-et-Oise, France
Filed Jan. 21, 1965, Ser. No. 426,834
Claims priority, application France, Jan. 24, 1964, 961,562; July 8, 1964, 981,168; Oct. 10, 1964, 991,468
19 Claims. (Cl. 181—.5)

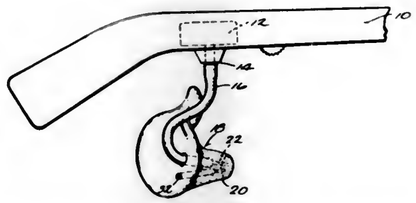


A device for effecting series of underwater explosions at a high rate of succession, adapted for marine seismic prospecting from a mobile installation by the use of explosive elements, each explosion being at a location substantially remote from said installation and at a predetermined depth, said installation comprising tube means and means for sequentially conveying said explosive elements through said tube means from said installation to said location, said tube means having a first end on said installation and a second end permanently immersed at said location during the firing of said explosions, means on said installation for feeding explosive elements at a high rate into said first end, means for firing said explosive elements at said second end, and switching means for controlling, by the closure of an electrical circuit, said firing means at the times selected for the explosions.

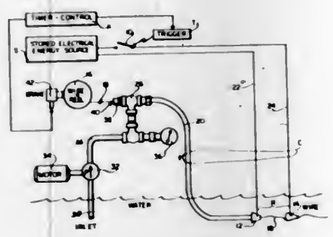
3,368,642
GAS EXPLODER SEISMIC WAVE GENERATOR
Lauren G. Kilmer, Tulsa, Okla., assignor, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 20, 1966, Ser. No. 543,966
6 Claims. (Cl. 181—.5)

A gas explosion seismic generator in which the explosion chamber is an annular conical space formed by a bottom plate and a movable top plate with the space adjacent a center exhaust valve having a minimum depth and gradually increasing in depth in an outward direction.





3,368,643
ELECTRIC ARC SEISMIC SOURCE
Carl O. Berglund, Dallas, and A. C. Hill, Richardson, Tex., assignors to Teledyne Industries, Inc., Geotech Division, a corporation of California
Filed Oct. 19, 1966, Ser. No. 587,741
6 Claims. (Cl. 181—.5)

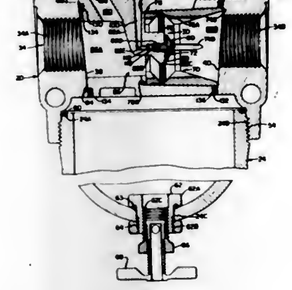


An underwater acoustical source for efficiently converting electrical energy discharged between spaced immersed electrodes from a storage device into an intense plasma discharge to form a large steam bubble which subsequently collapses to provide an acoustical disturbance having an improved low-frequency content. The described embodiment includes means for pumping a stream of water through a hose and jetting the stream from one electrode toward and against the other. A fine wire is introduced through a T-joint at the pump end of the hose, and the stream entrains the wire pulling it through the hose, out through the jet at one electrode, and sweeping it into contact with the other electrode to form a metallized path of higher initial conductivity. A very high peak current is then discharged through the path to vaporize it.

3,368,644
HEARING AID TONE TUNING DEVICE AND METHOD
John D. Henderson, Milwaukee, Wis. (4203 N. Morris Blvd., Shorewood, Wis. 53211)
Continuation-in-part of application Ser. No. 497,132, Oct. 18, 1965. This application Mar. 28, 1966, Ser. No. 537,958
7 Claims. (Cl. 181—23)

1. In a hearing aid, a tuning device comprising an elastically deformable ear insert having a restricted passage through it, and a tubular liner of relatively less elastic material extending into said ear insert through at least a portion of the passage and adjustable in advance longitudinally thereof, the liner having an external cross section greater than the initial restricted cross section of the passage whereby progressively to expand the cross section of the passage as the liner is advanced therein.

3,368,645
AEROSOL LUBRICATORS
Robert K. Hoffman, Littleton, and Arthur R. Dolegowski, Denver, Colo., assignors to C. A. Norgren Co., Littleton, Colo., a corporation of Colorado
Filed June 8, 1965, Ser. No. 462,356
20 Claims. (Cl. 184—55)



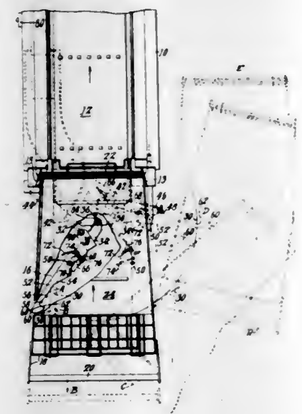
This invention relates to an aerosol lubricator or generator utilizing a hollow gas annulus through which must pass substantially all pressurized gas that is to flow through the lubricator for substantially all operating conditions thereof. The lubricator may be constructed for either unidirectional or bidirectional flow of gas through the hollow gas annulus. The lubricator contains a lubricant feed means including a terminating portion terminating in a plane substantially perpendicular to the direction of gas flow through the gas annulus whereby the lubricant is fed into the gas annulus at the region of smallest cross-sectional area of said gas annulus to join pressurized gas thus creating aerosol for movement through the lubricator. The means included within the aerosol lubricator for creating the hollow gas annulus may comprise an annular torsionally flexible member. An aerosol lubricator utilizing such an annular torsionally flexible member may also include means for relieving the pressure across the outer periphery of such annular torsionally flexible member on both sides thereof under conditions of large pressure dif-

ferentials thereacross. An aerosol generator or lubricator of this invention may also have an adjustable liquid flow control means mounted within the lubricant feed means, said flow control means having a surface portion cooperating with the surface portion of the liquid passage to define a liquid flow path of adjustable length and of a substantially constant cross-sectional area. An aerosol lubricator of this invention may also include protective means which cooperates with the lubricant feed means to preclude exhaust gas from interfering with lubricant flow to the hollow gas annulus of the lubricator.

3,368,646
REMOVING CARTS FROM CHECKOUT COUNTERS

Armand A. Lachance, Auburn, Harlan W. Hilton, Dudley, and Thomas T. Brunelle, Brookfield, Mass., assignors to Armand A. Lachance, Auburn, Mass.

Filed Sept. 23, 1966, Ser. No. 581,528
9 Claims. (Cl. 186—1)



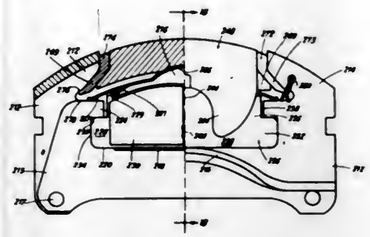
A checkout stand for use in a store in combination with a grocery cart, wherein the checkout stand has an unloading station for the cart and has a cashier's station in advance thereof, the cart being automatically unloaded and including means under control of the operator for mechanically moving the cart away from the unloading station when it is empty to a clear space in front of the cashier, this clear space including a relatively narrow alley so that a customer standing in the alley adjacent the cashier, after having positioned the cart at the unloading station, is in a position to easily push the empty cart of the previous customer along the alley to a point where the carts are collected as usual.

3,368,647
SPOT-TYPE DISC BRAKES AND DISC BRAKE FRICTION PADS

Bernard Emile Eugene Laverdant, Paris, France, assignor to Societe Anonyme D.B.A., Paris, France, a company

Filed Jan. 20, 1966, Ser. No. 521,771
Claims priority, application France, Jan. 21, 1965, 2,774; Mar. 23, 1965, 10,384; July 30, 1965, 26,733
15 Claims. (Cl. 188—73)

The following relates to a spot-type disc brake having a floating stirrup which is mounted in a recess formed in the limbs of a U-shaped fixed support and is guided in said recess by means of a pair of guide members located at the opposite ends of said recess wherein the lateral ledges of the latter are adapted to act as an

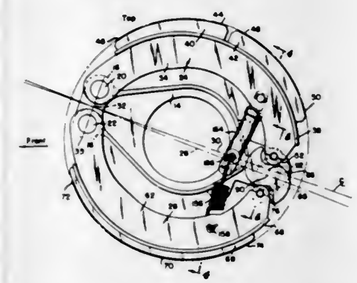


anchor for a pair of friction pads located in the recess on opposite sides of the disc.

3,368,648
FLOATING CAM BRAKE HAVING BRAKE SHOE LININGS OF DIFFERENT VOLUMES

Nelson R. Brownyer, Birmingham, Mich., assignor to Rockwell-Standard Corporation, Pittsburgh, Pa., a corporation of Delaware

Continuation-in-part of application Ser. No. 364,689, May 4, 1964. This application Mar. 28, 1966, Ser. No. 551,818
16 Claims. (Cl. 188—78)

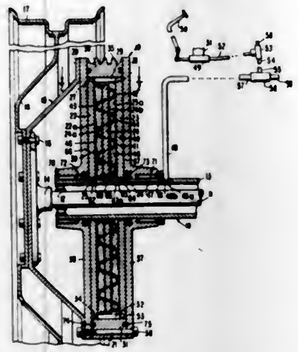


1. In a vehicle brake assembly characterized by a brake drum and a support having at least two brake shoes pivotally mounted on said support on fixed axes at one of their ends, cam means positioned between the other ends of said brake shoes and adapted to be actuated to move said shoes toward drum engagement, means rigid with said support for mounting and guiding said cam means for floating displacement substantially in the direction of movement of said other ends of said shoes, return spring means for moving said shoes away from said drum to an inactive position, one of said shoes constituting a primary shoe and the other of said shoes a secondary shoe, said primary shoe being provided with a brake lining of predetermined thickness initially larger than the thickness of the lining of said secondary shoe, and frictional adjusting means connected between said support and one of said shoes progressively effective as the lining wears to arrest return movement of said one shoe close to said drum to thereby automatically provide constant spacing between said one shoe and said brake drum as the lining on said one shoe wears, said floating cam means being initially located on the side of a geometric brake centerline opposite to the end of said primary shoe and said floating cam means being adapted to move toward said primary shoe as brake lining wear progresses.

3,368,649
BRAKE ACTUATED BY VISCOELASTIC LIQUID

Leonard Raymond, New York, N.Y., assignor to Mobil Oil Corporation, a corporation of New York

Filed Feb. 9, 1966, Ser. No. 526,137
6 Claims. (Cl. 188—90)



A brake comprising at least one pair of parallel plates whose adjacent surfaces are brought into frictional contact by virtue of the normal force effect of a viscoelastic liquid. The normal force moves one plate into contact with the other. Liquid is pumped into a clearance between the plates by conventional brake-pedal action.

3,368,650
SEAL MEANS FOR SHOCK ABSORBERS

William Kenneth Wasdell, Thimble End Farm, Oxleys Road, Warwickshire, Wishaw, Sutton, Coldfield, England

Filed Feb. 25, 1966, Ser. No. 530,016
Claims priority, application Great Britain, Mar. 24, 1965, 12,390/65, 12,391/65
15 Claims. (Cl. 188—100)

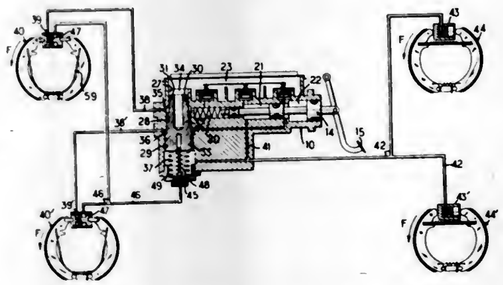


A single tube shock absorber comprises a body having a cylindrical internal wall defining a cylindrical working chamber for a liquid damping medium, a cap is fixed or slidably mounted on said body to close one end of said chamber, a piston is disposed in axial sliding engagement with the cylindrical wall of the working chamber, and a piston rod is fixed to the piston and extends through an annular seal element disposed within the working chamber and through an aperture in the cap. The seal element has a radially outermost surface in sealing engagement with the cylindrical wall of the working chamber and a radially innermost surface in axial sliding engagement with the piston rod to create a liquid tight seal between the body and piston rod. A recuperation chamber is provided in communication with the working chamber on the opposite side of the piston from the cap through a valve permitting liquid medium displaced by the piston rod to pass into the recuperation chamber at a restricted rate and comparitively free return of the liquid from the recuperation chamber to the working chamber. The shock absorber of the invention is characterized in that the radially outermost surface of said seal element has axially inwardly unlimited sliding engagement with the same uninterrupted cylindrical wall as the piston and cooperating means is provided for introducing atmospheric pressure into the body to act on the axially outermost portion of the seal element to cause the entire seal element to slide axially inwardly within the working chamber when liquid pressure within the working chamber is less than atmospheric pressure. This latter means preferably comprises a passing through an axially fixed cap on the body.

3,368,651
CONTROL MEANS FOR SELF-ENERGIZED BRAKE SYSTEMS

Pierre Andre Georges Lepelletier, Chatou, Yvelines, France, assignor to Societe Anonyme Francaise du Ferodo, Paris, France, a corporation of France

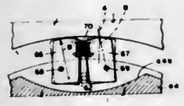
Filed Dec. 5, 1966, Ser. No. 599,250
Claims priority, application France, Jan. 4, 1966, 44,734
6 Claims. (Cl. 188—152)



1. A hydraulic braking installation, especially for automobile vehicles, in which each of the brakes of a first axle has a double supply circuit and comprises a primary chamber defined at least in part by a primary piston, and a secondary chamber defined at least in part by a secondary piston, said primary and secondary pistons being associated with the application members of the brake, a master cylinder driving equal or proportional volumes into the primary chambers of the brakes of said first axle by means of two primary circuits, the secondary chambers of the brakes of said first axle being connected to a secondary circuit which is adapted to communicate with a secondary chamber of said master cylinder, known as the secondary pressure chamber, said secondary pressure chamber communicating on the one hand with the chamber of the master cylinder which is connected to the secondary circuit, known as the transfer chamber, and on the other hand with the two brakes of a second axle for the application of said brakes, said master cylinder comprising a pressure station having piston means which are responsive to a comparison of the pressure in said secondary pressure chamber with the two primary pressures, said piston means of the pressure station of said master cylinder being constituted by a plunger subjected on one side to the atmospheric pressure existing in a chamber connected to a tank and to the pressures obtaining in two chambers respectively connected to two

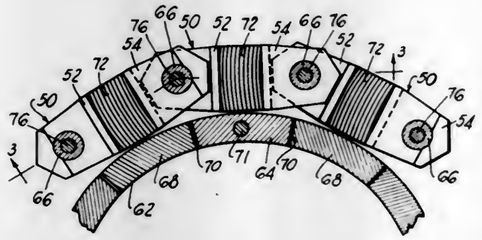
primary circuits, and on the other side to the pressure existing in said secondary pressure chamber, while a valve is interposed between the secondary circuit of the brakes of said first axle and said secondary pressure chamber.

3,368,652
POLARISCOPE
George A. Klatchko, Levittown, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 16, 1964, Ser. No. 352,143
2 Claims. (Cl. 188—166)



A locking mechanism is provided for use with a polariscope. A pair of locking elements is normally held in locking engagement with a lock ring by a spring disposed therebetween. A handle and lever are manually operated to actuate a wedge to disengage the locking elements.

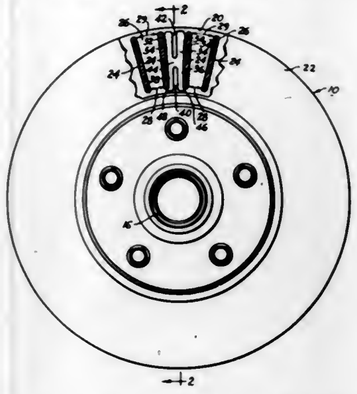
3,368,653
AIRCRAFT BRAKE DAMPER MECHANISM
Jaring Vander Veen, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed May 26, 1966, Ser. No. 553,178
9 Claims. (Cl. 188—218)



The following relates to a brake damper mechanism for use in conjunction with an aircraft wheel and brake assembly. The damper mechanism is interposed between fixed mounting means, such as the wheel axle and an axle flange, and non-rotatable break means, such as the brake stators, the torque tube to which the stators are attached, and a torque tube flange, for absorbing vibratory energy and substantially eliminating torsional vibrations induced in the non-rotatable brake means during braking. The damper mechanism includes a plurality of stacked Belleville washers which when compressed absorb energy as a result of the friction occurring between the contacting faces of the washers.

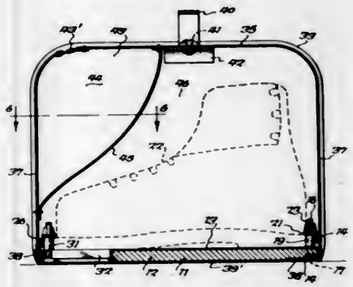
3,368,654
VENTILATED DISC BALANCE WEIGHT
John R. Wegh and Richard T. Burnett, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Filed Aug. 15, 1966, Ser. No. 572,474
5 Claims. (Cl. 188—218)

A balance weight insertable into the outer end of a radially, inwardly extending and converging passage of a rotatable disc to establish said disc in static or dynamic balance. The balance weight is formed from a generally flat stamping member, having a slot intermediate its yieldable side portions to allow said sides to conform to the wall of said passage to secure said weight in place when



said weight is forced into said passage a distance such that the inner end of said weight grips the inner and outer terminal portions of said passage.

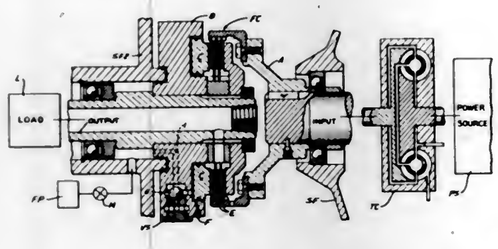
3,368,655
COMBINED SKI BOOT PRESS AND CARRYING CASE
Howard A. Purdy, 1800 Bayview Road, Hamburg, N.Y. 14075
Filed Jan. 27, 1965, Ser. No. 428,461
10 Claims. (Cl. 190—51)



8. A combined ski boot press and carrying case comprising a rigid platform of sufficient width to receive a pair of ski boots in side-by-side relationship, first clamping means on said platform for securing the heels of said boots to said platform, second clamping means on said platform for securing the toes of said boots to said platform, a hood attached to said platform for covering said boots, means for selectively opening and closing said hood to permit access to said platform for mounting and demounting said boots, and ventilation means operatively associated with said carrying case for permitting circulation of air within said hood.

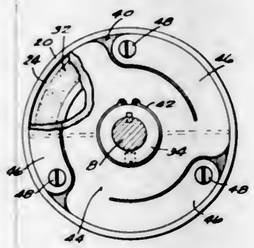
3,368,656
HYDRAULICALLY ACTUATED CLUTCH WITH CENTRIFUGAL BALL VALVE MEANS
Conrad R. Hilpert, Winnebago, Ill., assignor to Twin Disc, Incorporated, a corporation of Wisconsin
Filed May 5, 1966, Ser. No. 547,917
4 Claims. (Cl. 192—3.33)

1. A power transmission comprising, a torque converter; a hydraulically actuated, modulatable friction clutch driven by said converter; said clutch having a power input member driven by said converter, an output member connectable with a load, interleaved friction discs for variably connecting said members in drive transmitting relationship, hydraulically actuated means for actuating said clutch and including an expansible fluid chamber, passage means for introducing pressure fluid to said chamber; means for supplying fluid to said chamber; centrifugally operated ball valve means in said pas-



sage for balancing the centrifugal head due to fluid in said passage means, said ball valve means comprising, a valve seat in said passage means, a ball in said passage means and downstream of said seat and urged by centrifugal force into sealing relationship with said seat for blocking the flow of fluid to said chamber; and a bleed orifice from said chamber for controlled release of fluid therefrom.

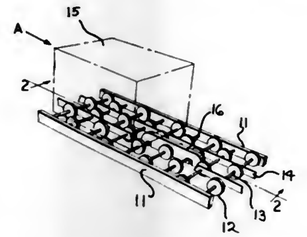
3,368,657
NOISE-CONTROLLING ARMATURE FOR BRAKES, CLUTCHES AND THE LIKE
Bernard E. Wrensch, Brookfield, and Lloyd A. Fitzgerald, Wauwatosa, Wis., assignors to Stearns Electric Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 23, 1965, Ser. No. 481,858
7 Claims. (Cl. 192—84)



Electromagnetically induced vibration is damped by subdividing the armature into segments which are mounted on a hub in driving connection with a rotor, but are capable of independent axial movement, such segments together constituting a complete annulus preferably integral with their hub or at least providing a flux return path to and through the hub.

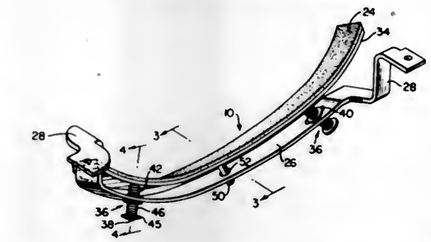
3,368,658
HARDWOOD CARTON BRAKE
John S. Eastham, Ridgewood, N.J., assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed July 20, 1966, Ser. No. 566,644
5 Claims. (Cl. 193—35)

An inexpensive brake for controlling carton speeds on roller skate wheel conveyors, the brake comprising a block having a carton engaging surface disposed upwardly of the conveyor wheels and including means engageable with the conveyor axles for releasably mount-



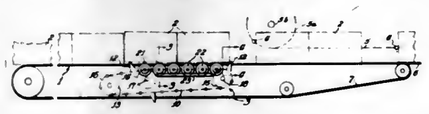
ing the brake on the conveyor in a carton engaging, stationary position.

3,368,659
SHOCK-ABSORBING TYPEBAR STOP
Erle R. Mumpower, Kettering, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Apr. 3, 1967, Ser. No. 628,092
2 Claims. (Cl. 197—42)



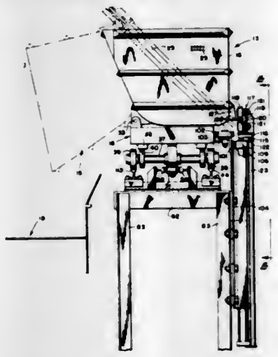
A shock-absorbing stop to minimize rebound of typewriter levers. The stop includes an arcuately-shaped member which is yieldably supported near each end on spring-loaded pins for movement towards a similarly-shaped support member. Each lever, upon returning to a home position after printing, strikes an elastomer strip secured to the movable member and moves it towards the support member to thereby prevent rebound of the lever and minimize the noise of impact.

3,368,660
ARTICLE GROUPER AND FEEDER
Wendell E. Standley, Lake Forest, Richard B. Wittmann, Chicago, and Lawrence S. Tribbey, Northbrook, Ill., assignors to Johns-Nigrelli-Johns, Inc., Skokie, Ill., a corporation of Illinois
Filed Nov. 25, 1966, Ser. No. 597,103
9 Claims. (Cl. 198—34)



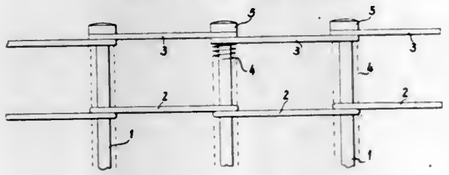
The mechanism herein disclosed is employed to assure that, in the grouping of open-end can packages in which chimed cans project from the open ends of the packages, any interlocking existing between the chimes of the cans at the trailing end of a group of packages with the chimes of cans within a succeeding package intended as part of a succeeding group, will be broken.

3,368,661
CASTINGS COOLING CONVEYOR SYSTEM
John J. Watson, North Olmstead, Ohio, assignor to Bartlett-Snow-Pacific, Inc., Cleveland, Ohio, a corporation of California
Filed May 9, 1966, Ser. No. 548,789
2 Claims. (Cl. 198—145)



A castings cooling conveyor system wherein the castings to be cooled are carried by open-top buckets pivotally mounted on predeterminedly spaced conveyor cars, the drive means for indexing said cars being in timed relation with said castings loading and dump stations whereby said buckets are loaded and dumped while stationary.

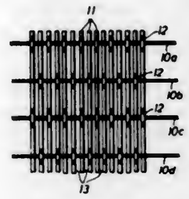
3,368,662
TRANSPORT DEVICE WITH CONVEYOR BELT GUIDED RECTILINEAR AND CURVILINEAR
Jannes Jonge Poerink, P.O. Box 4, Borne, Netherlands
Filed Nov. 1, 1966, Ser. No. 595,301
Claims priority, application Germany, Nov. 4, 1965, N 27,576
3 Claims. (Cl. 198—182)



A link conveyor belt with lateral rods which can be guided rectilinearly and curvilinearly, having a pair of large sprockets positioned on a common shaft at both the entrance and exit of the curve. The conveyor also includes smaller sprockets mechanically coupled to common shafts of the larger sprockets and located at the exits of the curve adjacent to the inner curve path. The spacing between the teeth of the smaller sprockets corresponds to the spacing between the compressed lateral rod ends along the inner curved path to facilitate the compression of the rod ends as they traverse the curved path.

3,368,663
MESH FABRIC
Josef Kufferath, Mariaweiler, near Duren, Germany
Filed Sept. 12, 1966, Ser. No. 578,677
Claims priority, application Germany, Sept. 14, 1965, K 57,122
14 Claims. (Cl. 198—193)

A mesh-fabric conveyor belt. Warp wires extending parallel to one another transversely spaced. Weft wires, which connect the warp wires, each consist of straight coaxially arranged wire portions located intermediate the warp wires all substantially in one plane on one side of the warp wires, and these weft wires further comprising



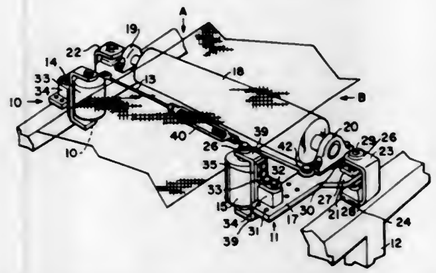
kinked portions connecting the straight portions and located at points of intersection with the warp wires, all kinked portions projecting to the other side of the plane.

3,368,664
CONVEYOR BELT WITH IMPROVED TROUGHING CHARACTERISTICS
Clayton H. Skinner, Buffalo, N.Y., assignor, by mesne assignments, to Hewitt-Robins, Incorporated, Stamford, Conn., a corporation of Delaware
Continuation of application Ser. No. 356,571, Apr. 1, 1964. This application Oct. 4, 1966, Ser. No. 598,542
3 Claims. (Cl. 198—193)



1. A conveyor belt adapted to be flexed in a longitudinally extending hinge area formed by adjacent idler rolls inclined relative each other when the belt is shaped as a trough by troughing idler roll units, said conveyor belt comprising warp strands extending longitudinally within the belt, weft threads maintaining the warp strands in side by side relationship, the number of warp strands in said hinge area being greater and spaced more closely adjacent each other than in other transverse portions of the belt, and plastic material filling the interstices between said warp strands and said weft threads and providing a covering for the warp strands and the weft threads.

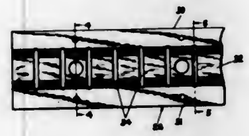
3,368,665
BELT ALIGNER
Frank Jinkins, Hayward, Calif., assignor to Alloy Wire Belt Co., San Jose, Calif.
Filed Sept. 6, 1966, Ser. No. 577,305
1 Claim. (Cl. 198—202)



1. In combination with a belt support frame, a conveyor belt operatively mounted thereon for travel in a selected direction and a belt support roller mounted on the frame transversely beneath and in supporting relation to the belt; belt aligning mechanism comprising

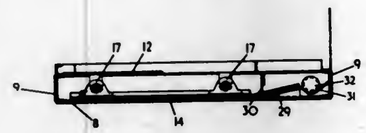
a pair of guide roller support levers mounted for pivotal movement about a fixed axis one on each side of the belt support frame and in laterally opposite, selectively spaced relation to each other,
an elongated portion on each lever extending in the direction of belt travel from the axis of pivotal support of said each lever,
a bearing for one end of the belt support roller mounted for swivel movement on each lever and spaced laterally inwardly toward the longitudinal center line of the belt from the pivotal support axis of its lever,
means interconnecting the support levers for synchronous pivotal movement, and
a pair of guide rollers journaled for free rotation in axially upright position, one on each lever and in longitudinally spaced relation in the direction of belt travel from the swivel mounted bearing for the belt support roller on said each lever, and
means for adjusting each lever to position the periphery of the roller thereon with its inward periphery laterally adjacent an edge of the belt when the latter is centered on the belt support roller.

3,368,666
CONVEYOR GUIDE RAIL
Guthrie B. Stone, Honeoye, N.Y., assignor to Stone Conveyor Company, Inc., Honeoye, N.Y., a corporation of New York
Filed Dec. 14, 1966, Ser. No. 601,653
1 Claim. (Cl. 198—204)



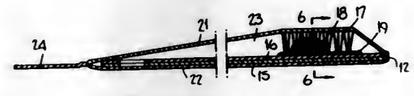
A guide rail for article handling conveyors having transverse slots spaced along its length facilitating selective hand forming of said rail at any point or points along the longitudinal extent thereof to accommodate a change in direction of movement of the articles being carried by said conveyor.

3,368,667
MEANS FOR TRANSPORTING PARTICULATE MATERIAL
William Robertson Macmillan, Sale, England, assignor to Tilghman's Limited, Cheshire, England, a British company
Filed July 28, 1966, Ser. No. 568,462
Claims priority, application Great Britain, Sept. 16, 1965, 39,529/65
6 Claims. (Cl. 198—224)



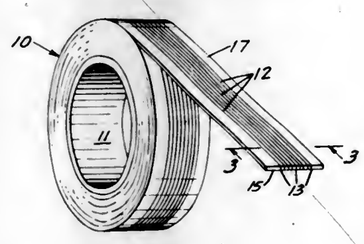
An apparatus for conveying blasting shot in which an eccentrically driven grid located above a fixed floor supporting the shot is operative by successive arcuate sweeps relative to the floor to move the shot across the floor into a trough having a floor portion at or above the level of the fixed floor and from which trough the shot is discharged.

3,368,668
DISPOSABLE TOOTHBRUSH
Frank Micciche, 83 Clover Ave., Floral Park, N.Y. 11001
Continuation-in-part of application Ser. No. 483,609, Aug. 30, 1965. This application Apr. 22, 1966, Ser. No. 544,591
7 Claims. (Cl. 206—46)



This invention relates to a disposable toothbrush and an envelope therefor which are formed from four sheets of flexible material arranged in overlapping relationship. The two inner sheets form a sleeve open at one end and the two outer sheets form an envelope within which the sleeve is encapsulated. The outer sheets extend beyond the ends of the inner sheets forming the sleeve so that when the edges of the four sheets are sealed together the open end of the sleeve is not sealed. The seal is positioned inwardly from the ends of the outer layers adjacent the open end of the sleeve to form pull tabs. To use the toothbrush the pull tabs are used to peel the outer layers away from the inner layers to expose the sleeve which has an applicator in the form of a toothbrush attached to one face. A finger is inserted in the sleeve in order to use the toothbrush.

3,368,669
STRIPING TAPE
Ernest O. Anderson, St. Paul, and Wesley R. Swanson, Maplewood, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed May 24, 1967, Ser. No. 640,996
6 Claims. (Cl. 206—59)

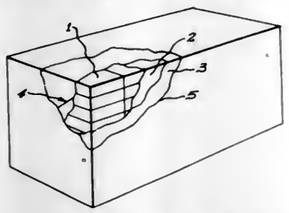


A roll of masking tape is provided with a plurality of continuous slits which extend entirely through the adhesive layer but only partially through the backing. The tape can be unwound as a unit without lateral separation, applied to a substrate, and the tape between any two slits removed to expose the portion of the substrate which is to be painted.

3,368,670
METHOD OF INCREASING SHELF LIFE OF HYDRATABLE REFRACTORY AND PRODUCT THEREFOR
Ernest P. Weaver, Pittsburgh, Pa., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Oct. 13, 1966, Ser. No. 586,394
9 Claims. (Cl. 206—65)

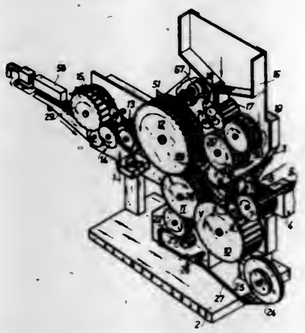
A composite package of multi-component encapsulating means and hydratable refractory shapes; the coating being comprised of a parting agent, a paper wrapping, means

sealing the paper wrapping, and a strippable plastic coating exterior thereof; the coating having a water vapor



transmission on the order of 0.01 to 0.6 gram of moisture per square meter of surface for 24 hours.

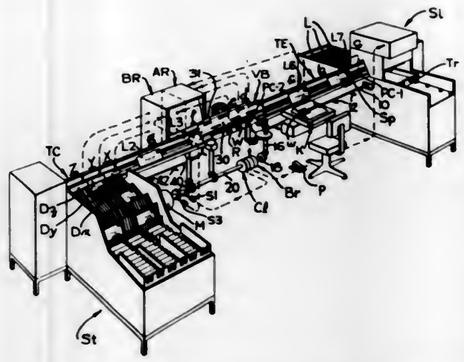
3,368,671
METHOD AND APPARATUS FOR DETECTING DEFECTIVE CIGARETTES OR THE LIKE
Heinz Kaeding, Hamburg-Bergedorf, Germany, assignor to Hauni-Werke Koerber & Co. KG., Hamburg-Bergedorf, Germany, a company of Germany
Original application July 6, 1962, Ser. No. 208,030. Divided and this application Apr. 20, 1966, Ser. No. 544,025
Claims priority, application Great Britain, July 7, 1961, 24,631/61
17 Claims. (Cl. 209—73)



17. A method of detecting defects in cigarettes or similar rod-shaped articles and portions of such articles, comprising the steps of conveying the articles in a predetermined path wherein at least a portion of each article travels past a plurality of inspecting stations past a recording station and thereupon along a single ejecting station; producing and recording at said recording station characteristic indications in response to detection of portions of defective articles at least at one of said inspecting stations and delaying the production of such characteristic indications according to the distances which the articles cover in said path from the respective inspecting stations to said recording station; and ejecting defective articles in response to the respective characteristic indications and with such a delay that the ejection of each defective article takes place at said ejecting station.

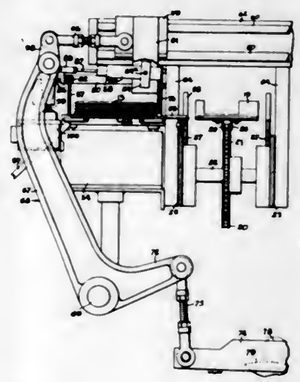
3,368,672
ARTICLE CLASSIFYING APPARATUS
Richard Heaney, Campbell, and Derek Hall, Los Gatos, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Jan. 17, 1966, Ser. No. 520,961
8 Claims. (Cl. 209—73)

3. Article classifying apparatus comprising an easel conveyor for advancing singulated articles, an article transport conveyor having uniformly spaced article advancing means, a plurality of article discharge devices disposed along said transport conveyor and in multiples of said uniform spacing, vacuum belt conveyor means between said conveyors, means disposed along said vacuum belt conveyor means for reading a code on the articles as they move by, means for driving said transport and vacuum belt conveyors continuously and in synchronism, means operated in synchronism with said transport conveyor for



providing shift pulses to transport shift register means for shifting a code along in analogue with selected increments of motion of said transport conveyor, means for driving said easel conveyor intermittently under control of a coding operator, and means for synchronizing said continuous and intermittent driving means for causing articles to be picked up by said vacuum belt conveyor means in a position compatible for transferring articles to the article advancing means on said transport conveyor.

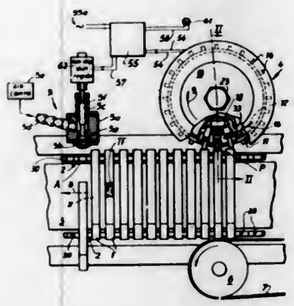
3,368,673
CONDITION DETECTING AND SORTING MEANS
Kenneth R. Johnson, Rockford, Ill., assignor to Bartelt Engineering Company, Inc., Rockford, Ill., a corporation of Delaware
Filed Feb. 17, 1966, Ser. No. 528,117
9 Claims. (Cl. 209—73)



7. In a machine for classifying packages according to weight, the combination of, a carrier for supporting and advancing packages step-by-step along a predetermined path through spaced transfer and terminal stations, a

weighing device having a platform located in a weighing station on one side of said path and operable to produce signals in response to the presence of packages of irregular weight on the platform, transfer mechanism for removing a package from said carrier at said transfer station and delivering the package along a second path to said platform, said transfer mechanism being operable to return a package of correct weight from said platform back to said carrier for advancement therewith to said terminal station, and means responsive to the signal of said weighing device for rendering said transfer mechanism inoperable to return a package of irregular weight when the latter is delivered to said platform whereby the irregular package remains on the platform as said carrier advances toward said terminal station.

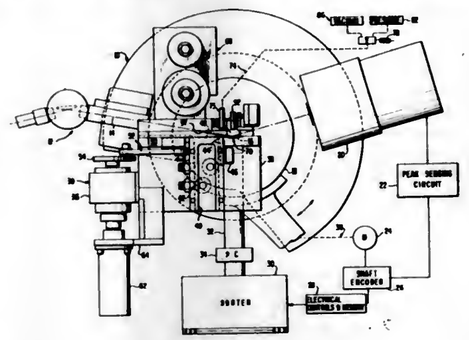
3,368,674
APPARATUS FOR TESTING CIGARETTES AND THE LIKE
Walter Koeppe, Hamburg-Bergedorf, Germany, assignor to Hauni-Werke Koerber & Co. K.G., Hamburg-Bergedorf, Germany
Filed Oct. 4, 1965, Ser. No. 492,435
Claims priority, application Germany, Oct. 3, 1964, H 53,928
17 Claims. (Cl. 209—79)



The integrity of fillers in cigarettes or like rod-shaped articles is tested while the cigarettes travel sideways past a testing station wherein the pin of a detector is biased against one end of the filler to determine its density. If the filler end is too soft, the displacement of the pin is excessive whereby an extension of the pin changes the inductance of a coil in an oscillator circuit. Such change in inductance produces a signal which is used to segregate the article with defective filler from satisfactory articles.

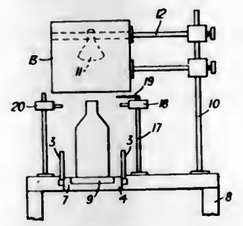
3,368,675
AUTOMATIC X-RAY APPARATUS FOR CRYSTAL Z-AXIS ORIENTATION DETERMINATION AND SORTING
Howard H. Aiken and Robert W. Birrell, Carlisle, Donald A. Kerkeslager, Boiling Springs, and Leroy K. Sites, Jr., New Bloomfield, Pa., assignors to Aiken Industries, Inc., a corporation of Delaware
Filed Oct. 4, 1965, Ser. No. 492,671
8 Claims. (Cl. 209—111.5)

Automatic X-ray apparatus for determining Z-axis orientation of quartz crystal wafer blanks includes a feed mechanism for feeding blanks from a magazine to a mounting station on an oscillatable table. Vacuum holds each wafer at the mounting station and air pressure blows each wafer through a chute into a tree-type sorter. Electrical control circuitry includes a digital encoder and cam operated switches driven with the oscillatable table



and a photocell detector in the chute, as well as an error detecting circuit mechanically connected to the sorter.

3,368,676
APPARATUS FOR DETECTING THE PRESENCE OF FOREIGN BODIES IN TRANSPARENT CONTAINERS
Norman Parker Stoate, 8 Spencer Drive, Hampstead Garden Suburb, London, N. 2, England, and Charles Richard Edwards, 8 Herons Forde, St. Stephens Road, Ealing, London, W. 13, England
Continuation of abandoned application Ser. No. 437,901, Mar. 8, 1965. This application Feb. 6, 1967, Ser. No. 614,361
9 Claims. (Cl. 209—111.7)

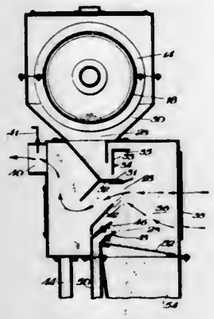


9. Apparatus for detecting foreign bodies in transparent containers of similar shape, comprising a track for said containers, a group of light sensitive scan cells beneath said track, means to cause the containers to move continuously in rapid succession along said track over said cells, a light source above said track to fully illuminate all said cells and each container interior passing between the light source and said cells, the spacing between said cells and the intensity of said light source being such that a foreign body in a container passing over said cells will reduce the illumination of at least one cell sufficiently to initiate a reject signal, and means responsive to a reject signal to displace the container initiating such signal from said track.

3,368,677
ABRASIVE SEPARATOR
Charles H. Bradley, Jr., Hagerstown, Md., assignor to The Pangborn Corporation, Hagerstown, Md., a corporation of Delaware
Filed Sept. 8, 1964, Ser. No. 394,664
1 Claim. (Cl. 209—135)

1. A separator for separating abrasive blasting particles from an abrasive contaminant mixture comprising a housing defining a separating zone and metering means

for introducing the mixture into the upper portion of the separating zone, means for introducing a single air curtain through a first wall of the housing and across the separating zone, outlet means in a second wall of the housing for the air curtain, a first skimmer plate in the separating zone intermediate the first and second walls positioned so that the air curtain carries lightweight contaminant thereover and permits heavier particles thereof to slide down the first skimmer plate and diverts the fall of the remaining mixture, second and third skimmer plates vertically spaced from each other in the separating zone below the first skimmer plate, the second and third plates defining a passage for heavy contaminant diverted by the



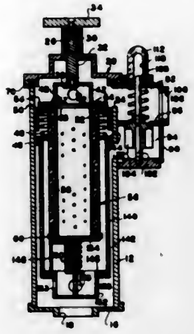
air curtain and permitting pure abrasive particles to fall past the third skimmer plate, means for collecting the pure abrasive particles for re-use, means connected to deliver the heavy contaminant from the passage for reintroduction into the upper portion of the separating zone with the contaminant mixture, the second wall and the vertically spaced first and second splitter plates defining a common collection reservoir for the heavier particles of the lightweight contaminant and intermediate weight particles which pass between the first and second skimmer plates, the reservoir being positioned beneath the outlet means for the air curtain, and means to remove contaminant material from the reservoir.

3,368,678
PURIFICATION OF DRY CLEANING SOLVENTS
Herman Spencer Gilbert, Angleton, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Jan. 11, 1965, Ser. No. 424,830
3 Claims. (Cl. 210—75)

A process of filtering a dry cleaning solvent which comprises passing the solvent through a layer of an anionic-type filter aid having an adherent, water-insoluble coating of a normally water-soluble, organic, resinous, cationic polymer.

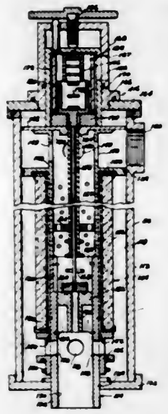
3,368,679
FILTER WITH DROP-IN ELEMENT
John W. Bozek, Waterford, Mich., assignor to The Rosaen Filter Company, Hazel Park, Mich., a corporation of Michigan
Filed Apr. 29, 1965, Ser. No. 451,758
12 Claims. (Cl. 210—90)

A fluid filter device provided with a cylindrical filter element having an upper outwardly extending flange to engage with a spring mounted member upon insertion of the filter element into the housing of the device for mounting the element in place. A retainer is positioned from the exterior of the housing to urge the filter element flange into sealing engagement with the spring mounted member and a pressure responsive indicating and bypass axially through the filter element and in combination with mechanism is provided to indicate the clogged condition of the filter element and to open a bypass path around the element upon it becoming unduly clogged. In one modification of the device fluid flow through the inlet into the interior of the housing is automatically closed upon removal of the element, in another a path is simul-



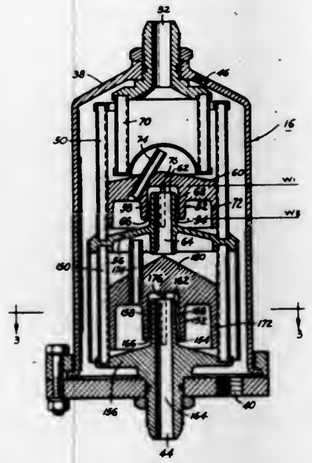
taneously opened from the interior of the element to the inlet to prevent backwash during removal and in still another a path is automatically opened bypassing the filter chamber upon the element being removed so that fluid can continue to flow through the device while the element is being cleaned or replaced.

3,368,680
FILTER WITH ELEMENT SUBASSEMBLY
John W. Bozek, Waterford, Mich., assignor to The Rosaen Filter Company, Hazel Park, Mich., a corporation of Michigan
Filed May 4, 1965, Ser. No. 452,991
8 Claims. (Cl. 210—90)



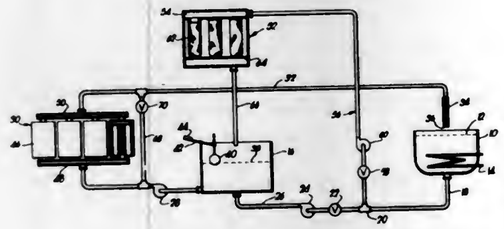
A filter device including a housing defining a filter chamber and having an inlet and an outlet opening thereto, a cylindrical filter element mounted in the filter chamber with the exterior thereof exposed to fluid from the inlet and the interior connected with the outlet. A bypass valve mechanism is carried in one end of the filter element and normally blocks flow through the end of the element directly from the inlet to the outlet and is operable upon the filter becoming unduly clogged to open and thus bypass the filter element. A rod connects axially with the bypass valve mechanism and extends other mechanism indicates the position of the bypass valve and thus the condition of the element. In one embodiment the rod actuates an indicator which moves in the same axis as the rod and in another embodiment the rod through linkage mechanism actuates the indicator which moves in an axis normal to the axis of the rod. A valve mechanism is provided in one embodiment which closes the inlet upon removal of the filter element and opens the interior of the filter element to the inlet upon removal of the element so that removal will not tend to produce a backwash of the filter element.

3,368,681
WATER DISCHARGE DEVICE
Walter Kasten, Madison Heights, Mich., assignor to The Bendix Corporation, Madison Heights, Mich., a corporation of Delaware
Filed Mar. 12, 1965, Ser. No. 439,191
6 Claims. (Cl. 210—114)



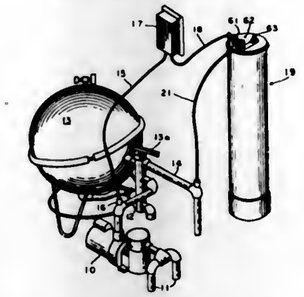
The following relates to a water discharge device, for use in connection with the sump port of a fuel filter water separator, which utilizes a hydrophobic partition to separate coalesced water from fuel and a syphon-type water drain outlet to discharge the coalesced water. A block-type deflector is utilized to reduce the effective volume of the syphon chamber, so that a more rapid rise of fluid will occur therein, and to permit maximum use of the fluid velocity head by deflecting fluid flow directly against the hydrophobic partition.

3,368,682
SYSTEM FOR REGENERATING COOKING OIL
Arthur A. Boots, 411 W. Central St., Carthage, Mo. 64836
Filed Dec. 23, 1964, Ser. No. 420,549
2 Claims. (Cl. 210—121)



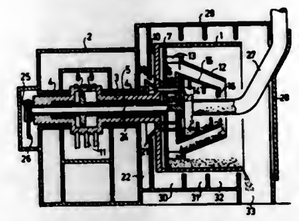
A cooking oil regenerating system having an oil reservoir and a cooking vessel. A control circuit operates electrically responsive valves and pumps to normally flow the oil through a filtering circuit to remove impurities suspended in the oil. The control circuit also operates electrically responsive valves and pumps to bypass the filter and to flow the oil at increased pressure through a strainer circuit and into the vessel to flush impurities from the cooking vessel. A flexible outlet facilitates manual manipulation of the oil stream to assist in the flushing operation.

3,368,683
POOL WATER TREATMENT SYSTEM
Stanley F. Rak, Mundelein, Ill., assignor to Culligan, Inc., Northbrook, Ill., a corporation of Delaware
Filed Apr. 30, 1965, Ser. No. 452,165
6 Claims. (Cl. 210—138)



A pool water treatment system having a pump drawing water from the pool and circulating it through a filter from whence it is returned to the pool. The system includes a treating solution storage tank having a flexible liner therein containing treating solution. A time controlled solenoid valve periodically passes pressure fluid from the discharge side of the pump to the storage tank to compress the flexible liner and force the treating solution through an anti-siphon valve on the tank to the water stream being returned to the pool from the filter. The anti-siphon valve prevents removal of the treating solution from the storage tank by suction.

3,368,684
CONTINUOUSLY OPERATING CENTRIFUGING DEVICE
Ernst Rüegg, Kusnacht, Switzerland, assignor to Escher Wyss Limited, Zurich, Switzerland, a corporation of Switzerland
Filed Aug. 7, 1967, Ser. No. 658,708
Claims priority, application Switzerland, Aug. 23, 1966, 12,142/66
11 Claims. (Cl. 210—374)



A centrifuging device for continuously dehydrating a liquid-solids mixture, comprising a clarifying centrifuge and a pusher-type centrifuge incorporated with each other so as to thicken said mixture first in said clarifying centrifuge and then dry in said pusher-type centrifuge; the mixture discharge orifice of said clarifying centrifuge immediately opening into the inlet funnel of said pusher-type centrifuge.

3,368,685
ANTI-BOW BAR ASSEMBLY FOR FILTER BELT
Walter H. Sanderson, Greenbrook, N.J., assignor to Komline-Sanderson Engineering Corporation, Peapack, N.J., a corporation of New Jersey
Filed Nov. 22, 1965, Ser. No. 509,025
12 Claims. (Cl. 210—401)



An apparatus having plural series of rollers adjustable with respect to each other to act against adjacent sections of a filter web to correct for leading or trailing bows in the same. The middle series of rollers is supported on a main frame with the outer two series on adjustable auxiliary frames carried by said main frame; the individual rollers being carried at varying distances from the longitudinal axis of the frame for the desired web support and skewed to stretch the web. Tapered end rollers are included to guide the reinforced edge of the web.

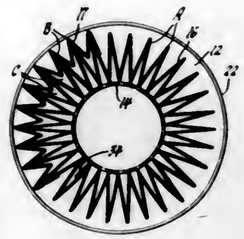
3,368,686
SWIMMING POOL SCOOP AND SKIMMER
Albert V. Petrik, 2866 Joyce Road, Roslyn, Pa. 19001
Filed Dec. 12, 1966, Ser. No. 600,855
5 Claims. (Cl. 210—407)



1. A swimming pool appliance comprising an elongate handle, a loop extending from and fixed to one end of said handle, straining means extending across said loop, and a baffle carried by said loop remote from said handle and spaced apart from the plane of said loop and forward thereof so that unitary loop-and-baffle movement through a liquid with said baffle forward effects stirring of the liquid to raise debris into the straining means.

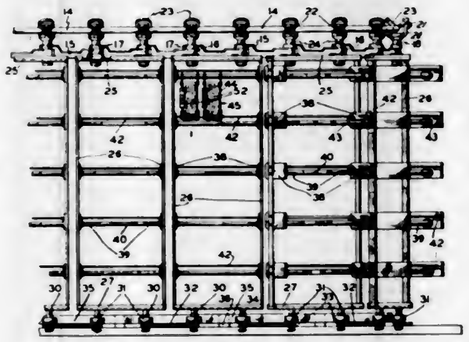
3,368,687
SERIES PARALLEL SHEET MEDIA FILTER ELEMENT
Donald C. Ruschman, Davison, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 11, 1965, Ser. No. 424,609
2 Claims. (Cl. 210—457)

1. A filter element defining a flow path for liquid, said element comprising a cartridge having end caps, a central perforated tube joining said end caps, an opening in one of said end caps and communicating with said tube, a first large sheet of filtering material formed into a series of pleats extending completely around said tube with inner folds of said pleats contacting said tube, a second smaller sheet of filtering material coextensive with and overlying an arcuate portion only of said first large sheet and nested with said arcuate portion to contact the apices only of some of the outer folds of the latter,



said second smaller sheet having opposed edges sealed to said end caps and to said first large sheet to define an arcuate series of spaces separated by only some of said pleats, and the porosity of one of said sheets being greater than the porosity of the other of said sheets.

3,368,688
DOCUMENT STORAGE AND RETRIEVAL APPARATUS
Morton A. Weiss, Springfield, and Bernard S. Speckhart, Union, N.J., assignors to White Machine Co., Kenilworth, N.J., a corporation of New Jersey
Filed Oct. 21, 1965, Ser. No. 499,826
6 Claims. (Cl. 211—1.5)



Apparatus is described for the storage and retrieval of documents which consists of an endless oval-path conveyor supported above the floor on which a number of racks are suspended which in turn hold a plurality of suspended filing folders. To store or retrieve documents in the filing folders, a motorized drive mechanism is provided which causes the suspended files to move around the oval track until they reach a location where it is convenient to stop the conveyor and either inert documents or remove them from the filing folders as desired.

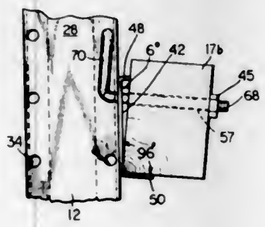
3,368,689
BALL INFLATING BRACKET
Burl Raymond Porterfield, Box 335, Tuba City, Ariz. 86045
Filed Nov. 12, 1965, Ser. No. 507,461
2 Claims. (Cl. 211—14)

A ball inflating bracket comprising a first arm adapted to be fixed to a support, a socket formed on said first arm, said socket being adapted to receive a manual inflating pump, a second arm connected to and extending



laterally from the socket, and a ball supporting cup on the second arm.

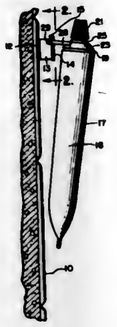
3,368,690
ATTACHMENT MEANS AND BARREL STORAGE STRUCTURE EMPLOYING SAME
Anthony N. Konstant, Mount Prospect, Ill., assignor to Speedrack Inc., Skokie, Ill., a corporation of Illinois
Filed Dec. 27, 1965, Ser. No. 516,246
13 Claims. (Cl. 211—71)



Attachment means for supporting a horizontal rail from a vertical column. Bolt members having portions bent at an angle to each other are employed with one portion pivotally supported in holes passing horizontally through the column. The rail is supported on a plate member having a lower ledge portion on which the rail rests and a hole through which the other portion of the bolt member passes. The support member may be constructed to offset the rail from the vertical so that the upper surface of the rail slopes downward from the column, and the use of parallel facing pairs of rails supported in this manner provides a storage unit wherein barrels having convex sidewalls can be easily stored, which also incorporates fore-and-aft walkways for moving such barrels into and out of storage positions.

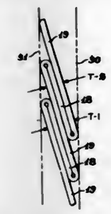
3,368,691
RECEPTACLE OR CONTAINER STORAGE MEANS
Robert A. Blake, 3115 55th Court, Cicero, Ill. 60650
Filed Oct. 22, 1965, Ser. No. 500,849
3 Claims. (Cl. 211—87)

Means for storing collapsible tube type containers including an elongated finger adapted to be detachably connected to a collapsible tube type container which finger is selectively insertable in any one of a plurality of slots



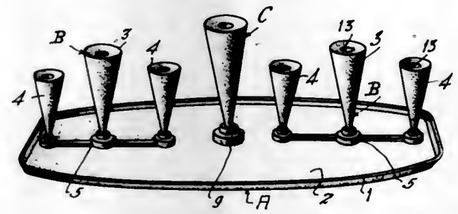
formed in a storage rack to thereby support the container.

3,368,692
PLEATED POCKET FORMING METHOD
Ronald L. Voller, Niles, Ill., assignor, by mesne assignments, to Coniker Enterprises, Inc., Chicago, Ill., a corporation of Delaware
Filed Jan. 20, 1964, Ser. No. 338,777
23 Claims. (Cl. 211—87)



An apparatus and method for producing a scoring groove in a plastic sheet in a manner such that a compression extrusion is produced adjacent the border of the groove and the walls of the scoring groove are stressed to cause the opposed sides of the groove to draw together and to bend the surfaces of the sheet bordering the groove towards each other. The apparatus and method further involve the production of a plastic sheet which is scored alternately on opposite sides and is assembled and sealed to provide a staggered pleated pocket device.

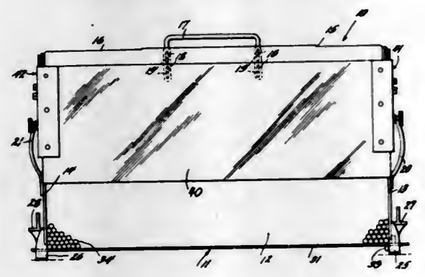
3,368,693
CENTERPIECE TRAY WITH SWIVELING CANDLE HOLDERS
Ion J. Bochory, 9 E. Ferry Lane, Westport, Conn. 06880
Filed Nov. 8, 1965, Ser. No. 506,815
1 Claim. (Cl. 211—126)



A plurality of article holder units each comprising a base having a central article holder and a plurality of branches each having an article holder, are releasably and

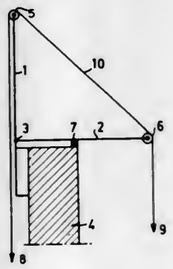
adjustably held on a tray by cooperative elements certain of which are disposed at predetermined positions in the surface of the tray and each of certain others of which is disposed in the bottom of said base coaxially therewith providing for releasable holding of the unit on the tray in any of said positions and for rotation of the units about an axis formed by said elements when they are connected together.

3,368,694
CIGARETTE TRAY CONSTRUCTION
James Ernest Morris, James Arthur Mason, and Julius Szaksz, Richmond, Va., assignors to The Molins Organisation, Limited, London, England, a corporation of Great Britain
Filed Sept. 28, 1965, Ser. No. 490,839
8 Claims. (Cl. 211—134)



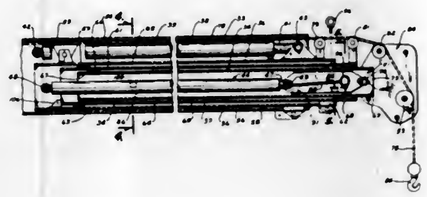
A tray for receiving a stack of cigarettes for transporting the same from one machine to another, the tray having one open side through which the cigarettes are introduced into the tray, and a control plate supported on the tray for guided displacement from an operative position across the open side of the tray, in which it blocks accidental discharge of cigarettes during transportation, to an inoperative position at the opposite side of the tray, to permit introduction of the cigarettes, and having devices for retaining the closure plate in the operative position to resist unintentional displacement of the plate.

3,368,695
DEVICE FOR HOISTING LOADS, FOR EXAMPLE ANTENNAE ON TOWERS OR MASTS
Marcel Morihain, Paris, France, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 8, 1966, Ser. No. 563,893
Claims priority, application France, July 13, 1965, 24,422
4 Claims. (Cl. 212—8)



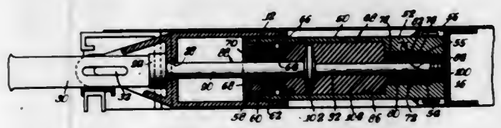
A hoisting device for placing a load on a tower, such as an antenna on top of the tower having a fixed vertical arm and a swinging boom whereby one rope over the pulleys on the vertical arm and boom enables the boom to be swung to a vertical position. The latter is accomplished by a device which temporarily connects the boom to the rope.

3,368,696
TELESCOPIC CRANE BOOM
Roger L. Johnston and Kenneth O. Freund, Fort Dodge, Iowa, assignors to Sargent Engineering Corporation, Fort Dodge, Iowa, a corporation of Iowa
Filed Oct. 17, 1966, Ser. No. 587,053
6 Claims. (Cl. 212—59)



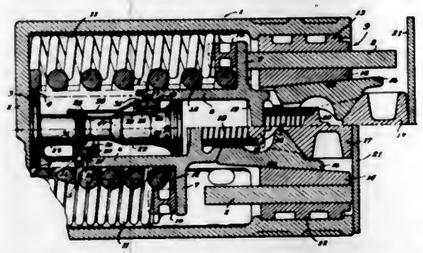
1. A telescopic hydraulically extensible boom for a crane or the like having at least three sections comprising:
(a) a first section,
(b) a second section telescopically received in the first section,
(c) a fly section telescopically received in the second section,
(d) a linearly extendible power means positioned interiorly of said fly section, when the fly section is telescoped within said second section, and connected at one end to the inner end of said first section, and
(e) means for detachably connecting the opposite end of said power means either to the outer end of said fly section or to the inner end of said fly section and the outer end of said second section.

3,368,697
CUSHIONING DEVICE
Robert L. Carlson, Chicago, Ill., assignor to W. H. Miner Inc., Chicago, Ill., a corporation of Delaware
Filed Mar. 22, 1966, Ser. No. 536,451
10 Claims. (Cl. 213—40)



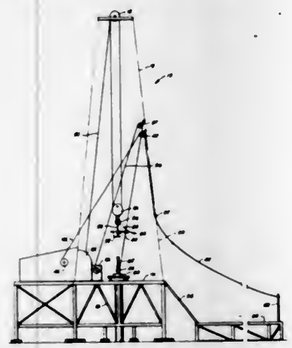
1. A damped spring comprising an elongated casing with a chamber therein, a piston rod extending through said chamber and having first and second sections, said first piston rod section having a larger diameter than said second piston rod section, a collar assembly on said second piston rod section and being movable in one direction therewith, said collar assembly having a larger diameter than said first piston rod section, a piston on said piston rod within said chamber intermediate said first and second piston rod sections and presenting axial orifice means, and a compressible solid filling said chamber for providing a damping and spring force on said piston rod and said piston as said first piston rod section or said collar assembly moves into said chamber and reduces the volume of said solid.

3,368,698
HYDRAULIC DRAFT GEAR WITH CONSTANT FORCE DEVICE
Lloyd Cardwell, Chicago, Ill., assignor to Cardwell Westinghouse Company, a corporation of Delaware
Filed Jan. 12, 1966, Ser. No. 520,208
9 Claims. (Cl. 213—43)



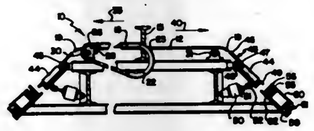
A hydraulic draft gear for use on railroad cars in which the pressures exerted on the draft gear during impact are levelled out and wide variations in pressure during slipping and gripping of the friction clutch are avoided by providing a second piston within the main piston, the second piston controlling ports connecting the high pressure side of the main cylinder with the low pressure side, the ports being of circular or other shape so that they gradually decrease in cross-sectional arrangement in the direction of closure thereof by the second piston. The second piston is spring biased toward closed position and the biasing spring is so related to the maximum pressure for which the device is designed that the second piston opens the orifice to a position representing the maximum rate of increase of area when maximum pressure is exerted on the draft gear. As a result, when the pressure on the gear is released the orifice close at a gradually decreasing rate and therefore tends to even out the variations in pressure.

3,368,699
PIPE HANDLING METHODS AND APPARATUS
Orville C. Scaggs, 918 W. Choctaw, Lindsey, Okla. 73052
Filed Sept. 17, 1965, Ser. No. 488,042
13 Claims. (Cl. 214—2.5)



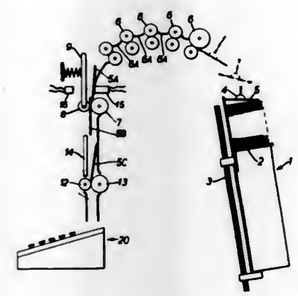
A method and apparatus for handling pipe, particularly drill collars in a well drilling rig, wherein the elevator assembly, including an adaptive guide tool, is employed to remove a drill collar section from the string to a standby position; whereupon the elevator can be relatched to the next drill collar in the string while the guide tool and associated rigging is employed to move the drill collar section from the standby position outward onto the pipe rack thereby avoiding any dragging contact with the pipe rack and storage equipment.

3,368,700
BOARD SEPARATING APPARATUS
Edmund H. Tarrant, Burnaby, British Columbia, Canada, assignor to MacMillan, Bloedel and Powell River Limited, Vancouver, British Columbia, Canada
Filed Oct. 18, 1965, Ser. No. 496,782
17 Claims. (Cl. 214—8.5)



Board separating apparatus including an inclined ramp down which unseparated upper and lower boards slide laterally, stop means along and projecting above the surface of a lower edge of the ramp, and means for changing the relative position of the ramp lower edge and the stop means to adjust the amount of the stop means projecting above the ramp surface, said changing means being operable selectively to cause the stop means to engage the lower board alone, both boards or neither board.

3,368,701
SERIATIM PRESENTATION OF ARTICLES FOR VIEWING
Geoffrey Percy Copping, Chesham, and Kenneth William Herbert Whittington, Barking, England, assignors to Her Majesty's Postmaster General, London, England
Filed Oct. 12, 1965, Ser. No. 495,224
Claims priority, application Great Britain, Oct. 15, 1964, 42,139/64
20 Claims. (Cl. 214—11)



1. Apparatus for presenting each of a series of individual flat items which are not connected to one another in turn at a viewing position comprising in combination:
(a) conveying means for bringing each item in turn to the viewing position in a substantially vertical orientation,
(b) gripping means located at the viewing position for holding the item whilst in the viewing position along its upper edge only, and
(c) releasable control means for controlling the operation of said gripping means and conveying means.

2. Apparatus as claimed in claim 1 in which the gripping means comprises means for feeding the item from the conveying means into the viewing position and for thereafter holding the item, in that viewing position, along its upper edge only.

14. Apparatus as claimed in claim 2 in which the control means comprises means for determining the instant at which the feed ceases for causing the item to then be held stationary by the gripping means.

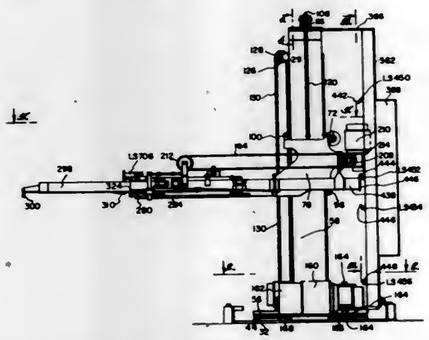
15. Apparatus as claimed in claim 14 and further comprising, in combination with said control means, keyboard

operated means for controlling both said control means to govern the passage of an item through the apparatus and the eventual destination of said item.

3,368,702
VERTICAL LEVEL LOCATOR FOR A PALLET HANDLING MACHINE

Eugene E. Crile, Paul M. Thomas, and William R. Thomas, Phoenix, Ariz., assignors to Builders Equipment Company, Glendale, Ariz., a corporation of Arizona

Application Apr. 8, 1965, Ser. No. 460,885, which is a division of application Ser. No. 218,410, Aug. 21, 1962, now Patent No. 3,233,754, dated Feb. 8, 1966. Divided and this application June 23, 1966, Ser. No. 571,667
9 Claims. (Cl. 214—16.4)



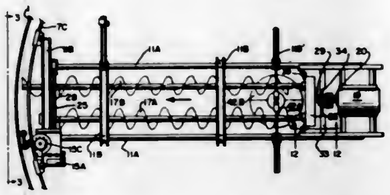
1. In a means for handling building block pallets comprising: a first machine disposed to transfer block laden pallets from a building block producing machine to a rack having a plurality of substantially horizontal vertically spaced rack shelf portions, the invention comprising pallet carrying means of said first machine for carrying block laden pallets thereon; vertically movable means for moving said pallet carrying means up and down; horizontally reciprocating means for reciprocating said pallet carrying means horizontally; pallet engaging means connected to said pallet carrying means and engageable with an unladen pallet supported on said rack; fifth means of said first machine responsive to the engagement of said pallet engaging means with said unladen pallet to establish a vertical level at which said vertically movable means will stop for delivery of the next laden pallet so that said horizontally reciprocating means may place said next laden pallet at the correct vertically spaced rack shelf which was previously occupied by said unladen pallet, said fifth means comprising a vertically movable locating means movable in correspondence with said vertically spaced rack shelf portions; first power operated means disposed to move said locator means; second power operated means operable in response to engagement of said pallet engaging means with an unladen pallet, said second power operated means when thus operated disposed to stop movement of said locator means in a position corresponding to a position of said unladen pallet.

3,368,703
SILO AUGER ASSEMBLY OF THE SWEEP FRAME TYPE

William H. Lusk, Louisville, Ky., assignor to Clayton & Lambert Manufacturing Company, Buckner, Ky., a corporation of Delaware

Filed Feb. 21, 1966, Ser. No. 528,840
15 Claims. (Cl. 214—17)

A silo auger assembly having (A) a radial sweep-frame motorized to rotate or sweep about a vertical sweep axis at its inner end, this axis corresponding to the vertical central axis of a silo; (B) a channel-former, which, during the silo filling operation, is supported at the inner end of the assembly to depend along the silo axis; and (C) a pair of radially-extending spaced parallel right and left hand augers (1) mounted on the sweep frame for constrained auger-interchanging movement (*a*) from a silage spreading position, in which the right hand auger is located on one side of the left hand auger, (*b*) to a silage unloading position, in which the right hand auger is located on the other side of the left hand auger, and (2) motorized to rotate the bottom side of both augers toward each other in both positions so that they always scrape silage into the space between them.

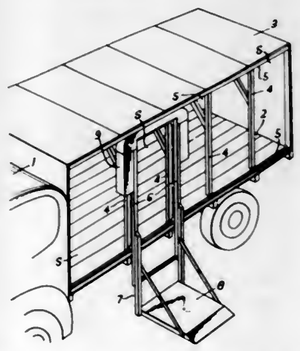


In the silage spreading position, the assembly operates to receive the incoming silage at its inner end, contemporaneously move it radially outward and rotationally so as to spread it uniformly about the channel-former, which functions progressively (as the filling operation proceeds) to form a silage discharge conduit extending upwardly through the center of the silage column and which is removed at the end of that operation. In the unloading position, the assembly operates to scrape silage from the top of the column and move it radially inward to the center of the silo where it falls through the silage discharge conduit.

3,368,704
VEHICLE LOADING AND UNLOADING APPARATUS

Henry C. Pope, Harpole, England, assignor to H. C. Pope Limited, Northampton, England, a corporation of Great Britain

Filed Jan. 5, 1966, Ser. No. 518,944
11 Claims. (Cl. 214—75)

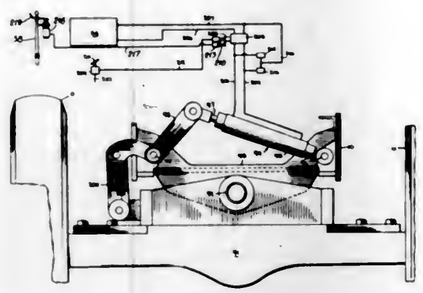


A wheeled vehicle having a body and a load-bearing floor and provided at one side at least, of its body, with a framework forming a plurality of loading stations. Mounted for movement up and down on a second framework which is itself horizontally movable from station to station along vertically-spaced guides on said first framework, is a load-carrying structure for lifting goods between ground level and at least one other level at or above the level of the load-bearing floor.

3,368,705
OVERSHOT LOADER

Herbert L. Orwig, Rochester, and Lloyd A. Molby, Batavia, N.Y., assignors, by mesne assignments, to Eaton Yale & Towne Inc., a corporation of Ohio

Original application Mar. 12, 1963, Ser. No. 264,520, now Patent No. 3,252,605, dated May 24, 1966. Divided and this application Oct. 5, 1965, Ser. No. 513,879
5 Claims. (Cl. 214—765)

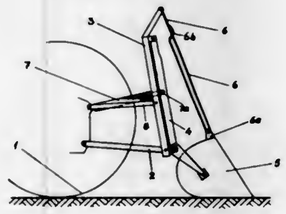


The body or frame of a vehicle is stabilized relative to an axle pivoted about a horizontal axis by a ram connected to the body and axle. A fluid circuit to the ram normally permits the ram to float but when the vehicle brakes are applied or during other conditions, the circuit to the ram is closed to lock the ram and thus stabilize the frame or body.

3,368,706
TRACTOR-MOUNTED LOAD-HANDLING APPARATUS

Eino Kalervo Vaalimaa, Peltosalmen Konepaja, Iisalmi, Finland; Vilho Juhani Sarvela, Menninkaisentie 10C, Tapiola, Finland; and Jaakko Hermann Sarvela, Peltosalmen Konepaja, Iisalmi, Finland

Filed Aug. 30, 1965, Ser. No. 483,722
2 Claims. (Cl. 214—766)

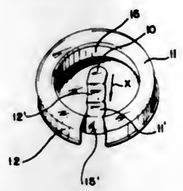


1. In combination with a tractor, a load-handling apparatus comprising an upright frame, tow-bars connecting the lower end of said frame to said tractor, at least one link connecting the middle part of said frame to said tractor, an elongated swinging member having an upper end swingably connected with said frame adjacent the top of said frame, said swinging member in its inoperative position extending substantially parallel and close to said frame, a jack adjustably connected to said swinging member intermediate the ends of said swinging member, means pivotally connecting said jack to said tractor close to the connection of said link to said tractor, said jack swinging said swinging member from said inoperative position to at least a horizontal position, and a load-holding member connected with the lower end of said swinging member.

3,368,707
DIFFERENTIAL PRESSURE FORMED PLASTIC CONTAINER CAP OR CLOSURE

Robert T. Johnson and Gaylord W. Brown, Beaverton, Mich., assignors to Brown Machine Company of Michigan, Inc., Beaverton, Mich., a corporation of Michigan

Filed Aug. 25, 1966, Ser. No. 575,045
8 Claims. (Cl. 215—46)

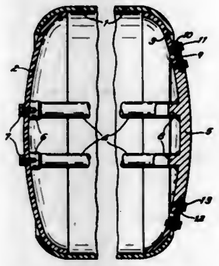


4. A thin-walled plastic container cap thermoformed in an extruded plastic sheet comprising: a top wall having a surrounding dependent unscored skirt adapted to fit on the neck of a container; and a projecting tab portion extending from said skirt with its side edges extending substantially in alignment with the direction of extrusion of said sheet so that the tab portion, when lifted from the skirt, tears a portion from the skirt having substantially parallel edges extending substantially in the said direction of sheet extrusion.

3,368,708
FILAMENT WOUND TANK DESIGN

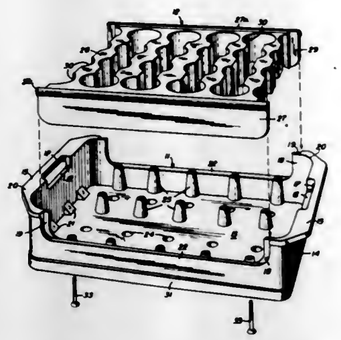
Fred R. Pflederer, Little Rock, Ark., assignor, by mesne assignments, to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed July 28, 1966, Ser. No. 568,451
8 Claims. (Cl. 220—3)



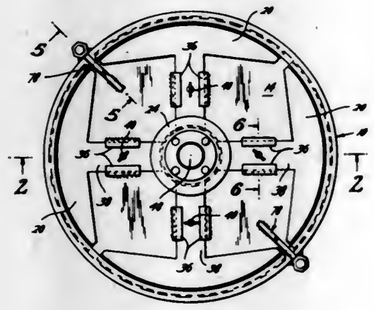
1. A filament wound vessel, comprising a cylindrical wall section having a hoop-to-axial stress ratio in the range of 5:1 to 8:1 and composed of a helically wound fibrous strand bonded with a thermosetting resin, a head connected to one end of the cylindrical wall section, an annular head section connected to the opposite end of the cylindrical wall section and having an opening, a member disposed within the opening, flexible sealing means for sealing the space between said member and said head section to permit relative movement between said member and said head section, and rigid connecting means secured between said head and said member, the radial component of the internal pressure within said vessel tending to expand said cylindrical wall section radially and move said head and said head section toward each other and a portion of the axial component of said internal pressure tending to move said member in a direction away from said head to thereby resist the axial pressure.

3,368,709
BOTTLE CARRYING CASE OR THE LIKE
Joseph B. Waller, 2920 The Alameda, Baltimore, Md. 21218
Filed Feb. 28, 1966, Ser. No. 530,666
4 Claims. (Cl. 220—21)



The structure includes a main bottom member having received thereon and attached thereto a separable unitary member with a transversely extending partition member or members. The main or bottom member has an elongated base portion with upstanding oppositely disposed ends having hand grasp openings therein and joining the ends are oppositely disposed sides extending up vertically less than the height of the ends. The ends of the main member have inwardly extending portions at each end thereof with the lower portion thereof joining with the longitudinal sides of the main member while the upper portion of the inwardly extending portions terminate in a joint portion to receive a joint portion on the separable unitary member. This separable unitary member has longitudinal sides between which extend transversely the partition or partitions and these longitudinal sides have joint portions that fit the joint portions of the main or bottom member.

3,368,710
PRESSURE VESSEL COVER
William R. King, 201 Betty Drive, Longview, Tex. 75601
Filed Apr. 11, 1966, Ser. No. 541,553
10 Claims. (Cl. 220—44)



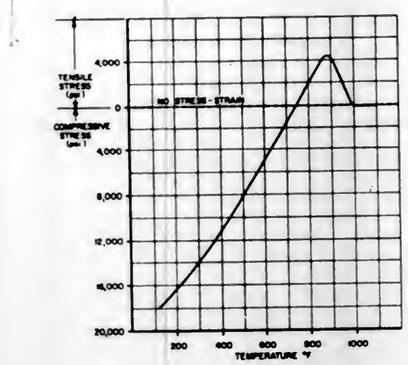
1. A pressure vessel closure comprising
an annular upwardly facing shoulder within the pressure vessel,
an annular downwardly facing shoulder within the pressure vessel above the upwardly facing shoulder and having an inside diameter at least substantially as large as the outside diameter of the upwardly facing shoulder,
a cover member resting on said upwardly facing shoulder,
an O-ring seal circumscribing said cover member,
a plurality of latch members on said cover member adapted to be moved radially outwardly to engage said downwardly facing shoulder,
an upwardly extending vent member on said cover member forming a fluid passage from below said cover member to above said cover member,
a vent cover adjustably engaging the upper end of the vent member and having a first position closing the upper end of the vent member and a second position opening said vent member to the atmosphere,
a latch securing device adapted to be positioned in a first position to prevent retraction of said latch members and in a second position to allow such retraction,
and means on said vent cover holding said latch securing device in said first position when said vent cover is in said first position and allowing movement of said latch securing device to said second position when said vent cover is in said second position.

3,368,711
LOCKING LATCH FOR CONTAINER CLOSURE
Harry H. Dubo, % Universal Handling Equipment Co., 100 Burland Crescent, Hamilton, Ontario, Canada
Filed Dec. 30, 1964, Ser. No. 422,237
4 Claims. (Cl. 220—55)

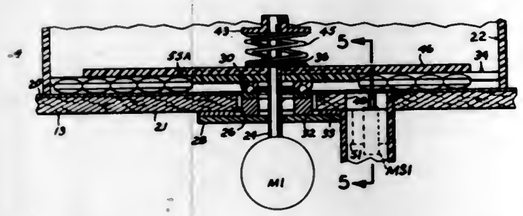
An open-topped, massive refuse container normally subjected to abusive and rough handling and including means for lifting and dumping, in conjunction with coplanar closure panels having a sealing and orientating member overlying their inner edges and a toggle latch on said panels in cooperation with the orienting member and a keeper plate drawing the inner edges together and maintaining dimensional stability.

3,368,712
SEMICRYSTALLINE GLASS AND METHOD OF APPLYING THE SAME TO METALLIC BASES
Elbert A. Sanford and Donald H. Hall, Rochester, N.Y., and Gordon P. K. Chu, Piscataway, N.J., assignors to Ritter Pfaudler Corporation, a corporation of New York
Continuation of application Ser. No. 40,610, July 5, 1960. This application Nov. 10, 1966, Ser. No. 593,346
6 Claims. (Cl. 220—64)

Metal vessels having a corrosion, abrasion and impact resistant glassy coating containing a multiplicity of very small crystals formed in situ and distributed throughout the coating, and process for manufacturing the same consisting of fusing the glassy coating on the surface of a vessel and maintaining the same at a crystallization temperature for formation of crystals in the glassy layer or in the glassy coating. Composition of the coatings and fusing temperatures are disclosed.

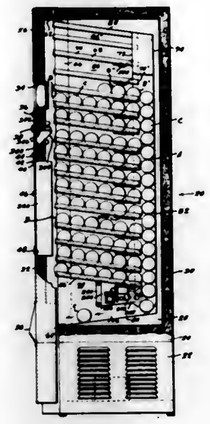


3,368,713
ARTICLE COUNTING DEVICE
Kerney J. Hurst, 25 Rockledge Road, Hartsdale, N.Y. 10530, and Walter G. Pearson, 104 Hilltop Drive, Pineville, La. 71360
Continuation-in-part of application Ser. No. 462,672, June 9, 1965. This application Aug. 15, 1966, Ser. No. 572,320
3 Claims. (Cl. 221—7)



1. In an article counting device having a support forming an inclined upper surface, a ring removably mounted on the inclined surface forming an article receiving hopper, a motor having a drive shaft projecting through the support coaxial with respect to the ring, a radially slotted disk coaxially connected to the drive shaft above the inclined surface, a cover disk coaxially connected to the drive shaft and overlying the slotted disk in circumferential inwardly spaced relation with respect to the periphery of the latter, said support having an opening underlying the path of travel of the innermost end portion of the slots in the slotted disk, a normally open switch mounted on the support adjacent the opening and in the path of travel of the innermost end portion of the slots, and article counting means interconnecting a source of electrical energy with the motor and the normally open switch, the improvement comprising: spacer means mounted on said support around said drive shaft and underlying said slotted disk for maintaining said slotted disk in selected spaced relation above said support; and resilient means connected with the end portion of said drive shaft projecting through said support and bearing against said cover disk for maintaining the spacing between said slotted disk and said inclined surface constant.

3,368,714
DISPENSING MECHANISM
Wilmer Jack Wingate and Clarence A. Wingate, both % Wingate Manufacturing Co., 4750 Airport Drive, Charlotte, N.C. 28208
Filed Dec. 30, 1965, Ser. No. 517,777
6 Claims. (Cl. 221—108)
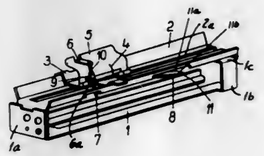


1. A dispensing mechanism comprising a gravity feed main supply chute disposed for containing a column of articles, escapement means at the lower end of said main supply chute for dispensing articles singly from the lower end of said article column, a plurality of inclined storage ramps arranged along said main supply chute and opening thereinto for storing articles in each ramp when the article column in the supply chute extends therebeyond and for supplying articles by gravity from each ramp to the upper end of the article column as the upper end of the column progresses past the storage ramp with the lead article in each ramp resting against the article column for ready discharge into the chute when the upper column end progresses thereto, and article retaining means at at least one of said ramps retainingly engageable with the article following said lead article in said ramp to separate the lead article from said following article and allow said lead article to rest against the article column in said chute free of the pressure of the row of articles, said article retaining means being operable upon movement of the lead article into said chute to release the following article for advancement into lead article position.

3,368,715
CIGARETTE DISPENSER
Walter Beha and Fredy Muschiol, Frankfurt am Main, Germany, assignors to Schoeller & Co. Elektrotechnische Fabrik, Frankfurt am Main, Germany
Filed May 17, 1966, Ser. No. 550,813
Claims priority, application Germany, May 26, 1965, Sch 37,130
7 Claims. (Cl. 221—147)

A dispening unit for transporting a cigarette into engagement with an ignition device and then transporting the lighted cigarette to an access opening in a cigarette dispenser is disclosed. This dispensing unit is an improvement on the dispensing unit shown in Rott et al. U.S. Patent No. 2,936,930.

The dispensing unit includes a claw slidable along a trough between the ignition device or lighter and the access opening of the dispensing unit. A spring biased clip is pivoted on the claw to clamp a cigarette in the claw during transport from the cigarette receiving position to the lighter and from the lighter to the dispensing opening. Feeler means, in the form of a pin slidably mounted on the clamp but pivotal with the latter, are provided in engagement with a templet extending along the trough. The pin, in engagement with the templet, pivots the clip to the opened position when the claw is in the cigarette receiving position, and provides for the claw to pivot to the cigarette clamping position as the



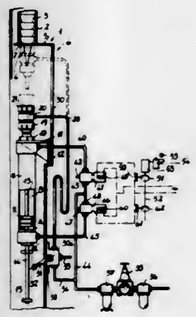
cigarette approaches the lighter. The pin and the templet further provide, due to the slidable mounting of the pin, for the clamp to remain in the cigarette clamping position during transport of the lighted cigarette from the lighter to a position just in advance of the dispensing opening. As the cigarette is moved further toward the dispensing opening by the claw, the pin and the templet cooperate to swing the clip to the opened position so that the cigarette may be readily removed from the claw through the dispensing opening.

3,368,716

ARTICLE GRIPPING DEVICE FOR DRAWING CONTAINERS SEPARATELY

Mario Simonich, Via Legionari di Polonia 25, Bergamo, Italy

Filed Aug. 30, 1966, Ser. No. 581,130
1 Claim. (Cl. 221—210)



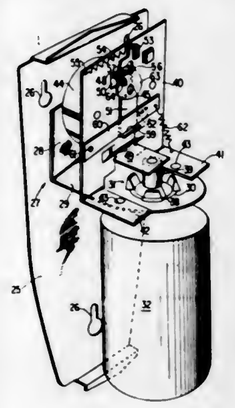
A device for drawing containers, particularly ice-cream containers, from a container stack in at least one vertical reservoir from the lower end of which a portion of the lowermost container in the stack projects. The device has a pneumatic reciprocating motor member, which is provided, in alignment with the vertical channel containing the containers to be separateily drawn, with a prehensile member which is applied by pneumatic action against the projecting portion of the lowermost container to cause the drawing thereof during the stroke in one direction of the motor member. This prehensile member includes an annular chamber defined by a wall which is resiliently deformable under the action of the pneumatic pressure.

3,368,717

DISPENSER

Robert L. Weber III, New Canaan, Conn., assignor to Time-Mist Inc., Stamford Conn., a corporation of Delaware

Filed Oct. 24, 1965, Ser. No. 504,544
17 Claims. (Cl. 222—70)



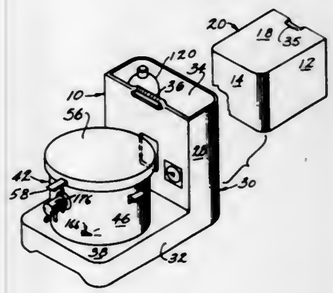
A dispensing apparatus including timing motor means, support means for holding an aerosol container, energy storing and energy release mechanisms cooperating with said timing motor and said aerosol container for periodically actuating the valve of the container to dispense a spray therefrom at predetermined intervals of time.

3,368,718

SODA FOUNTAIN BEVERAGE DISPENSER

Hubert A. Janicek, Jr., 2696 Beechwood Ave., Doraville, Ga. 30040

Filed Mar. 3, 1966, Ser. No. 531,446
10 Claims. (Cl. 222—129.2)



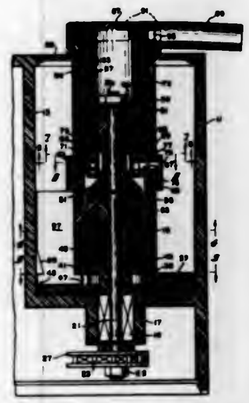
A portable, self-contained, soda fountain dispenser unit primarily intended for home use and in a cabinet enclosing a pressurized tank which includes both the syrup and the water which is pressurized by CO_2 gas providing the carbonated water and the mixing with the syrup under pressure inside the tank so that the pressure in the tank causes the mixture of the carbonated water and the syrup from a single, compact unit.

3,368,719

FOAM PRODUCING AND DISPENSING DEVICE

Alfred W. Wakeman, Durham, Conn., assignor to Dynamics Corporation of America, New York, N.Y., a corporation of New York

Filed Mar. 16, 1965, Ser. No. 440,152
3 Claims. (Cl. 222—146)



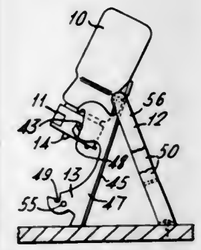
1. A device for dispensing foam at an elevated temperature comprising,
a foam chamber,
an exit port, and
friction producing means including at least two surfaces in frictional contact connecting said chamber and said port for substantially raising the temperature of the foam passing therethrough,
one of said surfaces being part of a cellular structure with intercommunicating cells through which said foam passes,
means for moving said two surfaces relative to each other, and
means for producing discharge of the heated foam through said exit port.

3,368,720

COMMINUTED MATERIALS METERING ASSEMBLY

Nayland Moll, Toronto, Ontario, Canada (76 Rochman Blvd., Scarborough, Ontario, Canada)

Filed Oct. 7, 1965, Ser. No. 493,853
1 Claim. (Cl. 222—181)



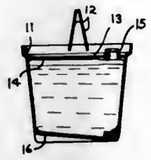
A screw-top metering cap for bottles and the like, intended to be secured reversed upon a wall or to a stand, so that the cap is spaced at least cup-high above a supporting surface, and characterized by downwardly extending projections against which a cup may be pressed so that a measured quantity of comminuted material in the bottle will be precipitated into the cup.

3,368,721

LIQUID DISPENSING CONTAINER

Robert M. Wiskochil, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed Dec. 17, 1965, Ser. No. 514,523
11 Claims. (Cl. 222—183)



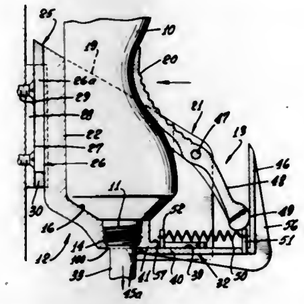
The invention relates to a liquid dispensing container of the "bag in a box" type wherein the bag is provided with both a filling fitment and a dispensing fitment. The filling fitment projects through a cover on the box, while the dispensing fitment projects through a bottom wall portion of the box. The dispensing fitment comprises an elongated flexible tubular member having a portion thereof permanently deformed into substantially flat configuration to inherently prevent the flow of liquid therethrough, and manually operable means are provided to separate the walls of such flat portion to permit flow of liquid.

3,368,722

TUBE FLUID DISPENSER APPARATUS

Robert S. Wallace, 2706 S. Robertson Blvd., Los Angeles, Calif. 90034

Continuation of application Ser. No. 474,293, July 23, 1965. This application Jan. 16, 1967, Ser. No. 609,689
3 Claims. (Cl. 222—214)



The disclosure concerns a dispenser assembly for dispensing fluid from a tube inserted into the dispenser receptacle. A pusher lever is swingable to push against the side of the tube, and also to displace the upright arm of an L-shaped closure for unblocking a dispensing bore in the receptacle, the tube at all times being firmly shouldered in the receptacle.

3,368,723

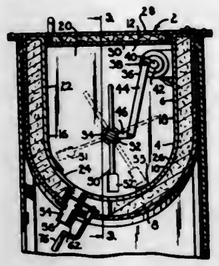
ICE DISPENSING APPARATUS

John L. Hardeman, Merriam, Kans., assignor to Titan Ice Machine Corporation, Kansas City, Mo., a corporation of Missouri

Filed May 31, 1966, Ser. No. 553,782
7 Claims. (Cl. 222—247)

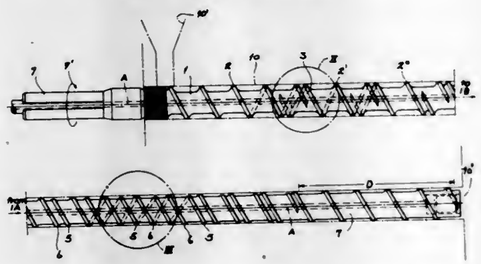
An ice storage and dispensing apparatus including a container having an insulated storage chamber with generally parallel ends and a transversely tapering lower

portion, said container having a discharge passage way communicating with the interior of the storage chamber for movement of ice forms therefrom, the discharge passageway being located slightly upwardly from the bottom of the storage chamber and at one side. There is a closure valve for the discharge passageway which when opened will permit ice forms to pass therethrough. The



container includes an agitating structure oscillatable about an axis longitudinally of the chamber with a plurality of longitudinally spaced outwardly extending members with vanes on end portions to agitate the ice forms to break same apart, the vanes being arranged with surfaces to move ice toward the discharge passage in response to oscillatory movement of the agitator.

3,368,724
PLASTICIZING-SCREW DEVICE
Erhard Peters, Hans Reifenhäuser, and Fritz Reifenhäuser, Troisdorf, Germany, assignors to Firma Reifenhauser KG., a corporation of Germany
Filed Mar. 18, 1966, Ser. No. 535,420
Claims priority, application Germany, Mar. 18, 1965, R 40,141
4 Claims. (Cl. 222—413)



A plasticizing screw for delivering plastified thermoplastic material to an extrusion or injection-molding press having a first axial section provided with at least one external helicoidal thread split longitudinally into a plurality of peripherally offset thread parts with spacedly overlapping ends, the perpendicular gap width S between the ends, the length L of peripheral overlap of the ends and the pitch angle φ of the thread defined between the thread and a plane perpendicular to the axis of the feed screw being in the relationship:

$$L \geqq \frac{S}{\tan \varphi}$$

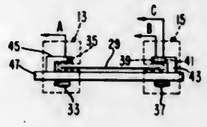
and a second axial section between the first axial section and the outlet of the device provided with a pair of intertwined threads of different external diameters forming a relatively small clearance with the surrounding housing and a relatively large clearance therewith, respectively, whereby fully plasticized material flows readily over the smaller-diameter thread whereas substantially unplasticized material is retained thereby for further plastification.

3,368,725
PACK FRAME
Edward J. Martin, 4909 Fremont Ave., Minneapolis, Minn. 55409
Filed Apr. 17, 1967, Ser. No. 631,344
8 Claims. (Cl. 224—9)



A pack frame with a rigid panel lying against a man's shoulder and carrying a bag, swingable away from the panel when the panel is oriented horizontally as a seat against a tree; the frame having rigid strut members extending downwardly and outwardly from the panel to engage and cradle the tree trunk, and a chain attaching the strut members to the tree.

3,368,726
WEB TRACKING DEVICE
John W. Funk, Dearborn, Sylvester F. Pelowski, Warren, Richard G. Lapham, Livonia, and Christopher D. Andrews, Nankin Township, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Feb. 26, 1965, Ser. No. 435,572
8 Claims. (Cl. 226—17)



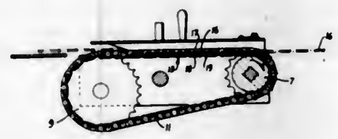
An apparatus for detecting, correcting and indicating different normal and abnormal tracking conditions of a moving web. Photo-electric cells having binary outputs are used to monitor the position of the moving web. Logic circuitry translates the various combinations of the binary outputs into signals representing different web conditions. These signals selectively control electromagnetically adjustable rollers which engage the web to laterally shift its position. The logic circuitry also drives audible or visual indicating and alarm devices for signifying the particular web conditions detected.

3,368,727
PAPER FEEDER
Charles O. Sutton, San Francisco, Calif., assignor to The American Binder Company of California, a corporation of California
Filed Mar. 16, 1966, Ser. No. 534,882
4 Claims. (Cl. 226—74)

1. A tractor form feed for propelling a sheet having perforations at the edge thereof, comprising in combination:

(a) an endless chain having a plurality of links;

(b) said chain having a straight run and passing over a sprocket at the end of said straight run;
(c) tabs extending from at least some of said links, each of said tabs having a pin thereon;
(d) each of said pins being in mating relationship with one of said perforations;



(e) an arm extending forward in the direction of travel from each of said tabs;
(f) each of said arms terminating adjacent to the next forward pin whereby;
(g) said arm supports said sheet at the end of the straight run as said chain passes over the sprocket.

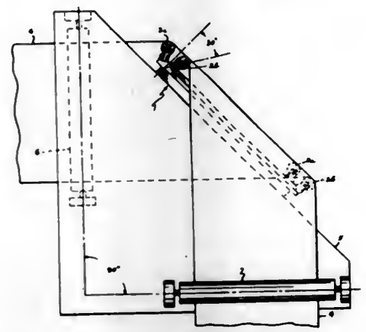
3,368,728
ENDLESS BELT
Ragnar Gudmestad, West Allis, Wis., assignor to Artos Engineering Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Jan. 13, 1966, Ser. No. 520,329
1 Claim. (Cl. 226—172)



An endless pulley-driven belt for feeding elongated strands of wire or the like and having a replaceable wear face of flexible elastic material defining the wire feeding surface.

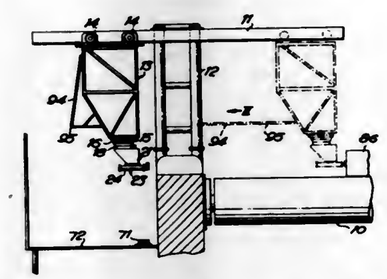
3,368,729
FILM TWISTER DEVICE
Gordon F. Connelly and Frank P. Gruchmann, Rochester, N.Y., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Sept. 20, 1962, Ser. No. 225,175
1 Claim. (Cl. 226—197)

1. A film twister device comprising a right triangular film mounting plate, an entrance film roller positioned on one leg of said mounting plate, an exit film roller positioned on the other leg of said mounting plate in spaced relation to said entrance roller and at right angles thereto, the respective axes of said entrance and exit rollers being in the same plane, and means mounted on the hypotenuse of the mounting plate for handling film during transport thereof to a new direction at an angle to the original direction of movement, said means comprising a stationary base element having a longitudinal axis and located at an acute angle to the extended axes of said entrance and exit rollers, the axis of said stationary base element being in the same plane as that plane passing through the respective axes of the entrance and exit rollers, a double row of spaced film supporting elements



mounted at an acute angle with respect to said longitudinal axis of said stationary base element.

3,368,730
ARTICLE MARKING APPARATUS
Wolfgang Bayer, Schaan, Liechtenstein, assignor to Hilti Aktiengesellschaft, Schaan, Liechtenstein
Filed June 2, 1966, Ser. No. 554,804
Claims priority, application Great Britain, June 3, 1965, 23,626/65
10 Claims. (Cl. 227—8)

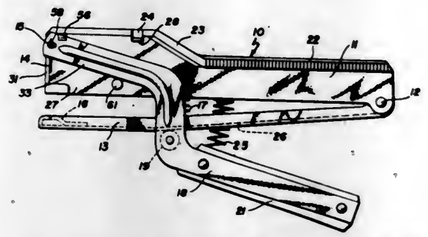


1. Apparatus for applying an identifying plate to a remotely located article comprising a track, a carriage mounted on said track for movement from an inoperative loading position remote from the article to be identified to an operative position adjacent said article, means for mounting an identifying plate on the side of the carriage adjacent the article, a fastener driving tool on said carriage rearwardly of the means for mounting the identifying plate and having a chamber for receiving a cartridge of on explosive material, firing mechanism on the carriage for firing the cartridge, and means for mounting the driving tool on the carriage for movement from an open cartridge loading position to a close cartridge firing position.

3,368,731
PLIER TYPE STAPLER
Gabriel M. La Pointe, Worcester, Mass., assignor to Parker Mfg. Company, Worcester, Mass., a corporation of Massachusetts
Filed June 23, 1966, Ser. No. 559,795
10 Claims. (Cl. 227—124)

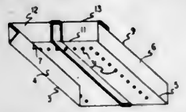
1. A stapler, comprising
(a) an elongated housing having at one end a stapling channel in which is mounted a staple-driving blade for movement transversely of the housing,

(b) an elongated anvil arm hingedly attached at one end to the other end of the housing and having at its other end an anvil located in opposition to the stapling channel, and



(c) an elongated actuating handle having a roller in its central portion which contacts the central portion of the anvil arm and an end which is connected to the staple-driving blade for the actuation thereof.

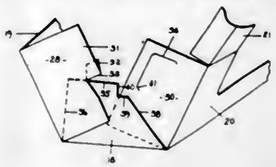
3,368,732
DISPOSABLE OVEN LINER
Helen B. Kimble, 3555 Atwater St., Apt. 301, Montreal, Quebec, Canada
Filed Nov. 30, 1964, Ser. No. 414,816
Claims priority, application Canada, Aug. 22, 1964, 910,105
2 Claims. (Cl. 229—31)



1. A one piece blank of relatively thin aluminum sheet adapted to form a liner for ovens of varying sizes, said blank having portions for forming a base, mutually opposed side walls and an end wall normal to and connecting said side walls, said blank including a pair of parallel first fold lines each spaced a pre-determined distance from an adjacent marginal side edge of said blank, the latter being adapted to be folded along said first fold lines to form said side walls; a second fold line normal to said first fold lines, and spaced a pre-determined distance from an adjacent marginal side edge of said blank, the latter being adapted to be folded along said second fold line to form said end wall; a pair of diagonal fold lines each extending from the intersection of a said first and said second fold line to an adjacent corner of said blank, the latter being adapted to be folded along each said diagonal fold line to form a corner pleat extending parallel with a selected said wall; said base being defined by said first and second fold lines and the remaining free marginal side edge of said blank; and at least one pair of spaced additional parallel fold lines parallel to said first fold line extending across said blank, the latter being adapted to be folded into pleats along said additional fold lines to vary the area of said base, said pleats being laid flat on said base.

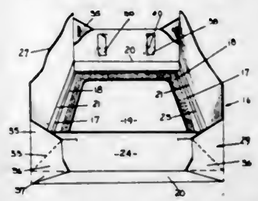
3,368,733
CONTAINERS
Daniel Wainberg, 4755 Blvd. des Grandes Prairies, St. Leonard, Montreal 38, Quebec, Canada
Filed May 5, 1966, Ser. No. 547,903
3 Claims. (Cl. 229—36)

The herein described container briefly consists of a container made from a one-piece pre-cut blank and formed of a bottom wall having end panels articulating therefrom, and front and rear upright walls integral with the bottom wall and provided with articulating locking flaps at their ends. The locking flaps of one upright wall have inverted L-shaped slits in which the lower ends thereof are cut to form hooks, while the locking flaps of the other upright wall are provided with integral bendable locking lips. The end panels of the bottom wall are each formed with a horizontal top edge having one end joining with a vertical edge which terminates at a crease line between the end panel and the bottom wall and forms one side of the panel. The other side of the end panel is provided with an inwardly sloping edge emanating from the other end of the crease line and terminating in a shoul-



der which has an inner locking corner from which an inner vertical edge extends to join the other end of the horizontal top edge. In this way the slitted locking flaps are situated on the inside surfaces of the end panels and the slitted hook portions of the flaps will engage with the inner locking corners of the shoulders and also permit the inner vertical edges thereof to project through the vertical portions of the slits and form reception openings for the insertion of the inner vertical edges and the accompanying locking lips of the adjacent locking flaps, which are in face-to-face contact with the outer surfaces of the end panels, thus allowing the locking lips to individually and collectively lock themselves with the slitted locking flaps and the end panels.

3,368,734
CONTAINERS
Daniel Wainberg, 4755 Blvd. des Grandes Prairies, St. Leonard, Montreal 38, Quebec, Canada
Filed July 13, 1966, Ser. No. 565,001
5 Claims. (Cl. 229—36)

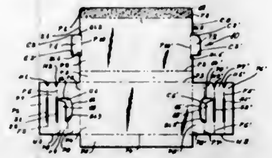


The invention refers to a container made from a one-piece pre-cut blank provided with a bottom panel of a comparatively large surface dimensions and having integral side and end walls of a comparatively shallow depth. Side and end riser walls are integral with the side and end walls respectively and are articulated therefrom, and locking flaps are integral with certain of the side walls and riser walls, each locking flap being formed of a hinge section, a locking lip and an extension section, the extension section being foldable from the locking flap and from the end of a side wall. The locking flaps are adapted to be interlocked with slits formed in the adjacent riser walls to complete corner formations of the adjacent walls.

3,368,735
FIVE PANEL FOLDER WITH CUSHION ENDS
Hans L. Levi, 888 8th Ave., New York, N.Y. 10019
Filed Sept. 6, 1966, Ser. No. 577,384
10 Claims. (Cl. 229—40)

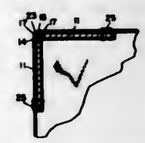
1. A mailing carton for a book or the like, comprising a flat blank made of pliable sheet material, said blank

having a generally T-shaped body, said body having a rectangular central portion and two rectangular wing sections, said central portion having four transverse folds defining first, second and third narrow rectangular panels alternating with two larger, wider rectangular panels, a pair of tabs extending laterally outward of opposite lateral edges of one of said wider panels, said wing sections extending outward of opposite lateral edges respectively of



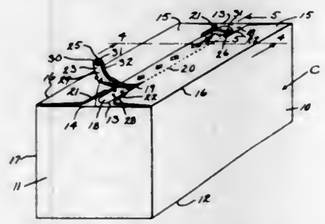
the other wider panel, each of said wing sections having four parallel folds perpendicular to the transverse folds and defining four panels in each of the wings and having one cutout formed within two adjacent panels for receiving the corresponding tab, said two wider panels being joined to the second one of the first named narrow panels which defines a rear wall of said carton while the two wider panels define top and bottom walls respectively of the carton.

3,368,736
CARTON CORNER REINFORCEMENT
Joseph A. McKellick, Levittown, Pa., assignor to General Partition Company, Philadelphia, Pa, a partnership
Filed Feb. 1, 1966, Ser. No. 524,091
7 Claims. (Cl. 229—49)



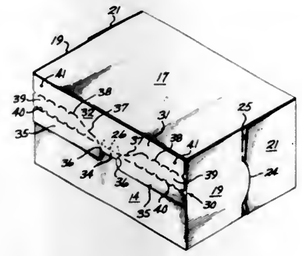
A carton formed from a blank to provide a unique corner reinforcement or support for use therein, which assures effective protection of the carton contents under conditions of handling in transit and storage, therefor enabling a substantial number of these cartons to be safely stacked one upon the other without danger of collapse.

3,368,737
TEAR STRIP CONSTRUCTION FOR CARTONS OF CORRUGATED MEDIA
Charles M. Ingle, Racine, Wis., assignor to Racine Industrial Plant, Inc., Racine County, Wis., a corporation of Wisconsin
Filed Oct. 15, 1965, Ser. No. 496,608
1 Claim. (Cl. 229—51)



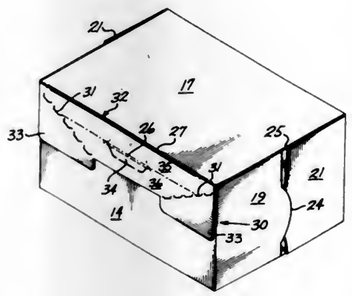
This invention apertains to packaging and more particularly to new and useful improvements in cartons of a corrugated media wherein the carton may be quickly and easily opened.

3,368,738
RECLOSABLE CARTON WITH ZIPPER OPENING
Harry I, Roccaforte, Chicago, and Elverse M. Jordan, Wilmette, Ill., and William C. Inch, Whittier, Calif., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Mar. 10, 1967, Ser. No. 622,232
1 Claim. (Cl. 229—51)



This application discloses a device for opening and reclosing a carton. The device has a tab in an overlying panel that is inserted through an aperture in an underlying panel. The outer edge of the overlying panel forms a strip that is sealed or adhered to the panel. The strip is notched or divided adjacent the lower edge of the tab. A zipper or tear strip extends outwardly from each side of the tab. The flap may be the front flap of a hinged lid.

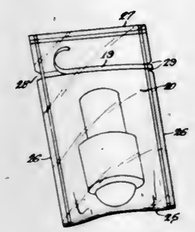
3,368,739
RECLOSABLE CARTON
Harry I. Roccaforte, Chicago, and Elverse M. Jordan, Wilmette, Ill., and William C. Inch, Whittier, Calif., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Mar. 10, 1967, Ser. No. 622,233
1 Claim. (Cl. 229—51)



This application discloses a device for opening and reclosing a carton. The device has a tab in an upper reclosure section of an overlying panel that is inserted through an aperture in an underlying panel. The overlying panel is divided into an upper reclosure section and a lower sealing section by a pair of diagonal slit lines. The sealing section is notched or divided adjacent to and contiguous with the lower edge of the reclosure section. The reclosure section is divided by a transverse score line

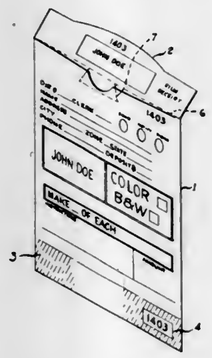
into a lower handle section and an upper body section which includes the reclosure tab.

3,368,740
SHEET MATERIAL WITH FILM TEAR LINE
William A. Robde, Wheeling, Ill., assignor to Tower Packaging Company, Wheeling, Ill., a corporation of Illinois
Filed Jan. 17, 1967, Ser. No. 609,810
11 Claims. (Cl. 229—66)



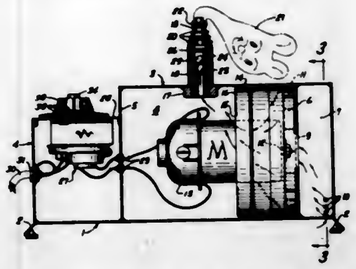
Flexible thermoplastic sheet material including a relatively narrow band of coalesced compatible thermoplastic material of different character extending substantially through the thickness of the sheet, said band demarking a zone of severance facilitation; co-extrusion of said sheet and band from a common die; apparatus for accomplishing said co-extrusion; and receptacles formed of said composite sheet material.

3,368,741
ENVELOPE WITH REMOVABLE PRESSURE ADHESIVE IDENTIFICATION LABEL
Dave Mercur, 164 Maryal Drive, Pittsburgh, Pa. 15236
Filed June 24, 1966, Ser. No. 560,150
2 Claims. (Cl. 229—70)



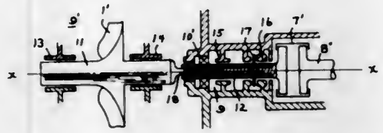
This disclosure is for envelopes or containers used in the handling of film and prints for photo-finishing or the like, and provides a container or envelope that is numbered or provided with other identification indicia with a removable label attached to the envelope having the same identification number as the envelope, which label can be removed and placed on the negative or exposed film which is placed in the envelope to provide positive identification of the material placed in the envelope which is maintained throughout the processing and printing of the photo-finishing steps.

3,368,742
INFLATION APPARATUS FOR BALLOONS AND OTHER INFLATABLE OBJECTS
Duane La Plante, Neenah, Wis., and David Hintzen, Weston, Ontario, Canada, assignors, by direct and mesne assignments, to James H. Cabanski, Appleton, Wis.
Filed Feb. 5, 1965, Ser. No. 430,519
3 Claims. (Cl. 230—17)



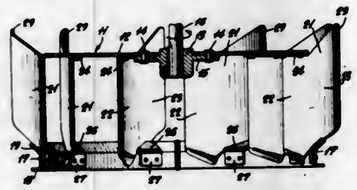
1. In an inflation apparatus for a balloon or the like, a housing having a plenum chamber, a source of inflation medium communicating with the plenum chamber, a nozzle attached to the housing and communicating with the plenum chamber and adapted to receive the neck of a balloon to be inflated, check valve means in said nozzle to prevent deflation of a balloon after the same has been inflated, blower means disposed in the plenum chamber and adapted to force the inflation medium from said source through the plenum chamber and nozzle to inflate a balloon, an electric motor disposed in the plenum chamber and driving said blower means with the inflation medium moving past the motor and cooling same, and timing means connected to the motor and adapted to control the running time of the motor and effect motor shutoff thereafter to thereby provide for inflation of a balloon to proper design size.

3,368,743
SHAFT CONSTRUCTION FOR ROTARY MACHINES
Jean Chaboseau, Boissy-St-Leger, France, assignor to Campagnie Electro-Mecanique, Paris, France, a body corporate of France
Filed Apr. 7, 1966, Ser. No. 540,883
Claims priority, application France, Apr. 12, 1965, 12,843, Patent 1,440,721
7 Claims. (Cl. 230—132)



A housing enclosing a gas to be circulated by an impeller located within the same includes an opening in the housing wall through which the impeller shafting extends to the outside for connection to a prime mover. The shafting is composed of three parts functionally united together, the two outer shaft parts being relatively rigid and the intermediate shaft part being relatively flexible. One of the rigid shaft parts which mounts the impeller is located within the housing and supported on axially spaced bearings therein. The other rigid shaft part is located outside of the housing and also supported on axially spaced bearings and is connected to the prime mover by a coupling. The intermediate, relatively flexible shaft part serves to absorb a substantial amount of such dynamic and thermal stresses as may be transmitted from the impeller shaft part to the other rigid shaft part thus relieving and stabilizing the latter of such stresses. This last mentioned rigid shaft part contacts the gas seal at the shaft pass-through opening in the housing wall and being so stabilized minimizes the chances for gas leakage at the seal from the interior of the housing to the outside.

3,368,744
VENTILATOR FAN IMPELLER
Louis J. Jenn, Indianapolis, Ind., assignor to Jenn-Air Corporation, Indianapolis, Ind., a corporation of Indiana
Continuation-in-part of application Ser. No. 450,437, Apr. 23, 1965. This application Mar. 8, 1967, Ser. No. 629,348
22 Claims. (Cl. 230—134)



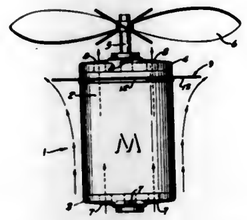
An impeller for a roof ventilator for exhausting air in which the ventilator has a low profile and an oblique discharge with respect to its vertical axis. The impeller has a generally cylindrical inlet ring and a generally disc shaped back plate between which are mounted a plurality of circumferentially spaced blades. The vertical plane of each blade is disposed at an angle with respect to the vertical axis of the ventilator and is not coincident therewith. The blades have first portions which extend inwardly of the inlet ring for gathering the air, and second portions which extend outwardly and axially from the inward portions so that air moved by the impeller is discharged peripherally therefrom at an oblique angle with respect to the vertical axis of the impeller.

3,368,745
MOTION TRANSMITTING ARRANGEMENT
Henry Stoeckel, Ehrenfriedersdorf, Erzgebirge, Germany, assignor to Veb DKK Scharfenstein, Erzgebirge, Germany
Filed Feb. 18, 1966, Ser. No. 528,451
9 Claims. (Cl. 230—214)



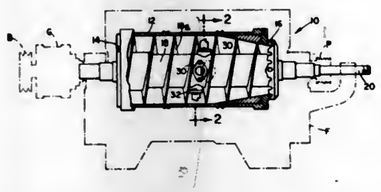
A motion transmitting arrangement comprises a rotary crank shaft and a crank pin which is eccentrically supported by the crank shaft so as to orbit when the latter rotates. A motion receiving element is reciprocable in a predetermined path. A magnetic coupling is provided for reciprocating the motion receiving element when the crank pin orbits. The coupling comprises a disc-shaped magnet member concentrically supported by the crank pin and a paramagnetic member in form of an arcuate shoe of ferromagnetic material which is secured to the other element and which defines a groove receiving a marginal portion of the magnet member.

3,368,746
AIR DEFLECTOR FOR IMPROVED COOLING OF FAN MOTOR
Robert J. Zelinski, Vandalia, Ohio, assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Dec. 6, 1965, Ser. No. 512,278
5 Claims. (Cl. 230—259)



This invention relates to an annular, flat air deflector ring which is press fitted about a fan motor housing. The motor includes multiple ventilating openings in the forward and rear end bells or frames secured to the motor housing, through which the air impelled by the fan rotor is allowed to pass, thus cooling the motor components. The ring extends radially outwardly from the housing in a perpendicular fashion and forms a part of a fan motor whereby a single air source is employed to provide the fan output and the cooling system of the motor. A protective canopy may be disposed over the forward end of the motor.

3,368,747
CENTRIFUGE
Andre C. Lavanchy, Devon, Karl G. Reed, Wayne, and Haresh M. Desai, Bryn Mawr, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 498,296, Oct. 20, 1965. This application Sept. 2, 1966, Ser. No. 585,995
5 Claims. (Cl. 233—7)

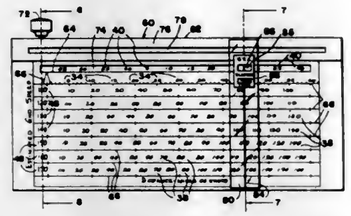


In a continuous solids discharge centrifuge having a screw conveyor, feed nozzles are provided which extend out into the pond and direct the feed towards the solids discharge end of the centrifuge bowl.

3,368,748
TIME, SPEED AND DISTANCE COMPUTER
John W. Copeland, 161 S. Oliver, Wichita, Kans. 67218
Original application Mar. 1, 1965, Ser. No. 436,129, now Patent No. 3,282,501, dated Nov. 1, 1965. Divided and this application July 14, 1966, Ser. No. 574,852
2 Claims. (Cl. 235—71)

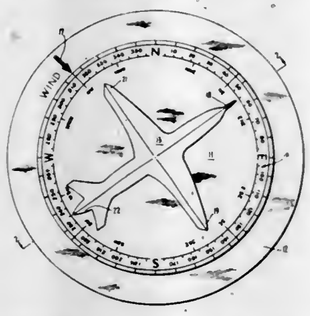
This invention relates to computing devices, more particularly to computing devices for correlating time, speed, and distance variables. Still more specifically, this invention relates to computing devices which utilize linear

scales that are easy to read and to interpolate, which devices are simple to manipulate in operation. Additionally, this invention relates to a rectangular-shaped computer



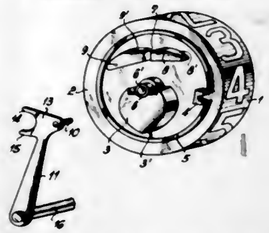
device having a laterally movable pointer means mounted thereon operable to readily indicate time of arrival and time elapsed for travelling various distances at given ground speed velocities.

3,368,749
NAVIGATIONAL PLOTTING CHART
Jack E. Pelletier, Jr., 364 1st St., Oakland, Calif. 94601
Continuation of application Ser. No. 387,462, Aug. 4, 1964. This application Feb. 16, 1966, Ser. No. 534,587
2 Claims. (Cl. 235—78)



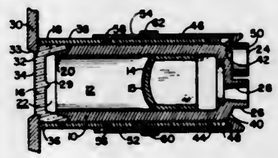
1. A navigational plotting chart for visually indicating the position of an aircraft relative to azimuthal headings and wind direction comprising first and second discs mounted for concentric rotation relative to each other, said first disc having a graduated azimuth scale on its exposed face adjacent the marginal edge thereof, said second disc having a wind direction indicating mark means on its exposed face for selective alignment with the graduations of said azimuth scale and operable to provide an azimuthal direction indication of the wind, an aircraft direction indicator means mounted for concentric rotation relative to said first and second discs for selective alignment with the graduation of said azimuth scale on said first disc and operable to provide an azimuth heading of an aircraft and thereby provide the azimuthal relationship of the aircraft heading and wind direction, said aircraft direction indicator means having the configuration of an aircraft with the nose, wings, and tail thereof terminating in pointed ends extending closely adjacent to said azimuthal scale at 90° intervals to form four pointer arm means operable to provide a direct indication of aircraft heading in a 180° approach pattern and the azimuthal relationship of the wind direction thereto, means securing said indicator means and first and second discs in stacked concentric rotatable relation to each other in that order, and said wind direction indicating mark means on said second disc being a radially inwardly directed windage arrow inscribed on said exposed face adjacent the marginal edge thereof.

3,368,750
HEART CAM CLEARING DEVICE
Manfred Bottling, Villingen, Germany, assignor to Kienzle Apparate G.m.b.H., Villingen, Black Forest, Germany
Filed Nov. 29, 1965, Ser. No. 510,213
Claims priority, application Germany, Oct. 12, 1965, K 54,657
9 Claims. (Cl. 235—144)



The setting arm for the heart cam of a register wheel has a locking part guided by auxiliary cams into a guide way which is located near the periphery of the register wheel so that the locking part locks the register wheel in the cleared position.

3,368,751
CONTROL APPARATUS
Fred W. Merrill, Mound, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Apr. 18, 1966, Ser. No. 543,287
7 Claims. (Cl. 235—201)



The disclosure relates to a novel pneumatic indicator and particularly to the shape of the housing itself. In cross section the housing is as a square with three of the four corners removed so as to form an approximation of a circle. A large central chamber is in the housing and a small chamber parallel to the small chamber is located in the remaining square corner. This shape is chosen so as to provide an approximately equal amount of material between the outer periphery of the housing and the large chamber to facilitate the making of the housing by the process of injection molding.

3,368,752
DUAL DUCT AIR CONDITIONING WITH SEASONAL CHANGEOVER MEANS
Theodore W. Marshall and Frederick W. Rankin, Connersville, Ind., assignors to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 28, 1966, Ser. No. 530,659
6 Claims. (Cl. 236—1)

1. In an air distributing system for a building room including separate conduit means each providing a separate stream of conditioned air to said room, one said separate stream being identified as a first stream and being always relatively cool and the other said separate stream being identified as a second stream and being in a usual condition, relatively hot, and in an alternative condition, being relatively cool;

a first valve means for regulating the flow of air from said first stream through a first outlet into said room;

a second valve means for regulating the flow of air from said second stream through a second outlet into said room;

a thermostatic means responsive to the temperature within the said room for providing a thermostatic signal corresponding to the air temperature within said room;

a flow regulating means for providing a flow regulating signal directly corresponding to the cumulative flow rate of air from both said first outlet and said second outlet;

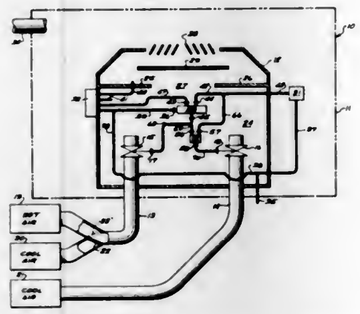
the improvement comprising:

signal switching means adapted in said usual condition to deliver as an output signal said flow regulating signal to a selected one of the said first and second valve means, and adapted in said alternative condition to deliver as an output signal the said thermostatic signal to the said selected one of said first and second valve means;

signal delivery means for delivering the said thermostatic signal to the non-selected one of the said first and second valve means;

said selected valve means being operable between a full-open and a full-closed position in response to actuating signals over a first range of pressures;

the said non-selected valve means being operable between a full-open and a full-closed position in response to actuating signals over a second range pressure;



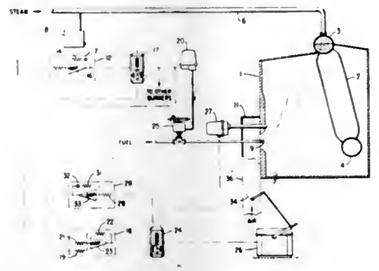
the said first pressure range consisting essentially of pressures which are lower than the pressures of the said second pressure range;

whereby in said usual condition, the said cumulative flow rate of air from said outlets is substantially constant as a result of increase of air flow from one said outlet being accompanied with decrease of air flow from the other said outlet and vice versa; and

whereby in said alternative condition, the said cumulative flow rate may vary as a result of increase in flow of air from said non-selected valve means while the selected valve means is closed and sequential increase in flow of air from said selected valve means only while the valve of said non-selected valve means is fully open, according to the said thermostatic signal which is applied, in said alternative condition, to both said first and second valve means.

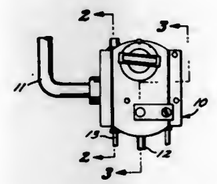
3,368,753
MEASUREMENT AND CONTROL OF BURNER EXCESS AIR
Frank A. Baumgartel, Mentor, and William T. Hage, Alliance, Ohio; said Baumgartel assignor to Bailey Meter Company, a corporation of Delaware, and said Hage assignor to The Babcock & Wilcox Company, a corporation of New Jersey
Filed Aug. 16, 1965, Ser. No. 479,897
13 Claims. (Cl. 236—14)

An apparatus for controlling the excess air at a burner having a photo-detector circuit generating an output signal proportional to the intensity of two distinct wave lengths of the combustion spectrum. The wave lengths selected are directly related to the fuel-air ratio. A con-



troller responsive to the output signal of the photo-detector circuit positions a damper thereby controlling the ratio between the fuel and air supplied to the burner.

3,368,754
ENERGY CONTROL AND SAFETY DEVICE
Ralph E. Solomon, Los Angeles, Calif., assignor to Deutsch Controls Corp., Los Angeles, Calif., a corporation of California
Filed Mar. 19, 1965, Ser. No. 441,275
8 Claims. (Cl. 236—21)



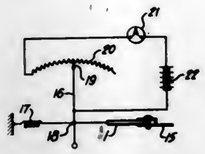
A safety device for shutting off the supply of energy to a gas-fired appliance normally controlled by a rod-and-tube expansion unit, including a pair of contacts, one of which is fixed and the other of which moves with the rod, the contacts being series-connected in the circuit of an electro-magnet spring-biased to a closed position, but which normally is held open through current in the circuit so that, upon predetermined movement of the rod, the circuit is interrupted and the safety valve closed.

3,368,755
HUMIDITY SENSING ELEMENT
Walter J. Smith, Arlington, and Rienzi B. Parker, Weston, Mass., assignors, by mesne assignments, to Johnson Service Company, Milwaukee, Wis., a corporation of Wisconsin
Original application May 12, 1964, Ser. No. 366,819. Divided and this application Nov. 14, 1966, Ser. No. 593,804
7 Claims. (Cl. 236—44)

The invention relates to a synthetic humidity sensing element comprising a moisture-insensitive, creep-resistant core and an outer moisture sensitive layer which is bonded to opposite surfaces of the core throughout its length. One end of the element is connected to a fixed support, while an operating member is secured to the opposite end of the element and is operably connected to a load or working device which operates to either indicate through a

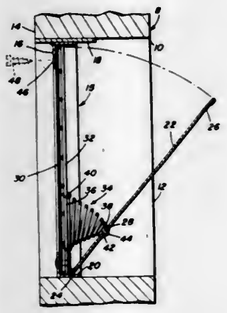
dial the calibrated degree of moisture in the atmosphere, or alternately to actuate a humidity control device.

Variations in the relative humidity cause the moisture



sensitive element to expand and contract linearly to thereby actuate the operating member to either indicate the relative humidity or operate the humidity control device.

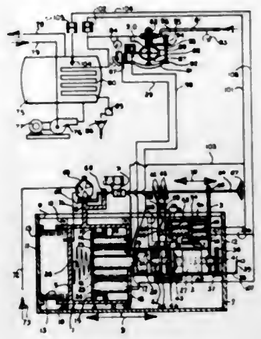
3,368,756
TEMPERATURE RESPONSIVE VENTILATOR
Ralph S. Edwards, Rte. 1, Stanley, N.C. 28164
Filed Dec. 3, 1965, Ser. No. 511,444
6 Claims. (Cl. 236—49)



A ready-to-install self-contained automatic ventilator for use in an attic or a foundation wall to protect plumbing, to conserve heat, and to dry out a crawl-space during summer whereby to minimize mildew odors and pest problems. It comprises an adapted frame encompassing a reinforced insect screen. A shutter is operatively mounted in the frame. A temperature responsive element, preferably a bendable spiral thermostatic spring, is interposed between the shutter and screen. When outside temperature rises from 40 to 60 degrees the shutter is pushed open. When it drops to 40 degrees the shutter is closed.

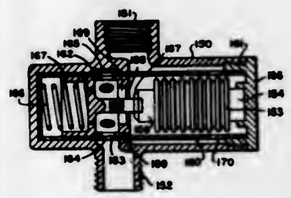
3,368,757
MONITOR AND CONTROL FOR PROCESS VARIABLES
Alyre Coulombe, 11170 Parc Georges, Montreal North, Quebec, Canada
Filed Oct. 3, 1966, Ser. No. 583,667
6 Claims. (Cl. 236—51)

This invention concerns a system for monitoring a process variable and for varying the adjustment thereof from a remote location, said system comprising a first bellows for actuating the setting member of a regulator of a process variable, a second remotely located bellows interconnected to the first bellows by a fluid line, means for contracting and expanding the second bellows to vary the amount of fluid injected in the first bellows, to thereby cause the adjustment of the regulator setting members, the second bellows being associated with temperature compensating bellows, in turn connected to a fluid line running adjacent to first fluid line and subjected to the same ambient temperature, whereby to automatically



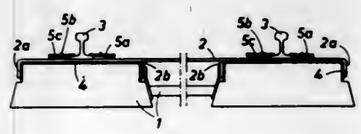
compensate for the variations of temperature along the fluid lines, so as to maintain the adjustment of the first bellows despite variations of temperature.

3,368,758
FLUID CONTROL APPARATUS
James Fraser, 2326 Grubb Road, Wilmington, Del. 19803
Filed June 28, 1965, Ser. No. 467,265
5 Claims. (Cl. 236—93)



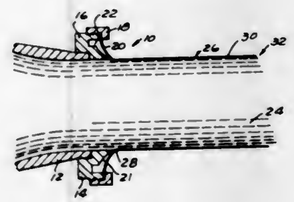
Apparatus for controlling the flow of water in shower heads wherein the flow of hot water is subject to sudden fluctuation. The apparatus is designed to automatically close the valve controlling the hot water in order to prevent injury to persons using the system from scalding. The thermostat actuating the valve is so designed as to be readily removable and replaceable by the user. Adjustment of the temperature at which the thermostat will function is disclosed.

3,368,759
RAILWAY TRACKS
Erik Olson, Nasbypark, near Stockholm, Sweden, assignor to Swedish Rail System AB-S.R.S., Solna, near Stockholm, Sweden, a Swedish joint-stock company
Filed Mar. 4, 1966, Ser. No. 531,676
Claims priority, application Sweden, Mar. 11, 1965, 3,206/65
12 Claims. (Cl. 238—83)



Apparatus for connecting two railway tracks, which are preferably mounted on concrete sleepers, for reducing the lateral forces on the sleepers in the curves. An extensible elastic member is connected between the two rails and with each sleeper for receiving the lateral forces on the two rails, these lateral forces being oppositely directed, said elastic member then transferring to the sleepers only the horizontal resultant of said lateral forces instead of the lateral force of each rail per se.

3,368,760
METHOD AND APPARATUS FOR PROVIDING MULTIPLE LIQUID JETS
Charles C. Perry, 106 Pleasant Place, Ann Arbor, Mich. 48100
Filed June 5, 1963, Ser. No. 285,764
8 Claims. (Cl. 239—1)

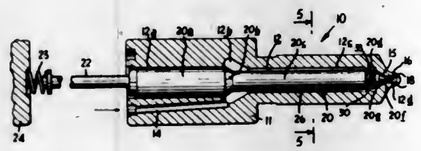


1. The method of coating a liquid jet with a different liquid comprising:

(a) forming a jet of a first liquid having a circumferential surface moving at a certain velocity; and

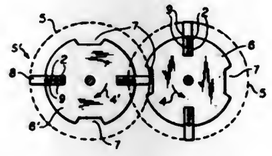
(b) applying a coating liquid to said surface traveling at substantially said certain velocity at the point of application thereof to said surface so as to coat said jet with said coating liquid, said jet being of a substantially greater thickness than the liquid coating formed thereon.

3,368,761
VARIABLE FLOW RATE FUEL INJECTION NOZZLE
Winton John Pelizzoni, Hagerstown, Md., assignor to Mack Trucks, Inc., Montvale, N.J., a corporation of New York
Filed Oct. 15, 1965, Ser. No. 496,306
2 Claims. (Cl. 239—533)



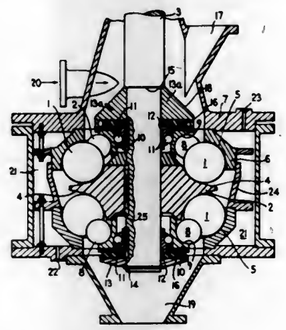
A fuel injection nozzle of the multiple orifice type suitable for use in compression ignition engines and having a pintle displaceable by fuel pressure to open a valve to allow the fuel to be discharged through the orifices, the nozzle and the pintle being provided with lands and grooves whereby the effective area between the pintle and the nozzle body for flow of fuel therethrough can be varied to control the rate of discharge of fuel through the orifices in accordance with engine operating requirements, for example, an initial high discharge rate followed by a lower discharge rate, and finally a higher discharge rate to provide a suitable combustion mixture in the engine cylinder.

3,368,762
CENTRIFUGAL SPREADER
Heinz Dreyer, Osnabruck, Germany, assignor to Amazonen-Werke H. Dreyer, Kreis Osnabruck, Germany, a corporation of Germany
Filed May 11, 1965, Ser. No. 455,013
5 Claims. (Cl. 239—665)



A centrifugal spreader having a pair of rotatable disks each bearing one or more slinger elements and positioned side-by-side for rotation within a common horizontal plane to spreadingly dispense by centrifugal action granular material introduced onto their upper surfaces, each disk and its slinger elements defining a centrifugal scattering member. The two centrifugal scattering members have maximum radial dimensions which total in excess of the spacing between their rotation centers, and their disk peripheral contours are so shaped, and their slinger elements are so arranged as to allow parts of each scattering member to extend into the path swept by the other without interference when the two scattering members are rotated in synchronism.

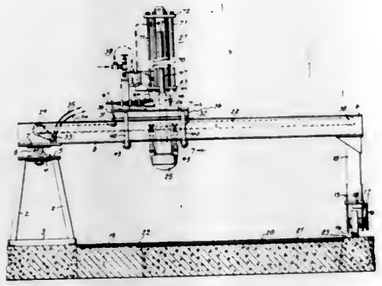
3,368,763
PROCESSING APPARATUS
Laszlo Lazarus Szego, South Woodford, London, and John Szego, London, England, assignors to John Robert Berend
Filed May 1, 1964, Ser. No. 364,191
20 Claims. (Cl. 241—155)



1. Apparatus for processing material, said apparatus comprising in combination: an annular processing surface; a plurality of processing elements arranged to execute a true rolling movement over said surface; a rotatable spacing member disposed between and in engagement with each pair of adjacent elements to space them apart; a first annular bearing surface bearing on the elements; means for urging said annular surface into a direction pressing the elements against the processing surface; a second annular bearing surface bearing on said spacing members; and driving means for causing the elements to roll on the processing surface, during such

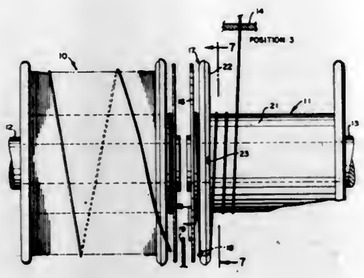
rolling the spacing members executing a substantially true rolling movement over the elements and said second bearing surface with which they engage.

3,368,764
SCRAP METAL BREAKER
Walter V. Cornett, 2751 E. 11th St., Los Angeles, Calif. 90023
Filed Nov. 18, 1964, Ser. No. 412,010
13 Claims. (Cl. 241—270)



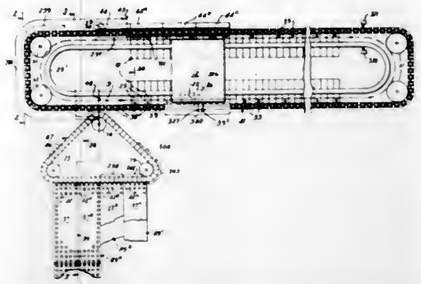
A scrap metal breaker comprising a floor with a base thereon and a bridge pivoted on the base and extending laterally, the free end of the bridge being supported on rollers and capable of being propelled around in a circle, a hammer mounted on the bridge by a carriage capable of moving along the bridge and means for causing the hammer to reciprocate vertically.

3,368,765
CONTINUOUS SPOOLING OF ALUMINUM WIRE
Joseph V. O'Grady, Locust, N.J., assignor to Syncro Machine Company, Perth Amboy, N.J., a corporation of Delaware
Filed Aug. 3, 1966, Ser. No. 569,976
5 Claims. (Cl. 242—25)



The following disclosure is directed to a device for the continuous spooling of aluminum wire on reels, without the necessity of shutting down the drawing machine to transfer the wire end to an empty spool, while assuring that the starting wire end will not abrade subsequent turns of wire on a reel. The wire reel disclosed is provided with a groove in the flange thereof which extends across a chord of the flange tangent to the barrel, into which groove the starting wire end is forced during the winding of the first few turns of wire on the reel, thus preventing subsequent contact between end turns of subsequent layers of wire and the starting wire end.

3,368,766
AUTOMATIC BOBBIN HANDLING AND SPOOLER LOADING MECHANISM
Richard D. Livingston, Rockford, Ill., assignor to Barber-Colman Company, Rockford, Ill., a corporation of Illinois
Filed Aug. 6, 1965, Ser. No. 477,864
62 Claims. (Cl. 242—35.5)



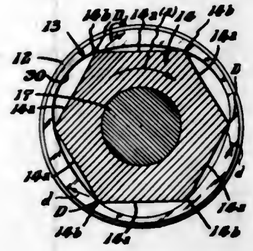
This addition to a conventional Barber-Colman multiple unit thread winder or so-called spooler operates entirely automatically to pick up rows or groups of filled bobbins **42** supported in a tray **37** (FIGS. 1, 3, 8 to 11), transfer successive groups as needed into successive empty holders **38** (FIGS. 18, 24 to 34) on cars **39** spaced along and forming part of an endless conveyor **41** which extends around the spooler and moves in unison with the traveler **26**. The bobbin **42** from each filled holder **28** on the conveyor is dropped into the first empty reserve pocket **29** that the car reaches and thus becomes the reserve bobbin **33** for such winding unit.

The need for refilling the holders with new bobbins is determined by a device **44** (FIGS. 1, 4, 35, 36 and 37) for sensing the movement past a predetermined point **45** of a succession of empty conveyor cars **39** corresponding to the number of bobbins in each transverse row on the trays **37**, the signal thus derived being utilized to initiate a cycle of operation of a pick-up and elevating mechanism **40** (FIGS. 5 to 7 and 11 to 16) synchronized with the movement of the spooler conveyor **41** and including a vertically reciprocating fork **96** which slides the leading transverse row of bobbins upwardly from the tray along channels **90** to a ledge **102**. A pusher **196** transfers these bobbins sidewise across the ledge into the pockets **46** of an endless feeder conveyor **47** (FIGS. 1, 3, 4, 7 and 18 to 24) which moves in synchronism with the spooler conveyor **41** and presents the successive bobbins **42** of the elevated group at a predetermined point **48** (FIGS. 1, 4, 18 and 20) as the respective empty cars **39** by which the signal was originated pass this same point. At this point, the bobbins are dropped one by one into the holders of the passing cars and are carried thereby on around the spooler frame, each bobbin being dropped into the first reserve pockets found to be empty.

Different groups of the winding units of the spooler may be assigned to the handling of different kinds of threads, the bobbins of which are deposited selectively in the proper reserve pockets of the winding units, the same intermediate conveyor **47** being utilized to transfer the different kinds of bobbin groups to the proper cars of the main conveyor **41**.

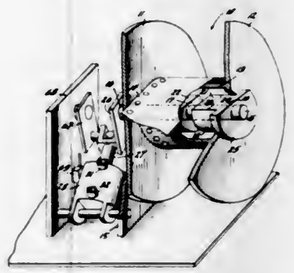
3,368,767
TEXTILE PIRN
William L. Schmidt, Gastonia, N.C., assignor to Cocker Machine & Foundry Company, Gastonia, N.C., a corporation of North Carolina
Filed Jan. 21, 1966, Ser. No. 522,212
9 Claims. (Cl. 242—46.21)

A driving connection between a pirn and a whorl designed to provide accurate static centering of the pirn on



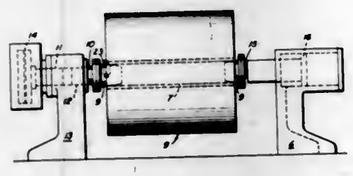
the whorl and to then lock the pirn concentric with the whorl by an automatic cam action as rotation begins.

3,368,768
APPARATUS FOR ROTATING A TAKE-UP REEL
Richard A. Harris, High Point, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 7, 1966, Ser. No. 532,157
8 Claims. (Cl. 242—55)



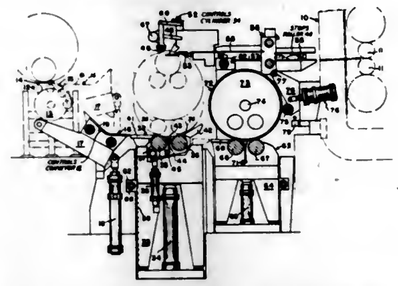
1. In an apparatus for rotating a take-up reel,
a rotatable arbor frictionally supporting the reel along its axis of rotation, and
means for oscillating the arbor (a) slowly in a forward direction of rotation to rotate the reel and (b) rapidly in a reverse direction of rotation to slip the arbor with respect to the reel.

3,368,769
TAPERED CORE CHUCK WITH FLOATING KEY
David Noel Obenshain, Luke, Md., assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Filed Aug. 23, 1966, Ser. No. 574,338
7 Claims. (Cl. 242—68.4)



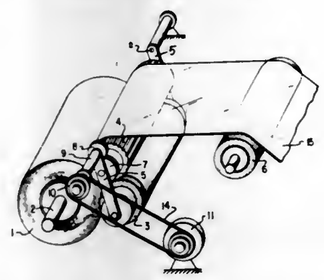
A core chuck is presented for securing hollow cores thereon which includes a floating key mounted in a tapered chuck plug for receiving and positively engaging a plurality of different sized cores.

3,368,770
COIL HANDLING APPARATUS
Jeremiah Wagner O'Brien, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 12, 1966, Ser. No. 564,701
Claims priority, application Great Britain July 26, 1965, 31,876/65
6 Claims. (Cl. 242—79)



This disclosure of the illustrated embodiment of the present invention is that of an apparatus for handling and processing coils of strip incident to feeding the strip into a rolling mill. The disclosed apparatus essentially consists of a conveyor for delivering coils to the entry end of a rolling mill. At the delivery end of the conveyor there is successively arranged a coil elevating device and a coil box type uncoiler which has vertically displaceable support rolls. According to the teachings of the invention, the support rollers of the coil box are vertically positioned, whereby a coil supported by the rollers has its central opening aligned with respect to the mandrels of the coil box. Positioning of these rollers is controlled by the detected diameter of the coil while located on the coil elevating device. This is accomplished by displacing the coil on the elevating device to a fixed reference position and measuring the displacement of the elevating device to produce a representation of the coil diameter.

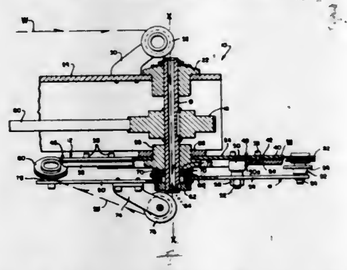
3,368,771
METHOD OF AND APPARATUS FOR UNWINDING A ROLLED WEB OF MATERIAL
Willi J. Schmidt, Kelkheim, Taunus, and Walter Seifried, Wiesbaden-Biebrich, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany
Filed Apr. 7, 1966, Ser. No. 540,989
Claims priority, application Germany, Apr. 10, 1965, K 55,786
7 Claims. (Cl. 242—75.2)



The present invention provides a method of unwinding a rolled web of material, wherein the web is drawn from the roll and passed partly around a parallel roller adapted for tension regulation in the web, which roller is mounted out of pressure contact with the roll, as hereinafter defined,

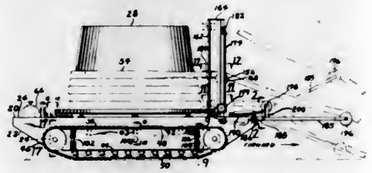
whereby a web leaving the roll with local variations in tension can leave the roller under substantially constant tension. By "out of pressure contact" is meant that roll and roller may have a space between them or may just touch so long as no appreciable pressure is exerted by the roller on the roll. Although the surfaces of the roll and the roller may be maintained at any practical distance apart, it is most suitable to keep the distance small between the two surfaces. However, in the path of the web between the roll and roller a further parallel roller may be interposed, also out of pressure contact with the roll, the web being passed partly around the further roller within the path. In this case, the distance between the roll and the tension-regulating roller may be correspondingly greater. The use of such a second or equalizing roller arranged between the roll and the roller regulating the tension has proved to be advantageous, since it has a desirable equalizing effect in the unwinding of irregularly wound rolls of material.

3,368,772
WIRE FEED CONTROL APPARATUS
Arthus S. Tyng, Buffalo, N.Y., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 19, 1966, Ser. No. 602,751
13 Claims. (Cl. 242—82)



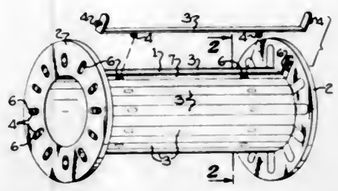
A take up device distributes wire in coil form for collection in a container and comprises a fixed capstan and a rotating flyer. The capstan includes a peripheral groove of variable depth formed by the opposed faces of a pair of spaced circular plates and the outer periphery of an annular disc movable radially between the plates. The flyer feeds the wire into the groove and includes a cam roller which actuates the disc during flyer rotation to continuously force the wire out of the groove at its shallowest point into the container.

3,368,773
HOSE HANDLING MACHINE
Shayne Linderman, Clementsville, Idaho (130 W. Main, Rexburg, Idaho 83440)
Filed Oct. 21, 1965, Ser. No. 499,547
13 Claims. (Cl. 242—86.2)



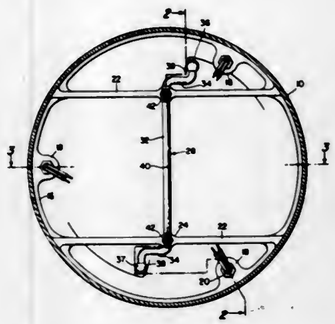
The present invention provides an apparatus for winding and unwinding irrigation hose, cable, wire and the like from a rotatable drum and provides guide means for lifting the hose and the like from the ground and lowering the hose to the ground as the hose is wound upon the rotatable drum or is unwound therefrom.

3,368,774
LIGHTWEIGHT BOBBIN
Forrest T. Nettles, Charlotte, N.C., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware
Filed July 5, 1966, Ser. No. 562,699
8 Claims. (Cl. 242—118.7)



Lightweight bobbins and yarn wound structures employing such bobbins, the lightweight bobbin, which may be a flanged bobbin, employing a barrel of insufficient thickness to retain dimensional stability under yarn winding tensions and rigid reinforcing members floatably secured to the outer face of the barrel.

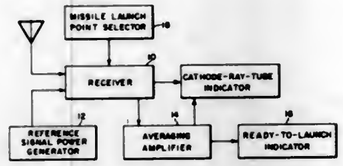
3,368,775
SEPARABLE CONNECTOR
Frank R. Larsen, Saratoga, Calif., and Roy K. Trelle, Seattle, Wash., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Aug. 18, 1966, Ser. No. 573,766
9 Claims. (Cl. 244—1)



Resilient means in the form of torsion bars are mounted in the coupling area between a missile and its booster to impart spin to the missile about its longitudinal axis when the booster is separated by destruction of explosive bolts.

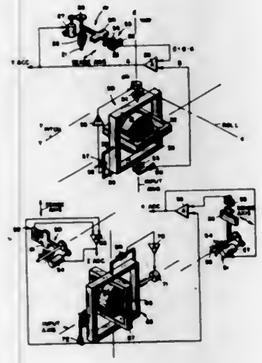
3,368,776
METHOD OF DETERMINING THE LAUNCH TIME OF AIR-TO-AIR MISSILES
Dean Blatchford, Woodland Hills, and Richard L. Holt, Ventura, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 22, 1961, Ser. No. 140,974
2 Claims. (Cl. 244—3.1)

1. The method of determining a launch time for an air-to-air missile carried by a launching aircraft in an environment in which jamming energy radiated by an airborne target would normally preclude the selection of a missile launch time falling within the missile's maximum and minimum performance limits for a particular flight trajectory with respect to such target, said method including the steps of locally generating a reference signal, developing a voltage variation having a given amplitude level representative of the magnitude of the jamming energy received from said target at a given instant of time, comparing said voltage variation with said reference signal, varying the reference signal until the amplitude there-



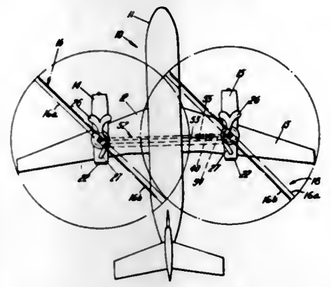
of is equal to that of the said voltage variation, ascertaining the maximum radio-line-of-sight range between the target and the missile-carrying aircraft, subsequently developing on such aircraft a variation representative of the change in target range as a function of the space attenuation of the received jamming energy, and correlating such variation at any instant of time with the maximum and minimum performance limits of said missile so that the said missile launch time may be selected to fall within such limits.

3,368,777
INTERNALLY STABLIZED INERTIAL INSTRUMENT
Charles U. Boutin, Tucson, Ariz., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Apr. 21, 1958, Ser. No. 730,753
12 Claims. (Cl. 244—3.2)



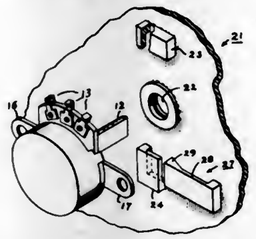
1. An accelerometer including a body, a mass angularly shiftable relative to said body in response to inertial forces applied thereto in the direction of a predetermined axis thereof and force balance means for maintaining said mass in a null position; gyroscopic means for generating a signal in response to angular deviation of said body about a reference axis bearing a predetermined relation to inertial space; and means responsive to said gyroscopic means for displacing said mass in accordance with said signal.

3,368,778
HELICOPTER POWER PLANT
Geoffrey Light Wilde, Gowers Lane, Turnditch, and Donald Eyre, Alvaston, England, assignors to Rolls-Royce Limited, Derby, England, a British company
Filed Aug. 30, 1965, Ser. No. 483,458
Claims priority, application Great Britain, Sept. 14, 1964, 37,542/64
9 Claims. Cl. 244—6)



Helicopter power plant comprising two rotors having blades with slits therein, two by-pass jet engines, each having a jet nozzle, a free turbine mounted normally to the longitudinal axis of the engine and mechanically driving the rotors, valves selectively directing by-pass air and exhaust gases to the jet nozzle for forward propulsion and to the rotor slits for vertical lift, the rotors being interconnected both mechanically and by means of gas ducting to insure that if one engine fails, the other engine will drive both rotors.

3,368,779
MOUNTING APPARATUS
John G. Connine, Sauquoit, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 30, 1965, Ser. No. 517,527
1 Claim. (Cl. 248—27)

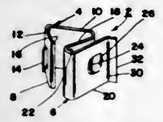


A mounting apparatus for a control device having a shaft extending axially therefrom and a pair of mounting tabs extending therefrom, the apparatus including a pair of undercut brackets adapted to receive the mounting tabs and a deflectable rib adapted to lock the control device in the desired position.

3,368,780
FASTENER DEVICE AND MOUNTING ASSEMBLY
Albert T. Buttriss, Westlake, Ohio, assignor to Tinnerman Products, Inc., a corporation of Ohio
Original application Aug. 31, 1964, Ser. No. 393,170, now Patent No. 3,279,729, dated Oct. 18, 1966. Divided and this application Feb. 28, 1966, Ser. No. 530,722
15 Claims. (Cl. 248—27)

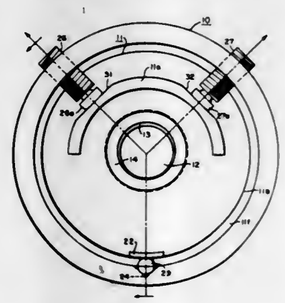
1. A fastening device for connecting a pair of members in assembled relationship, said device comprising a pair of spaced, resilient legs extending from a bight portion

connecting said legs together and adapted for receiving therebetween a portion of one of said members, one of said legs including a retainer means for engageable coaction with one of said members, and attachment means extending from the free end of one of said legs for at-



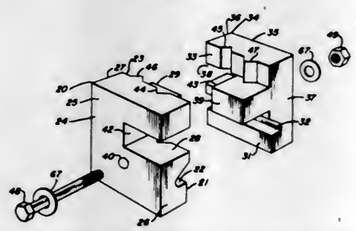
tachment of the device to the other of said members, said attachment means including a second pair of resilient legs extending divergently outwardly from a bight section, one of said legs being integrally attached to the free end of one of the legs of said first pair of legs.

3,368,781
MOUNTING MECHANISM WITH ANGULAR ADJUSTMENT
Frank E. Altoz, Baltimore, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 23, 1966, Ser. No. 596,486
6 Claims. (Cl. 248—27)



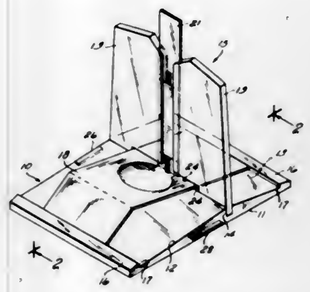
1. In an adjustable support, an outer supporting member, a flexible metal diaphragm carried by said supporting member, an inner supported member having one end supported by said diaphragm, means for supporting and positioning the other end of said supported member relative to said outer supporting member at three angularly spaced points, at one of said points said supporting means being yieldable.

3,368,782
SUPPORT FOR LINEAR MEMBERS
Henry E. Welch, Bennington Township, Morrow County, Ohio (Rte. 3, Marengo, Ohio 43334)
Filed Oct. 22, 1965, Ser. No. 501,895
15 Claims. (Cl. 248—68)



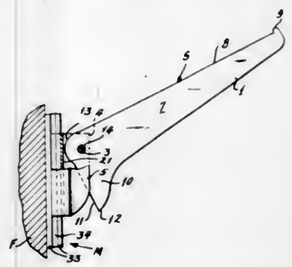
Apparatus for securing a linear member in limited slidable engagement upon a support, comprising a bar, formed with a longitudinally extending flange portion and securable to the support. A plurality of knobs, spaced along the bar flange. A pair of similarly-formed cleat elements, arranged for cooperably containing the bar flange, and secured in slidable engagement thereon, intermediate adjacent flange knobs. The cleat elements are provided with bearing walls for cooperatively engaging the linear member. The degree of frictional engagement between the cleat elements and the linear member is adjustable by varying the threaded relationship of a cooperating nut and bolt combination.

3,368,783
APPARATUS FOR MOUNTING A TESTING DEVICE
Marshall E. Deutsch, Hillsdale, N.J., assignor to Becton Dickinson and Company, East Rutherford, N.J., a corporation of New Jersey
Filed Feb. 1, 1966, Ser. No. 524,155
7 Claims. (Cl. 248—176)



An apparatus for mounting a test sample and a test strip of the type useful in making biological and chemical determinations and in analyzing specimens; the apparatus having means for supporting the test sample thereon and means mounted on the apparatus for supporting the test strip above the sample to be tested so that one end of the test strip contacts the sample.

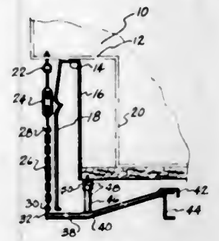
3,368,784
ADJUSTABLE SHELF BRACKET
Francis C. Peterson, Webster Groves, Mo., assignor to C. Hager & Sons Hinge Manufacturing Company, St. Louis, Mo., a corporation of Missouri
Filed June 9, 1966, Ser. No. 556,322
10 Claims. (Cl. 248—245)



1. An adjustable shelf bracket adapted to be mounted on a vertical support having a forward surface without openings therein for receiving said bracket, said bracket being formed from two bracket portions with an arm positioned therebetween and pivotally mounted on a pin connecting the two portions, said vertical support being

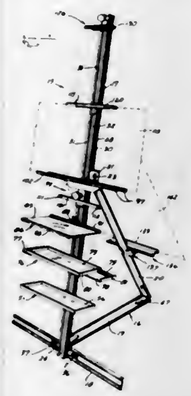
adapted to receive said bracket portions in sliding relation along tracks provided in the side edges of said vertical support, one of said bracket portions having means thereon positioned adjacent said forward surface of said vertical support, said arm being dimensioned so as to be out of contact with said means when at an acute angle thereto and in tight contacting relation with said means when at right angles thereto to force said means into tight contacting relation with said vertical support to prevent relative movement between said bracket and said vertical support.

3,368,785
CAMPER HOLD DOWN BRACKET
Raywood C. Weller, 17586 Vine St., Fontana, Calif. 92335
Filed Jan. 10, 1966, Ser. No. 519,665
6 Claims. (Cl. 248—361)



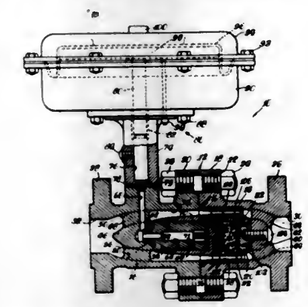
A tie down apparatus having a bar attachable to the frame of a truck, a fulcrumed connection with the truck bed and a releaseable chain connection with a camper on the truck.

3,368,786
PAINTER'S EASEL
Orville Bulman, Grand Rapids, Mich., assignor to The E. O. Bulman Manufacturing Company, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Dec. 23, 1965, Ser. No. 515,902
5 Claims. (Cl. 248—455)



A painter's easel having an upright standard, secured near its lower end to a base bar, and a pair of brace bars hingedly connected at one end of each and hingedly secured to the standard at their other ends. The upper brace bar is also adjustably secured to the standard for movement lengthwise thereof, whereby the two brace bars can be moved between positions snugly adjacent the standard and positions in which they are at acute angles with respect to the standard, thereby providing a rearward support for the standard. A variety of brackets, trays, support members and the like are adjustably and removably secured to the standard.

3,368,787
FLOW REGULATOR WITH RADIALLY EXPANDING ELASTOMERIC BLOCK
Norman H. Sachnik and Jesse L. Culpepper, Jr., Houston, Tex., assignors to Texsteam Corporation, Houston, Tex., a corporation of Texas
Filed Aug. 26, 1964, Ser. No. 392,132
2 Claims. (Cl. 251—63.5)

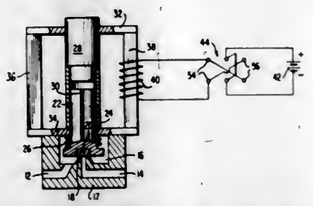


1. In a flow regulator, a housing having fluid passageway means extending generally axially therethrough and having cylindrical valve seat means therein, a valve assembly including a pair of outer backing plates and an intermediate deformable valve disc centrally disposed coaxially of said cylindrical valve seat means, said valve disc having opposed surfaces formed with substantially parallel central face portions and annular axially directed flange portions, said valve disc when unstressed having an axial width between its said central face portions approximately .5 times its outer diameter, said outer backing plates having surfaces formed with central face portions and annular beveled portions conformably mating with the opposed surfaces of said valve disc, said valve disc when unstressed having an outer diameter approximately .875 times the inner diameter of said cylindrical valve seat means whereby an annular clearance is provided, first abutment means suspended within said fluid passageway means and engaging one of said outer backing plates, second abutment means suspended within said fluid passageway means and supporting an axially directed stationary cylindrical piston, a cylinder slidably mounted on said piston and having a closed end wall engaging the other of said outer backing plates, packing means between the sliding surfaces of said piston and said cylinder, and fluid passageway means extending through said piston whereby an actuating force may be transmitted through fluid therein to said closed end wall of said cylinder for moving the latter to axially stress said valve disc so as to radially expand the latter to restrict said annular clearance.

3,368,788
MAGNETIC LATCH VALVE
Lawrence D. Padula, New Britain, Conn., assignor to Skinner Precision Industries, Inc., New Britain, Conn., a corporation of Connecticut
Filed May 12, 1965, Ser. No. 455,087
10 Claims. (Cl. 251—65)

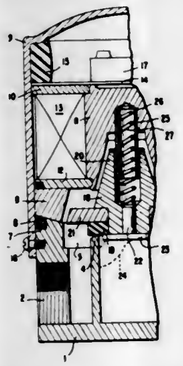
The valve of this invention includes a valve body and a plunger cooperating therewith and movable between open and closed fluid control positions, a pair of flux sources individually disposed in separate closed magnetic circuit relation to the plunger in both fluid control posi-

tions of the plunger, and means for selectively reversing the polarity of one of the flux sources to steer flux into



or away from the plunger for establishing a magnetic force of attraction with respect to the plunger for operating the valve.

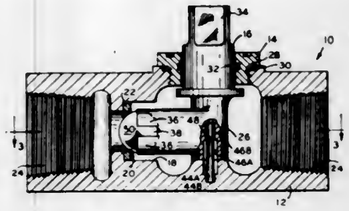
3,368,789
ELECTROMAGNETIC VALVE
Helmut Martin, Stuttgart, Germany, assignor to Concordia Maschinen- und Elektrizitats-G.m.b.H., Stuttgart, Germany
Filed Nov. 3, 1964, Ser. No. 423,618
Claims priority, application Germany, Nov. 9, 1963, C 31,359
9 Claims. (Cl. 251—141)



1. An electromagnetic valve comprising a fixed substantially pot-shaped magnetizable element, a field coil for energizing said element, and a movable armature of a substantially T-shaped cross section having a disk-shaped member and a central member projecting from said disk-shaped member and movable into the open side of said pot-shaped element when said fixed element is energized, the outer surfaces of said central and disk-shaped members together forming pole surfaces of one magnetic pole, and the central part and the rim of said fixed element together forming pole surfaces of the other magnetic pole, each of said pole surfaces being conically-shaped and disposed in an opposed, substantially parallel relationship with a pole surface of the opposite pole, said conically-shaped opposed pole surfaces defining therebetween at least two air gaps, whereby the size of said air gaps will be reduced when said fixed element is energized and said armature is attracted thereby.

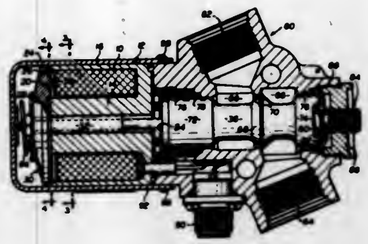
3,368,790
BALL-TYPE SHUTOFF VALVE
Donald J. Burke, Ronald D. Schlesch and Eldon W. Morain, Tulsa, Okla., assignors to Continental Industries, Inc., a corporation of Oklahoma
Filed Nov. 10, 1964, Ser. No. 410,064
6 Claims. (Cl. 251—176)

This invention is a ball-type shutoff valve including a unitary body having a flow passage therethrough defined in part by a valve seat. A ball is loosely supported within the valve body and is adaptable when moved against the seat to close the valve. An actuating arm is pivotally supported in the body having a shaft portion extending sealably through the body for pivotation. The arm includes two parallel spaced fingers with a slot therebetween and a cam surface spaced from the fingers. In one position the cam surface engages the ball and forces it against the valve seat closing the valve. To open the valve the arm is rotated by the shaft whereby the cam releases pressure against the ball and the fingers grasp the ball



and move it away from the valve seat so that the valve is fully open. To prevent the ball from moving out of position during closing a ball retaining pin is fixed to the interior of the valve body adjacent the seat. The retaining pin extends between the fingers as the actuating arm is pivoted to move the ball out of engagement with the seat. In an improved embodiment the invention includes a deflectable hinge pin in axial alignment with the actuating arm, the hinge pin deflecting as the cam surface forces the ball against the valve seat to resiliently retain the ball in sealing engagement with the seat.

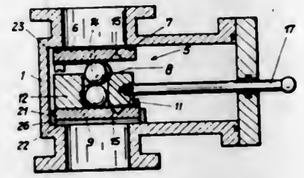
3,368,791
VALVE WITH MAGNETIC ACTUATOR
David Leon Wells, Huntington Beach, Calif., assignor to Marotta Valve Corporation, Boonton, N.J., a corporation of New Jersey
Filed July 14, 1964, Ser. No. 382,491
10 Claims. (Cl. 251—129)



1. An electro-magnetic actuator for a valve including a coil, a fixed iron frame adjacent to the coil and which is magnetized by electric current flowing in the coil, said frame including a cover of annular section surrounding the outside of the coil and an axial core surrounded by the coil, an armature extending across an end face of the coil and the frame, the end faces of the coil and the frame being in different planes so that they present a composite face confronting the armature but with the coil part of the area of the confronting face recessed with respect to the rest of the face, the armature having a front face opposite said composite confronting face of the coil and frame with the surface of the armature raised where said

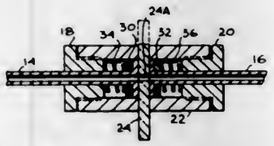
confronting face is recessed and over an area that extends into the recess as the armature approaches the end faces of the coil and frame, the surface areas of the armature that confront the cover and the core being at substantially the same distances from the cover and the core whereby the armature is subject to maximum density of flux from both said cover and core, a guide bearing on which the armature reciprocates toward and from the coil and frame, and means for connecting the armature with an element that is to be actuated thereby.

3,368,792
GATE STOP VALVE
Siegfried Schertler, 9 Unterstrasse, 9230 Flawil, Switzerland
Filed Feb. 16, 1966, Ser. No. 541,409
Claims priority, application Switzerland, Mar. 3, 1965, 2,968/65
5 Claims. (Cl. 251—158)



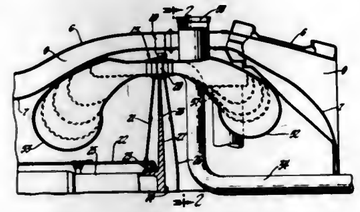
1. A gate stop valve comprising in combination: a casing having an inlet port and an outlet port, an obturator assembly slidably arranged in said casing in operative relationship to said ports, said obturator assembly comprising a valve plate and a support plate capable of being spread apart and of being pressed against seat surfaces on the interior of said casing surrounding said inlet port and outlet port, respectively, tension springs connecting said valve plate and support plate with one another, a cage arranged between said two plates and having a bore extending from and to and between said two plates, a pair of roller bodies arranged with clearance in said bore one on top of the other and each having a diameter exceeding half the length of said bore, juxtaposed recesses being provided in said two plates, in which said roller bodies rest in the open position of the gate, and a push-pull rod attached to said cage and passing sealed to the outside of said casing, and, when pushed into said casing, forcing said roller bodies out of their recesses and pressing said plates against their seats, so as to close said gate tightly.

3,368,793
SLIDABLE VALVE WITH ABUTTING PIPE FLANGES AS SEAT MEMBERS
Richard Gundelfinger, Berkeley, and Darrel B. McComas, Oakland, Calif., assignors to Chromatronix Incorporated, Berkeley, Calif., a corporation of California
Filed Feb. 17, 1966, Ser. No. 528,210
3 Claims. (Cl. 251—174)



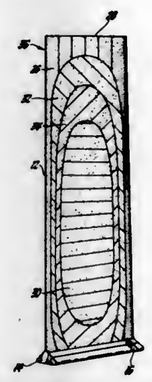
1. A valving mechanism for controlling the communication between two pipes comprising flange means at the ends of said two pipes, a slidable member having two opposite faces, means for resiliently biasing said flange means against said two opposite faces of said slidable member, including a cap member for each pipe, each cap member having an opening therethrough for slidably supporting said pipe, a spring extending between a flange on a pipe and said cap member, a coupling member comprising walls defining a chamber for enclosing the region between said cap members, and threaded openings in said walls for inserting said cap members for compressing said springs against said flanges, and an opening through said slidable member for enabling communication between said two pipes only when said opening is aligned with the openings in said pipes.

3,368,794
REENTRY TURBINE
Arthur W. Ganbatz, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 3, 1966, Ser. No. 569,897
2 Claims. (Cl. 253—66)



A reverse reentry multipass turbine with axial gap seals at the blade roots and tips, the stationary parts of these seals being mounted in the turbine case so as to retain the nozzle segments and sealing segments between the successive passes, which cooperate with the turbine blades to inhibit circumferential leakage.

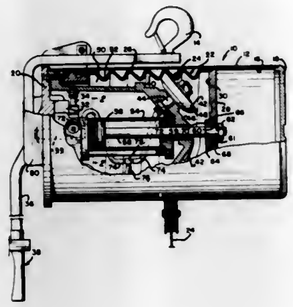
3,368,795
COMPOSITE ROTOR BLADE HAVING HIGH MODAL FREQUENCIES
Edward L. Bolin and Jack T. Edwards, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 12, 1967, Ser. No. 652,749
5 Claims. (Cl. 253—77)



A metallic rotor blade having one or more thin stiffening coating layers of parallel high modules of elasticity filaments bonded together in side-by-side relationship with a suitable thermosetting synthetic resin molded onto each of its fluid directing surfaces displays increased modal

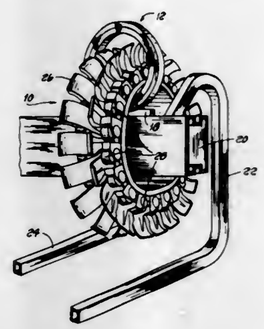
frequencies and improved damping characteristics so as to facilitate increased rotary machine performance requirements without experiencing destructive blade flutter.

3,368,796
CONTROL APPARATUS FOR BALANCING HOISTS
Otmar M. Ulbing, Berkshire, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 9, 1967, Ser. No. 621,857
11 Claims. (Cl. 254—168)



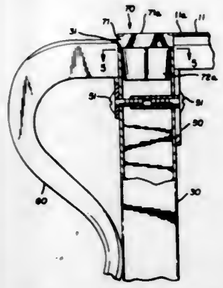
A balancing hoist having an internal cylinder and piston arrangement which is provided with valves for controlling the flow of fluid from the cylinder, and which is connected to control the speed of the movement of the hoist drum.

3,368,797
SHEAVE
Seymour Gross, New London, Conn., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 2, 1966, Ser. No. 591,653
6 Claims. (Cl. 254—190)



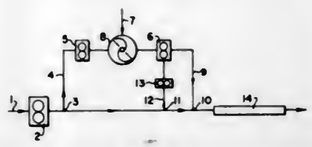
A tiltable sheave for a faired towline comprising a continuous loop section consisting of a non-circular track bearing V-shaped sheave segments which are rollably mounted on the track. The track is mounted on the inner one of a pair of concentric rings, the outer ring forming a track upon which the inner ring can rotate. The plane of the rings is transverse to the plane of the sheave so that transverse movements of the towline force the inner ring to move transversely, whereby the sheave is also forced to move transversely and to tilt.

3,368,798
RAILING ASSEMBLY HAVING A REPLACEABLE NEWEL POST CAP
Edward J. Kusel, 2348 Ridgewood Road, and Robert S. Mankin, 1954 Stockbridge Road, both of Akron, Ohio 44313
Filed May 18, 1966, Ser. No. 550,988
2 Claims. (Cl. 256—65)



A replaceable newel post cap for use in wrought iron railings which include a hollow newel post and at least one projecting railing member extending at right angles from the newel post. The cap characterized by fitting telescopically into the top of the post so that its edges lie in the same plane as the sides of the post and its top lies in the same plane as the top of the projecting rail. The bottom surface of the cap includes diagonal ribs which firmly locate and set the cap in the post.

3,368,799
METHOD AND APPARATUS FOR LUBRICATING GEAR PUMPS
Robert Sluijters, Arnhem, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Mar. 23, 1966, Ser. No. 536,776
Claims priority, application Netherlands, Apr. 14, 1965, 65—4,738
5 Claims. (Cl. 259—4)



Process and apparatus for preventing abrasive components causing wear in gear pumps and the like metering abrasive containing materials to a liquid stream comprising continuously feeding a liquid free of abrasive-causing components along various component pump elements, such as a drive and rotor shaft, associated metering gears and the like; provision also is made for placing the pump in a bypass conduit wherein a portion of a liquid, for example, a viscous liquid being manufactured into filaments, fibers and films, is used as a lubricating and flushing liquid.

3,368,800
BLENDER
William G. Barnard, Jr., Olmsted Falls, Ohio, assignor to The Vita Mix Corporation, a corporation of Ohio
Filed Apr. 13, 1965, Ser. No. 447,655
3 Claims. (Cl. 259—108)

1. Food preparation apparatus for blending soft food materials and chopping (or breaking) relatively harder food materials comprising

(I)

(a) a base,
(b) a motor mounted in said base,
(c) a shaft driven by said motor,
(d) means for reversing the direction of drive of said shaft by said motor,
(e) manual control means for said reversing means mounted for access from the exterior of said base, said control means being movable between a position in which said shaft is driven in a forward direction and a position in which said shaft is driven in a reverse direction, and
(f) indicia on said base associated with said control means to indicate when said control means is in a position to cause said shaft to be driven forwardly or reversely,



(II)

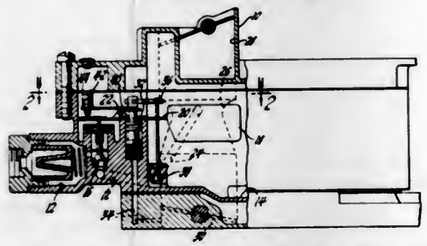
(a) a container adapted to receive and retain food materials to be prepared therein and having
(i) side walls and
(ii) a bottom wall
said side walls and bottom wall being imperforate except for an opening in said bottom wall, said opening being normally closed by
(b) a blade assembly comprising
(i) blade means within said container, and
(ii) a blade shaft carrying said blade but journaled within and extending through said bottom wall opening, and

(III)

means for supporting said container on said base and coupling said blade shaft to said motion-driven shaft to rotate said blade shaft in the same direction as said motion-driven shaft,

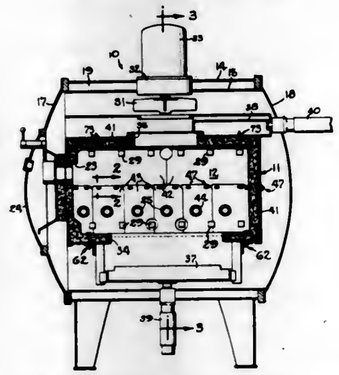
whereby the tendency of soft foods to bridge over and remain out of contact with said blade means during rotation thereof may be reduced by changing said control means between said forward and reverse positions.

3,368,801
CARBURETOR FUEL BOWL INLET CONTROL
Richard J. Brunner, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,514
1 Claim. (Cl. 261—70)



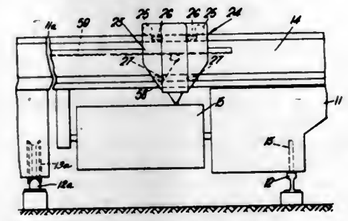
A manifold vacuum responsive piston positions carburetor metering rods for economy and power mixture ratios and positions a stop controlling movement of the fuel bowl float and the fuel bowl inlet valve. At high vacuums the stop permits unrestricted initial inlet valve opening and restricted further valve opening and prevents valve opening beyond a predetermined amount; at low vacuums the stop is positioned to permit unrestricted valve opening.

3,368,802
CONSTRUCTION OF INSULATED FURNACE WALL
Fred W. Morgan, South Beloit, Ill., and Harold N. Ipsen, deceased, late of Rockford, Ill., by The Illinois National Bank and Trust Company, executor, Rockford, Ill., assignors, by mesne assignments, to Alco Standard Corporation, Philadelphia, Pa., a corporation of Ohio
Filed June 11, 1965, Ser. No. 463,477
6 Claims. (Cl. 263—40)



A heat treating furnace having a vacuum-tight, water-jacketed vessel and an inner enclosure formed by an inner wall composed of a plurality of overlapping flexible shingles, and outer wall, a layer of compressible fibrous insulation between the walls, and fasteners turnably mounted on the outer wall and projecting through the insulation and the inner wall with radially offset, J-shaped inner end portions overhanging the inner sides of the shingles and locked in grooves formed in the shingles, thereby holding the assembly together. The enclosure is formed with ports for the circulation of quenching gas by a fan inside the vessel, and the ports are opened and closed by reflector doors operated by reciprocating actuators.

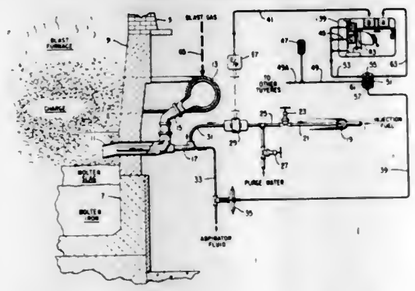
3,368,803
TRACING MECHANISM FOR OXYGEN JET CUTTING MACHINES
Kenneth David Seymour Semper, Croydon, England, assignor to Hancock & Co. (Engineers) Limited, Croydon, England, a British company
Filed Mar. 9, 1965, Ser. No. 438,213
13 Claims. (Cl. 266—23)



An oxygen jet cutting installation including an oxygen jet cutting machine for cutting shaped workpieces and a tracing unit having a rotatable drum carrying the outline

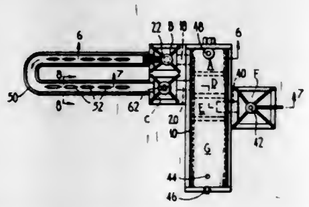
and an electronic line follower, there being means to provide relative rotational and axial movement between the drum and the line follower in following the outline, and transmission means to cause the relative movements to be multiplied in a desired ratio when being applied to guide the cutting burner.

3,368,804
BLAST FURNACE INJECTION FUEL CONTROL
Ralph R. Swain, South Euclid, Ohio, assignor to Bailey Meter Company, a corporation of Delaware
Filed Aug. 17, 1965, Ser. No. 480,311
5 Claims. (Cl. 266—30)



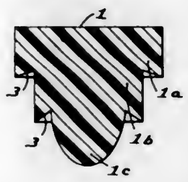
An apparatus for controlling the flow of coal slurry from a manifold through individual tuyeres into a blast furnace; said apparatus including a simple aspirator valve positioned in each of the tuyeres. The flow of aspirator fluid through the aspirator valve is regulated by a control signal which is a function of coal slurry flow into the tuyere, so as to maintain a constant rate of flow of coal slurry into the furnace.

3,368,805
APPARATUS FOR COPPER DROSSING OF LEAD BULLION
Thomas Ronald A. Davey, Glen Waverly, Victoria, Australia, and Herbert T. Webster, deceased, late of Port Pirie, South Australia, Australia, by Emma Florence Webster, executrix, Port Pirie, South Australia, Australia, assignors to The Broken Hill Associated Smelters Proprietary Limited, Melbourne, Victoria, Australia, a corporation of Australia
Continuation-in-part of application Ser. No. 250,397, Jan. 9, 1963. This application Dec. 20, 1965, Ser. No. 515,254
8 Claims. (Cl. 266—37)



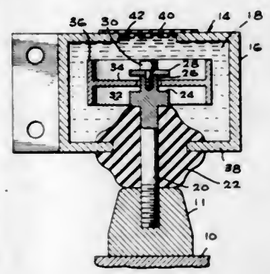
1. Apparatus for use in continuously separating copper from lead bullion comprising:
a furnace adapted to hold a bath of molten bullion,
at least one partition wall extending upwardly from the bottom of the furnace and having its upper end disposed substantially below the operating level of the molten bullion, said partition wall sub-dividing the lower part of the furnace into a plurality of compartments comprising a mixing compartment and an inflow compartment,
a pump operable to effect the withdrawal of molten bullion from the mixing compartment,
means for cooling the thus withdrawn bullion to a temperature lower than 400° C. but above the melting point thereof,
means for returning at least the major part of the thus cooled molten bullion to the said inflow compartment and,
means for continuously discharging a proportion of said cooled molten bullion from the system.

3,368,806
GRADUATED PRESSURE SPRING ELEMENT MADE OF ELASTOMER MATERIAL
Reinhold E. Szonn, Lemforde, Germany, assignor to Cellasto Incorporated, Ann Arbor, Mich., a corporation of Michigan
Filed Oct. 23, 1965, Ser. No. 502,877
Claims priority, application Germany, Feb. 19, 1965, L 50.001
5 Claims. (Cl. 267—1)



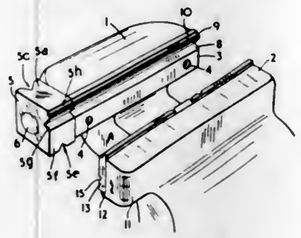
A graduated pressure spring element made of elastomer material, particularly a cellular elastic material, having a wall design wherein pressure from the nose of a dome-shaped element will cause a telescoping of the parts from the nose end toward the base and a mutual reinforcement of the respective walls as the pressure from the nose increases toward the base, this design consisting primarily of step-like formations in the walls of the device to provide flat annular wall sections terminating at wall sections extending generally in the direction of the axis of the device.

3,368,807
VIBRATION ISOLATOR
Howard G. Thrasher, Los Angeles, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed Jan. 19, 1966, Ser. No. 521,637
1 Claim. (Cl. 267—35)



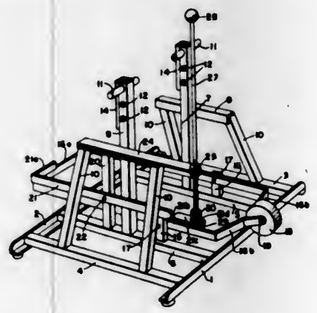
The invention pertains to a vibration isolator. A fluid container is sealed at least at one end thereof by a resilient member supporting a shaft therethrough. Slidably mounted between spaced abutments on the shaft within the container is a cylindrical dasher member. Vibrations are absorbed both by the resilient member and the dasher member moving through fluid in said container.

3,368,808
VICES AND AUXILIARY JAWS FOR USE IN CONNECTION WITH VICES
Walter J. Worthington, 245 Walmley Road, Sutton Coldfield, Warwickshire, England
Filed Sept. 23, 1964, Ser. No. 398,639
7 Claims. (Cl. 269—279)



Vice jaws include one jaw having a turret jaw pivotally mounted on one end thereof for rotation about an axis parallel to the face of said jaw, the other jaw having an integral extension on the corresponding end thereof for cooperation with said turret jaw and laterally overhanging the vice sub-structures. The turret jaw has a plurality of faces arranged to respectively be disposed in coplanar relation with the face of its supporting jaw and one of said turret jaw faces constituting a continuation of said supporting jaw face.

3,368,809
BICYCLE EXERCISING STAND
Paul O. Duane, R.D. 2, Box 119, Mohawk, N.Y. 13407
Filed Jan. 8, 1965, Ser. No. 424,403
8 Claims. (Cl. 272—73)



A bicycle exercising device adapted to be placed on a supporting surface whereby the axle of the rear wheel of a bicycle can be supported for free rotation between a pair of uprights, the device having a drag roll disposed at the end of a pivoted frame for engagement with said rear wheel and a manually controlled pivoted lever for varying the pressure of the drag roll against the wheel.

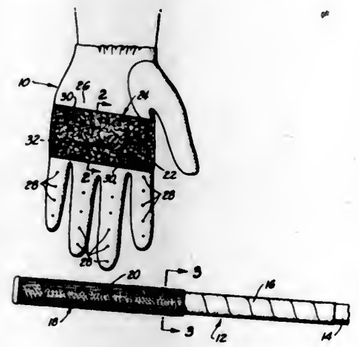
3,368,810
MAGNETIC BALL RACKER
Christopher P. Deering, 146 Chriswick Road, Brighton, Mass. 02135, and James P. Monahan, 69 Lonsdale St., Dorchester, Mass. 02122
Filed June 1, 1965, Ser. No. 460,343
4 Claims. (Cl. 273—11)

2. A ball collecter and racker device for pool tables having a center chute return system which comprises in combination with a pool table having a subway return chute and chute bin for receiving the returned balls, a triangular racking member with apex and side corners, a portable tray for positioning within the chute bin for conveying the returned balls and triangular racking member from the bin to the table, means for positioning said triangular rack member on said tray so that the apex corner



thereof is substantially adjacent but is in substantial apposition with the return chute, a metallic bar, means for positioning and affixing said metallic bar immediately above the end of the chute which enters the bin and at a distance of slightly more than the diameter of the pool balls, and means for selectively magnetically engaging the apex corner of the rack with the metallic bar.

3,368,811
INTERLOCKING GLOVE AND HANDLE
Basil B. Finney, Arlington, Calif., assignor of one-half to Albert G. Pearson, Riverside, Calif.
Filed Apr. 17, 1962, Ser. No. 188,218
4 Claims. (Cl. 273—72)

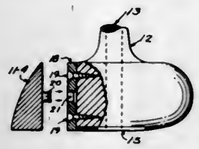


4. The combination of a handgrip and a glove for use therewith, a first fabric applied to at least one part of the glove surface which will contact the handgrip when the wearer of the glove grips the handgrip, a second fabric affixed to the handgrip, a multiplicity of members upstanding from the exposed face of one of said first and second fabrics, the end portion of each of said members remote from the fabric being reversely bent whereby a multiplicity of hooks are defined, the other of said fabrics having an exposed face with a plurality of hook-engageable elements, the hooks and the hook-engageable elements of the exposed faces of the first and second fabrics being interlockingly engaged when forced together.

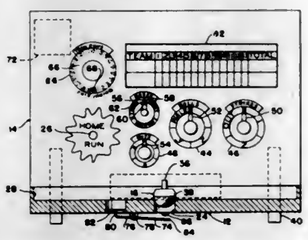
3,368,812
WOOD-TYPE GOLF CLUB WITH DETACHABLE FACE PLATE
William K. Baldwin, Sr., Carmichael, Calif. (Rte. 1, 2795 Amoruso Way, Roseville, Calif. 95678)
Filed June 29, 1964, Ser. No. 378,545
1 Claim. (Cl. 273—80)

1. A wood-type golf club having a driving head provided with a driving face, a toe and a heel, and includ-

ing a hosel having a bore therethrough, inclined toward the heel, said hosel being positioned substantially centrally of the head in a direction transverse to the driving face thereof and spaced inwardly from the heel, said bore entering said head at a point adjacent the center thereof in a direction parallel to the driving face and extending through the center of gravity of the head, a shaft secured in said hosel, a handle on the shaft, said club further including a vertically convexed horizontally straight driving plate secured to said driving face, said plate having a flat rear surface, and being thicker at the bottom than at the top to provide an inclined vertically convexed driving surface with the impact point aligned wtih the center of gravity of the head, said plate being provided with a plurality of straight, spaced apart horizontal grooves across its convexed surface, and said plate being detachably connected to said face by means of a snap fastening element.



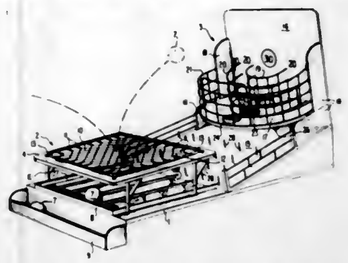
3,368,813
BASEBALL GAME HAVING CHANCE MEANS INCLUDING A SELF-REVERSING TOP
Philip B. McGraw, 424 Hillcrest, Grosse Pointe Farms, Mich. 48236
Filed Jan. 18, 1965, Ser. No. 426,200
3 Claims. (Cl. 273—93)



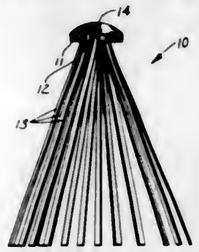
The invention relates to a simulated baseball game. The structure comprises a flat base board having a plurality of openings. A self-reversing top is spun on the base board and is adapted to come to rest in any one of the openings either in a generally upright position or a generally inverted position. Indicia associated with certain of the openings indicates two different game actions, one of which may be applicable if the top comes to rest in the opening in upright position and the other of which may be applicable if the top comes to rest in the opening in inverted position. A signal automatically registers a home run when the top comes to rest in one of the openings in inverted position but not when it comes to rest therein in upright position.

3,368,814
TARGET GAME WITH SECONDARY PROPULSION ELEMENT INCLINED TOWARD TARGET
Stanley J. Kolwicz, 16 Sanford Ave., Emerson, N.J. 07630
Filed Sept. 25, 1964, Ser. No. 399,278
12 Claims. (Cl. 273—95)

A game of the aerial projectile type in which a ball or projectile is thrown onto a yieldable fabric playing surface resiliently mounted about its periphery in taut relation on a frame, in which the yieldable fabric surface and frame are disposed in angular relation to a horizontal plane and inclined upwardly toward a spaced target, such that the ball is lofted by secondary propulsion from said yieldable fabric surface toward the target.

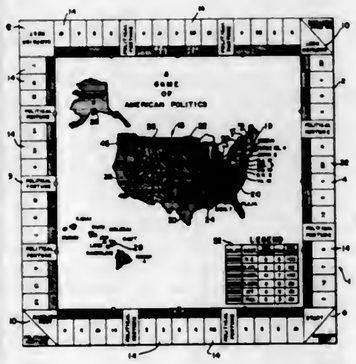


3,368,815
TOY PROJECTILE HAVING STREAMERS AND A METAL CAP
Pura Z. Alabastro, 3031 Fleetwood Drive, San Bruno, Calif. 94066
Filed July 12, 1965, Ser. No. 471,114
2 Claims. (Cl. 273—106)



A toy projectile adapted to be propelled into the air by hitting or throwing and having a ring-shaped member covered by a dome shaped metal cap with air resistant streamers connected thereto for slowing the descent of the projectile when the projectile is allowed to descend freely through the air under the force of gravity.

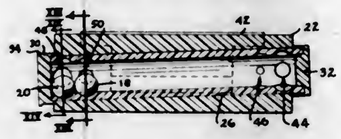
3,368,816
POLITICAL GAME
Paul J. Milazzo, 83 Russell Road, Garden City, N.Y. 11530, and James G. Lynch, 7 Ehler St., and Joseph Dormady, 5 Ehler St., both of Brentwood, N.Y. 11717
Filed Dec. 31, 1964, Ser. No. 422,770
2 Claims. (Cl. 273—134)



A competitive presidential election game comprising a playing board having its periphery divided into a plu-

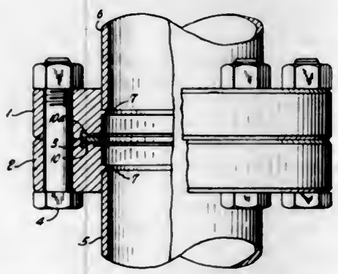
rality of State zones, a plurality of electoral commitment cards, each of the latter being in one-to-one correspondence with a respective State zone, each State zone being color designated and bearing an indicium indicative of the number of electoral college votes allocated to said state, said electoral commitment cards being each provided with a different state name and a color designation corresponding with the name and color designation of a respective State zone.

3,368,817
DEVICE FOR INDICATING ATTAINMENT OF PROPER GOLF SWING MOVEMENTS
Earl N. Duncan, 61 E. Beechwood Ave., Dayton, Ohio 45405
Filed Aug. 23, 1965, Ser. No. 481,713
12 Claims. (Cl. 273—183)



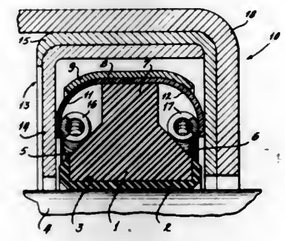
1. A device for monitoring and indicating the movements of an individual during a golf swing comprising; a tubular element, first and second moveable members in a row in said tubular element moveable from end to end thereof upon tilting of said tubular element in a vertical direction, a support block having a bore receiving said tubular element, and a hook member secured to said block for attaching said block to said individual and to support the block so the axis of said tubular element has a predetermined orientation relative to the horizontal, said tubular element comprising first and second restraining means therein at each end for individual engagement with said moveable members to restrain the members individually against movement away from the pertaining end of the tubular element until the tubular element is tilted to a predetermined angle, and the degree of restraint provided by said first restraining means being different from that provided by said second restraining means, whereby said first and second members may move successively from their restrained positions when said element is moved successively to first and second predetertermined tilt angles.

3,368,818
VACUUM FLANGE
Tatsuo Asamaki and Tetsuo Dairokuno, Tokyo, Japan, assignors to Nippon Electric Company Limited, Shiba Minatoku, Tokyo, Japan
Filed Feb. 2, 1965, Ser. No. 429,794
Claims priority, application Japan, Feb. 2, 1964, 39/10,955
2 Claims. (Cl. 277—9)



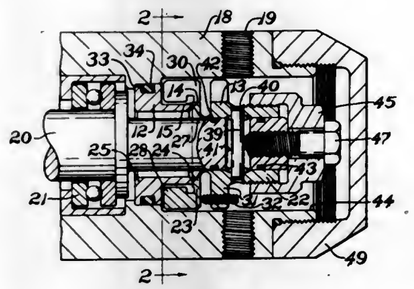
An improved mechanical seal for vacuum systems in high temperature applications. A flange-gasket type seal is provided with an annular channel through which non-oxidizing gas is circulated to prevent buildup of oxidation on the surfaces of the seal forming parts.

3,368,819
DUAL FACE ROTARY SHAFT SEAL ASSEMBLY
Dennis L. Otto, Canton, Ohio, assignor to The Timken Roller Bearing Company, Canton, Ohio, a corporation of Ohio
Filed Feb. 3, 1965, Ser. No. 429,972
2 Claims. (Cl. 277—25)



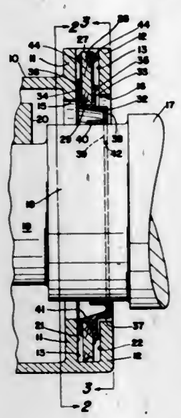
A dual face rotary shaft seal assembly including a stationary casing housing a sealing member mounted for rotation with a shaft, and in which the sealing member carries sealing elements projecting adjacent the interior walls of the casing and spring means which force the sealing elements into sealing engagement with the casing under initial tension so that during rotation the spring means can maintain equalizing force on the sealing elements.

3,368,820
SEAL ASSEMBLY
Ludwik S. Bialkowski, Troy, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Sept. 15, 1965, Ser. No. 487,497
3 Claims. (Cl. 277—25)



A rotary seal assembly of the sliding-contact class in which the relatively rotatable sealing members are biased axially against each other to form a fluid tight sliding seal at a plane mating interface. The rotary sealing member of the assembly operates in response to its rotational speed to vary the interface sealing load automatically. For this purpose the rotatable sealing member is provided with weights which circumferentially deflect the rotary member during rotation. Alternatively, the rotary member may be contoured so that it is deflected hydrodynamically by fluid in which the rotatable part operates to vary the interface sealing load.

3,368,821
JOURNAL BOX SEALING DEVICE
Richard Palen Papenguth, Manhattan Beach, Calif., assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 15, 1965, Ser. No. 432,592
1 Claim. (Cl. 277—130)



A sealing device for a railroad journal box, the device comprising a resilient member attached to a rigid plate and having a cylindrical extension and a radial flange, a part of the flange being deflected to tubular shape upon insertion of the axle and the inner diameter of the resilient member being tapered to provide a clearance with the flange so that the cylindrical extension has its thinnest section near the plate and its thickest section adjacent the flange.

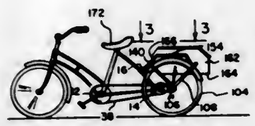
3,368,822
ROLLING FUEL TRANSPORT DEVICE
Kenneth L. Treiber, 1103 Villamay Blvd., Alexandria, Va. 22307
Filed June 27, 1966, Ser. No. 561,678
8 Claims. (Cl. 280—5)



1. In a fuel transport device, spherical container means for holding liquid fuel, a frame means overlying said container and having roller means for contacting any part of the outer surface of said spherical means, pivot means secured to said frame means, and rigid connecting means pivoted on said pivot means at one end thereof and provided with means on the other end thereof for attachment to a motion providing vehicle.

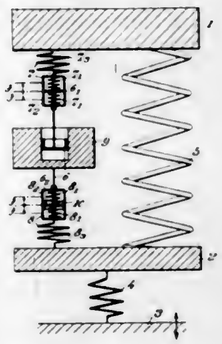
3,368,823
MEANS FOR CONVERTING A BICYCLE TO A TRICYCLE
Raymond E. Templeton, Rte. 2, Box 766, Peoria, Ariz. 85345
Filed May 26, 1966, Ser. No. 553,149
11 Claims. (Cl. 280—7.15)

1. In a means for converting a bicycle to a tricycle the combination of: a conversion frame having a pair of axially aligned tubular members provided with adjacent inner ends spaced apart; a yoke means rigidly interconnecting said inner ends of said tubular members; a connecting bracket means secured to said frame in the proximity of said yoke and extending forwardly and adapted to be secured to conventional rear wheel connecting forks of a bicycle, said tubular members having outer ends; wheel supporting brackets secured to said tubular members near their outer ends, said brackets extending in a direction laterally with respect to the axis of said tubular members; a conventional rear bicycle wheel having a conventional hub; said hub having a conventional drive sprocket and



a conventional axle; said axle at its end near said sprocket connected to one of said brackets; a conventional bicycle front wheel having a conventional axle connected to another of said brackets; a shaft journaled in said one of said tubular members; second and third sprockets fixed to opposite ends of said shaft; said second sprocket disposed in an area of said yoke and adapted to be engaged by conventional bicycle drive chain; said third sprocket being disposed beyond the outer end of said one tubular member; and a second drive chain operably connecting said third sprocket and said conventional drive sprocket.

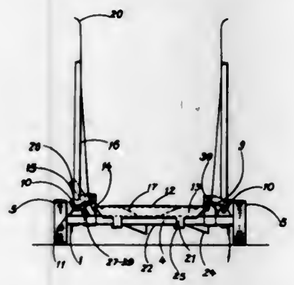
3,368,824
VEHICLE SUSPENSION DEVICES
Maurice Francois Alexandre Julien, Paris, France, assignor to Paulstra, Levallois-Perret, France, a society of France
Filed Jan. 24, 1966, Ser. No. 522,557
Claims priority, application France, Feb. 2, 1965, 4,152
8 Claims. (Cl. 280—106.5)



1. In a vehicle mounted on pneumatic tires, comprising a suspended frame and a half suspended structure including wheels for supporting said suspended frame, a suspension device which comprises in combination:
a main spring interposed between said suspended frame and a part of said half suspended structure,
a shock absorber interposed between a part of said half suspended structure and said suspended frame, said shock absorber including two portions movable with respect to each other,
a first resilient connection between one of said shock absorber portions and said suspended frame,
a second resilient connection between the other of said shock absorber portions and said half suspended structure,

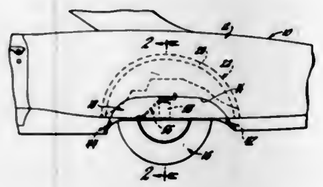
both of said resilient connections being flexible for small values of the relative displacements of the parts between which they are interposed and being stiff for great values of said displacements,
the portion of said shock absorber connected with said half suspended structure having a wall, and a means including a heavy mass rigid with said wall for absorbing oscillations of said half suspended structure of relatively high frequency.

3,368,825
VEHICLE
Raymond de Voghel, Marcinelle, Belgium, assignor to Glaverbel S.A., Watermael-Boitsfort, Belgium
Filed July 8, 1965, Ser. No. 470,457
Claims priority, application Luxembourg, July 10, 1964, 46,497
8 Claims. (Cl. 280—144)



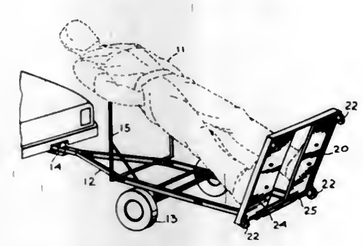
Apparatus for supporting tall objects in an upright position, which apparatus includes a pair of levers pivotally connected in such a way that when a load is being supported, its weight acts on one arm of each lever so as to cause the free end of the other arm of each lever to move in a generally horizontal direction and to bear against the sides of the load.

3,368,826
FENDER SKIRT
Joseph E. Whitesell, Pontiac, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 17, 1966, Ser. No. 528,128
4 Claims. (Cl. 280—153)



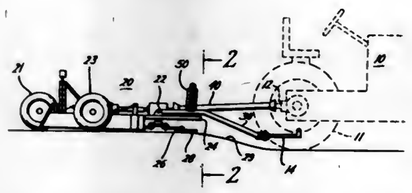
A vehicle body includes a quarter panel and a wheel house structure which includes a wheel house outer member having its flange secured to the flange of the quarter panel defining the wheel opening. A fender skirt fits within the wheel opening and includes front and rear mounting brackets having return bent free arms which extend over the panel and wheel house member flanges and fit within pockets formed integrally in the wheel house outer member. A manual latch is pivoted to a bracket on the inside of the skirt and has a hook shaped end for engagement with the wheel house outer member flange. Two abutments are formed in the bracket and the latch engages both abutments in latched position. As the latch is moved to unlatched position, it moves off one of the abutments so as to be tilted about its pivot and clear the wheel house outer member flange.

3,368,827
TILTING TRAILER
Stephen S. Dashew, Marina Del Rey, Calif., assignor to West Coast Industries, Inc., Venice, Calif., a corporation of California
Filed June 7, 1966, Ser. No. 555,881
5 Claims. (Cl. 280—401)



4. In combination,
a movable structure for transporting a large display object supportable thereon, said structure including means at one end thereof for connecting said structure to a moving vehicle to be moved thereby;
a mobile platform including a support plane and bolt means for supporting the base of said object thereon and a plurality of rolling members coupled to said support plane for rolling said plane and the object thereon when said object is in a vertical position; and
means for releasably coupling the platform to said structure at an end opposite said one end, whereby said platform and structure form an integral unit for transporting said object when the object is being supported on said structure and the base thereof is supported on the support plane of said platform.

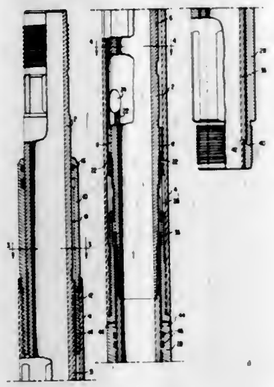
3,368,828
MOWER DRAWBAR CONNECTION
John F. Engler, 4408 Center St., Houston, Tex. 77007
Filed Nov. 3, 1960, Ser. No. 66,967
10 Claims. (Cl. 280—489)



1. Apparatus comprising a drawbar, traction apparatus adapted for movement over a surface having varying contour, and resilient means coupling said drawbar to said traction apparatus, said resilient means including in combination a clevis member, a plurality of fasteners pivotally coupling said clevis member to said traction apparatus, a cylindrical housing passing through an aperture in said clevis, a threaded member pivotally coupled to said drawbar and partially inserted in said cylindrical housing, a threaded nut engaging said threaded member and adjacent said cylindrical housing and a spring longi-

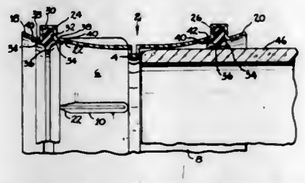
tudinally enclosing a portion of said cylindrical housing and positioned intermediate said clevis member and said threaded nut.

3,368,829
SAFETY JOINT
Burchus Q. Barrington and Severo L. Villalon, Jr., Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Aug. 10, 1965, Ser. No. 478,717
8 Claims. (Cl. 285—81)



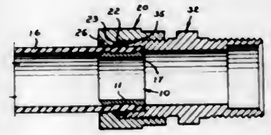
A safety joint for releasably coupling well tubing together in a string. The joint includes a threaded cap, a mandrel, and a case. The mandrel extends through the cap which is screwed into the case. Rotary motion of the mandrel is transmitted to the cap by a spline and slot arrangement. Splines in the case cooperate with lugs on the mandrel to restrict rotation of the cap by the mandrel except during a series of alternating rotating and reciprocating movements of the mandrel. A spring collar and a ring are mounted in coaxial relation between the case and the mandrel, so that during axial movement of the mandrel, the ring engages projections on the spring collar to resist axial movement of the mandrel. When a predetermined axial force is applied to the mandrel, the ring deflects the projections on the spring collar radially to allow the ring to pass through the collar, thereby giving a positive indication at the surface of the relative position of the mandrel and the case.

3,368,830
PIPE JOINT
David W. French, Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 404,445, Oct. 16, 1964. This application May 10, 1967, Ser. No. 637,888
3 Claims. (Cl. 285—110)



1. In a pipe joint comprising a male component, a female component, and a fluid sealing gasket wherein said female component has a circumferentially extending radially inwardly opening groove adjacent an axial extremity thereof and wherein said male component is inserted within said female component and said gasket is positioned between said male and female component to effect a fluid seal therebetween, the improvement comprising:
(a) a gasket comprising resilient material having a radially outer portion of greatest outside diameter closely fitted within said groove and held thereon against any substantial movement,
(b) said gasket having a plurality of integral axially extending arms,
(c) said gasket having at said axially extending arms a width in an axial direction greater than the width of said groove in said axial direction,
(d) said axially extending arms having an outside diameter substantially equal to the diameter of the inner peripheral surfaces of said coupling on either axial side of said groove,
(e) said gasket having a radially inner portion of smallest diameter having a width in an axial direction smaller than the width of said gasket in said axially extending arms,
(f) said pipe end when being inserted in said coupling contacting said radially inner portion and deforming said radially inner portion axially inwardly and radially outwardly so that said radially inner portion and the axially inner one of said axially extending arms exert compressive forces against said pipe end and said coupling, and
(g) the axially outer one of said axially extending arms being deformed into contact with said pipe end.

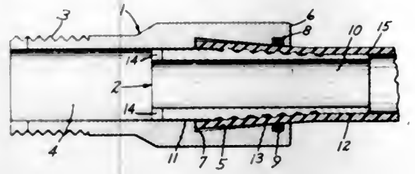
3,368,831
COUPLING DEVICE
Malcolm W. Phillipps, Hilton, South Australia, Australia, assignor to Philmac Limited, Hilton, South Australia, Australia
Continuation of application Ser. No. 310,621, Sept. 23, 1963. This application Nov. 25, 1966, Ser. No. 597,176
1 Claim. (Cl. 285—249)



A coupling device for use with deformable pipe, such as plastic, rubber or soft metal tubing, has an inner sleeve to be inserted in the pipe. This sleeve has a circumferential groove on its outer surface. The arrangement provides for positive positioning of a continuous sealing ring relative to the groove and pipe material, with the groove having greater axial length than the ring. Complementary screw threaded members coact to deform the ring inwardly to achieve a particular configuration of the pipe material, ring and groove, with a resulting superior coupling performance.

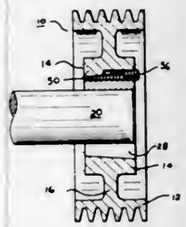
3,368,832
CONDUIT AND TUBE COUPLING
Arnold M. Rader, Minneapolis, Minn., assignor to Minneapolis Gas Company, Minneapolis, Minn., a corporation of Delaware
Filed May 18, 1966, Ser. No. 551,110
1 Claim. (Cl. 285—251)

A generally tubular coupling element having axially aligned smooth straight and tapered passage portions cooperating to define an annular shoulder intermediate the ends of the coupling element, the tapered passage portion having a minor diameter at one end of the coupling element for free reception of a tube. A tubular insert element has an inner end portion of uniform diameter to slidably engage the inner passage portion, and outer end



portion of uniformed diameter to be slidably received in the tube, and an intermediate externally threaded tapering portion for radially expanding the adjacent portion of the tube into sealing engagement with the tapered passage portion of the coupling element.

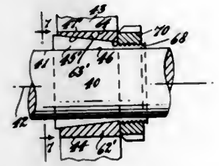
3,368,833
HUB AND BUSHING STRUCTURE
Jackson Chung, Mishawaka, Ind., assignor to Dodge Manufacturing Corporation, Mishawaka, Ind., a corporation of Indiana
Filed June 20, 1966, Ser. No. 558,901
9 Claims. (Cl. 287—52.06)



A hub or bushing structure for a pulley, sheave, gear or sprocket consisting of tapered angular surfaces on the hub and bushing engaging one another, and a plurality of cylindrical bores intersecting the tapered surfaces. The cylindrical bores are provided with threaded portions, either on the hub or on the bushing, and cylindrical screws are threaded in two of the holes and a tapered screw is threaded into the remaining hole to prevent slippage between hub and bushing.

3,368,834
MECHANICAL ROTARY SELF-INTERLOCKING DEVICE
Andrew Stratienko, 5139 N. 15th, Philadelphia, Pa. 19141
Continuation of application Ser. No. 204,918, June 25, 1962. This application Nov. 14, 1966, Ser. No. 594,265
4 Claims. (Cl. 287—52.09)

4. A rotary self-interlocking wedge device, comprising a shaft member, a hub member surrounding the shaft member and having a space of annular section between the shaft member and the hub member, the members being relatively angularly movable about a common axis of the shaft member and the hub member, pairs of cooperating wedges between the shaft member and the hub member on opposite sides, each pair of wedges comprising a radially inner wedge having a radially inner cylindrical surface coaxial with said common axis and cooperating with the outer cylindrical surface of said shaft member, and having a radially outer curved inclined wedge surface whose section is circular and which is eccentric with respect to the axis, and comprising a radially outer wedge having a radially inner curved inclined wedge surface whose section is circular and which is eccentric with respect to the axis and of the same radial offset as the radially outer inclined wedge surface of the inner wedge of the pair, the inclined wedge surface of the outer wedge of each pair being in sliding frictional engagement with the inclined wedge surface of the inner wedge of the same pair, there being permanent antifriction means on at least one of the inclined wedge surfaces which are in sliding engagement, and the radially outer wedge of each pair having a radially outer cylindrical surface coaxial with said common axis and cooperating with the inner cylindrical surface of said hub



member, each of said pairs of wedges having the same direction of inclination of the inclined surfaces relatively tightening when rotation is in the direction toward inclination of the inclined wedge surfaces and each of said pairs of wedges which have said same direction of inclination of the inclined wedge surfaces relatively loosening when the rotation is in the direction away from the inclination of the inclined wedge surfaces, and positive pre-engaging means for producing limited relative motion of the outer and inner wedges in a direction toward inclination of the inclined wedge surfaces (tightening) for engaging and pre-tightening of the wedge elements against the concentric surface on the hub member, and the concentric surface of the shaft member, whereby said wedges produce a self-interlocking action at said external and internal cylindrical coaxial surfaces in the direction toward the inclination of the inclined wedge surfaces, said inclined wedge surface of each wedge of each pair also being inclined when viewed in axial section.

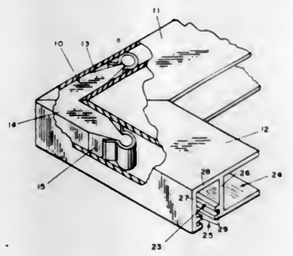
3,368,835
FLEXIBLE COUPLINGS
Bernhard Hackforth, Heerstrasse 52/58, Wanne-Eickel, Germany
Original application Aug. 9, 1961, Ser. No. 130,410. Divided and this application July 14, 1965, Ser. No. 471,973
Claims priority, application Germany, Aug. 11, 1960, H 40,186
4 Claims. (Cl. 287—85)



1. A flexible coupling for shafts and the like, comprising two radially spaced rigid coupling members; an

annular flexible disk-shaped connecting element bridging said coupling members and having inner and outer peripheries respectively secured to said coupling members, said connecting element comprising a body of elastically deformable material and an annular reinforcing inlay of woven sheet material wholly embedded in said body and extending to said peripheries therewithin, said inlay having radially outwardly and inwardly turned annular marginal portions of said sheet material all along said inner and outer peripheries respectively of said connecting element, said marginal portions forming peripheral reinforcement layers of limited radial extent connected with the main portion of said inlay along closed peripheral fold lines wholly embedded in said body so as to provide said inlay with inner and outer peripheral zones of substantially twice the thickness of said sheet material, each of said reinforcement layers being bounded by an annular free edge radially spaced from its fold line and also wholly embedded in said body; and respective clamping means for anchoring said connecting element to each of said coupling members, each of said clamping means including an annular clamp bearing upon said connecting element throughout a respective edge zone extending from the respective periphery of said connecting element toward the free edge of the corresponding reinforcement layer, each of said clamping means further including a plurality of circumferentially spaced securing members passing through the respective reinforcement layer between the fold line and the free edge thereof, said securing members engaging the respective clamp and the associated coupling member and urging same against each other through the intervening edge zone of said connecting element whereby the latter is subjected to clamping pressure, said clamp and associated coupling member each being provided with an axially projecting annular ridge, said ridges being in axial alignment with each other and confrontingly engaging said connecting element at a location between said free edge and said securing members.

3,368,836
JOINT CONSTRUCTION INCLUDING CONNECTOR
Llewellyn O. Storlie and Lyle M. Northrup, Decorah, Iowa, assignors to Deco Products Company, Decorah, Iowa
Filed Sept. 27, 1965, Ser. No. 490,533
4 Claims. (Cl. 287—189.36)



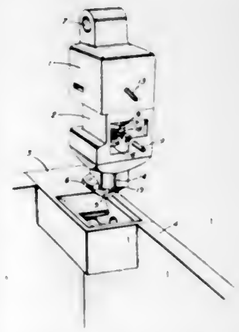
Channels or tubular members such as used in aluminum windows and door frames may be joined together by connectors which telescope into channels or grooves of the members. A locking action is provided by removable spring clips on the ends of the connector which allow easy insertion of the connector ends but provide a barb effect to prevent easy withdrawal. However, with sufficient retrogressive force against the connector, the clips will release from the connector ends to allow the tubular members to be separated for replacement of glass, etc.

3,368,837
FABRIC LOAD LIFTING SLING
Roy Norton, Milwaukee, Wis., assignor to The Wear-Flex Corporation, Milwaukee, Wis., a corporation of Wisconsin
Continuation-in-part of application Ser. No. 527,873, Feb. 16, 1966. This application Feb. 6, 1967, Ser. No. 629,337
6 Claims. (Cl. 294—74)



A fabric load lifting sling with a flat eye at one end and an open or reversible eye at its other end has a multiply construction produced by equidimensioned fabric straps secured together with the end portion of each overlapping one another and also a medial portion of the other strap or straps, to thus achieve great strength without bulkiness.

3,368,838
SHIPPING CONTAINER COUPLING
Wilburt H. Reich, Kendall Park, N.Y., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Filed June 30, 1966, Ser. No. 561,880
8 Claims. (Cl. 294—83)



A shipping container coupling comprising (*a*) a first housing, (*b*) a second housing slidably mounted under said first housing so as to move diagonally with respect to said first housing, (*c*) a means for moving said second housing diagonally with respect to said first housing, (*d*) a rotatable shaft extending from the bottom of said second housing and containing protrusions on opposite sides of said shaft towards the lower extremity, and (*e*) a means for rotating the shaft.

3,368,839
EXPANDABLE CAMPER
Lyle G. Stewart, Loma Linda, Calif., assignor to Glen M. Stewart, Auburn, Calif.
Continuation-in-part of application Ser. No. 333,609, Dec. 26, 1963. This application Mar. 4, 1966, Ser. No. 531,680.
19 Claims. (Cl. 296—23)

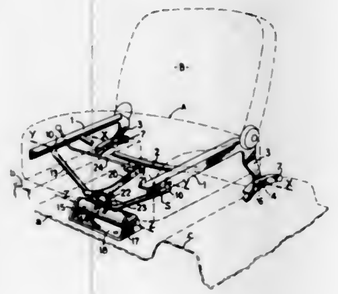
An expandable camper including a telescoping section

which is transported in a telescoped or contracted position, and after the vehicle is stopped is extended and



supported by jacks so as to increase the interior size of the camper.

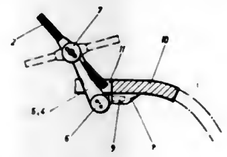
3,368,840
SEAT UNIT
Marcel Dangauthier, Paris, France, assignor to Societe Industrielle et Commerciale des Automobiles Peugeot, Paris, France, a French body corporate
Filed Oct. 14, 1966, Ser. No. 586,786
Claims priority, application France, Nov. 4, 1965, 37,181
9 Claims. (Cl. 296—65)



A unit comprising a seat mounted on a floor by a seat support, the support comprising a frame connected to the floor in the front part of the frame by a lever pivotably connected to the frame and pivotably connected to the floor, the rear part of the frame being connected to the floor by elements slidable in downwardly concave curvilinear fixed guides which afford said elements a path of movement which differs from the part circular path of movement of said pivotal connection between the lever and frame, whereby when the seat is shifted its angular position changes.

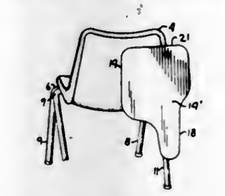
3,368,841
MOTORCAR HAVING AN ADJUSTABLE FRONT TOP PANEL ASSEMBLY
Erich Grau, Sersheim, Kreis Vaihingen (Enz), Germany
Filed July 13, 1965, Ser. No. 471,605
Claims priority, application Germany, July 16, 1964, G 41,088
12 Claims. (Cl. 296—91)

A shielding assembly for automotive vehicles. The vehicle has a passenger compartment provided with a top opening and with a windshield which extends transversely of the opening and of the direction of movement of the vehicle. The windshield has an upper edge portion bounding the opening end part. The assembly comprises an elongated panel which extends transversely of the direction of movement of the vehicle. First means are provided mounting the panel for pivotal displacement about a first axis which is normal to the direction of movement so that the panel can be moved between a first and a second end position in which it is respectively fitted within the passenger compartment downward-



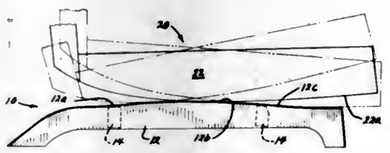
ly of the upper edge portion and without the passenger compartment upwardly of the upper edge portion. Second means mounts the panel for rotation about a second axis parallel to the first axis in any position of pivotal displacement of the panel about the first axis.

3,368,842
FOLDING TABLET ARMCHAIR
Norman Polsky, Prairie Village, Kans., assignor to Fixtures Manufacturing Corporation, Kansas City, Mo., a corporation of Missouri
Filed Jan. 23, 1967, Ser. No. 610,864
10 Claims. (Cl. 297—162)



A folding tablet armchair wherein the chair has a tablet assembly forming a convertible desk chair in which the tablet is pivotally mounted on an arm whereby when the tablet is in desk position it is swingable from a horizontal tablet position to a vertical position for access of a user to the seat. The arm is pivotally mounted on the chair whereby when the tablet is in a vertical position said arm is swingable rearwardly to a storage position in which the pivotal axis of the tablet is substantially vertical whereby said tablet is swingable to an upright position behind the chair thereby being out of the way and taking up a minimum of space. The pivotal mounting of the arm, said arm and the tablet have cooperative stop portions to limit the swinging of the arm and tablet to the selected positions.

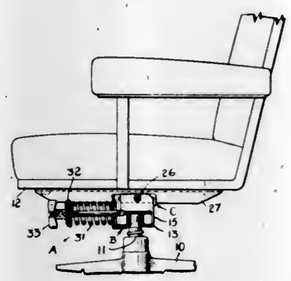
3,368,843
CHAIR BASE
Daniel F. Caldemeyer, Vanderburgh County, Ind. (4300 Jennings Lane, Evansville, Ind. 47712)
Filed June 6, 1966, Ser. No. 555,549
1 Claim. (Cl. 297—261)



A chair base siderail having an upper surface characterized by an upwardly directed arcuate portion with

blending flattened restricted portions on either side thereof, the latter serving as blocking or stop means for rocking action.

3,368,844
CHAIR CONTROL FOR TILTING AND SWIVEL CHAIRS HAVING IMPROVED TENSIONING BOLT
Frank Doerner, Waterloo, Ontario, Canada, assignor to Doerner Products Co. Limited, Waterloo, Ontario, Canada, a corporation of Canada
Filed Oct. 17, 1966, Ser. No. 587,021
3 Claims. (Cl. 297—303)



1. In a chair control for a tilting chair having a base, a chair support member, a fixed frame carried by the member, a second frame pivotally mounted on the fixed frame for limited pivotal movement about a horizontal axis relative to the fixed frame, said second frame having means for attaching it to a chair seat, and biasing means yieldably connecting the fixed frame and the second frame and urging said second frame to a stop position relative to the fixed frame and yieldably resisting pivotal movement of the second frame away from said stop position under a force applied by an occupant of the chair, said biasing means comprising

(a) a substantially rigid connecting member disposed in a horizontal plane transverse to said horizontal axis,

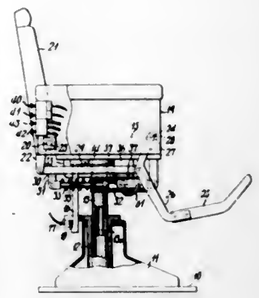
(b) said connecting member having at one end an integrally formed head seated in an open slot formed in said fixed member, said slot having retaining shoulders,

(c) a fixed pressure plate secured to the second frame and having an opening through which said connecting member extends,

(d) a spring surrounding said connecting member having one end seated on the pressure plate and the other end restrained by a tension adjusting wheel mounted on the other end of the connecting member.

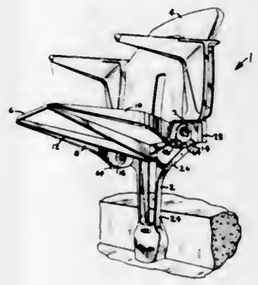
3,368,845
HYDRAULIC ADJUSTMENT BARBER CHAIR
Teruo Watanabe, Takarazuka, Japan, assignor to Shin Meiwa Industry Co., Ltd., Nishinomiya, Japan, a corporation of Japan
Filed Mar. 15, 1966, Ser. No. 534,487
Claims priority, application Japan, Mar. 18,1965, 40/15,850
6 Claims. (Cl. 297—330)

A fluid control system for operating a pair of fluid cylinder assemblies including separate fluid supply lines, having a pump with a single fluid pump circuit common to each fluid supply line. The pump is operable to pump fluid in opposite directions selectively in the common pump circuit to selectively supply fluid under pressure to either of the fluid cylinder assemblies. In addition, valve means are provided for opening one of the fluid supply lines while simultaneously closing the other fluid supply



line in response to a predetermined operating condition of the pump.

3,368,846
SELF-ELEVATING SEAT MECHANISM
Thomas G. Walkinshaw, Mission, Kans., assignor to Cramer Industries, Inc., Kansas City, Kans., a corporation of Missouri
Filed Sept. 8, 1966, Ser. No. 578,022
3 Claims. (Cl. 297—333)

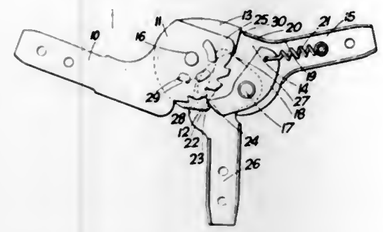


A mounting structure for a self-pivoting seat includes, a coil spring extending into a countersunk portion in the seat and surrounding a spindle upon which the seat pivots. A support standard receives the spindle in rotatably fixed relation and has an arcuate adjusting slot therethrough. An adjusting plate is movably secured against the standard and includes a retaining arm extending through the standard adjusting slot and engaging the spring. The plate also has a stop selectively engaging one of several circumferentially spaced grooves in the standard for adjusting the angular position of the plate which adjusts the tension of the spring.

3,368,847
ADJUSTABLE SELF-LOCKING JOINTS
Peter Norman Frederick Langmead, Ashford, Common, Middlesex, England, assignor to Zealand Engineering Company Limited, Ashford Common, Middlesex, England, a British company
Filed Aug. 29, 1966, Ser. No. 575,786
6 Claims. (Cl. 297—366)

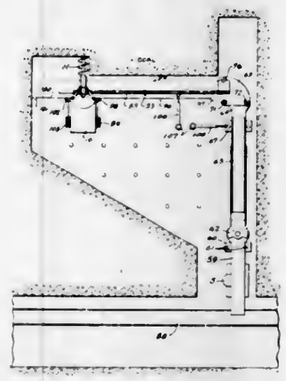
An adjustable self-locking joint comprises two parts pivoted together one part being formed with teeth circumferentially spaced apart around the axis of pivoting

and the other part carrying a pawl which is urged into engagement with the teeth by a spring. A cam edge on the first part of the joint engages the pawl and moves it out of engagement with the teeth at one limit of the movement of one part of the joint relatively to the other. A pawl controlling plate is rotatable about the axis of pivoting and is in frictional engagement with the first part of the joint and is arranged to engage the pawl and hold



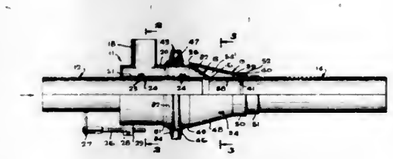
it out of engagement with the teeth as the first part is swung relatively to the second part to a required position. When the first part reaches the required position it is swung to a limited extent in the reverse direction and its frictional engagement with the pawl controlling plate moves the plate away from the pawl so that the pawl is automatically snapped by the spring into engagement with the teeth to lock the joint in the required position.

3,368,848
MINING MACHINE AND SHAKING CONVEYOR COMBINATION AND THE CONVEYOR
Charles R. Hughes, Logan Township, Blair County, Pa. (Buckhorn Road, Altoona, Pa. 16601)
Continuation-in-part of application Ser. No. 66,568, Nov. 1, 1960. This application Oct. 3, 1962, Ser. No. 229,264
42 Claims. (Cl. 299—43)



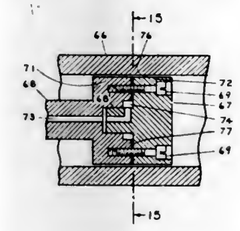
1. A combination of a mining machine for material such as coal and a shaking conveyor mechanism comprising a prime mover, a screw means of substantial diameter and length, the screw means having a periphery and an inboard end and an outer end, cutters on the outer end and periphery of the screw means to cut the material, the screw means conveying the material to the inboard end, bearing means having an axis and mounting the screw means for rotation, mounting means mounting the bearing means and screw means on the prime mover for at least vertical movement, the screw means having a radius substantially greater than the dimension of the bearing means from its axis to its lower surface to provide substantial clearance space underneath the bearing means at its lower position, the mounting means being spaced a substantial distance above the ground level when the screw means is at its lower position and forming a substantial clearance space; shaking conveyor mechanism including a line conveyor and a face conveyor the latter being received in the clearance space, the face conveyor having a bottom and a front edge and a back wall, the back wall of the face conveyor being free of any obstructions, connecting means connecting the end of the line conveyor and the adjacent end of the face conveyor including a corner pan having a pan pivot on one side of the line conveyor, a line conveyor pivot connecting the line conveyor and the corner pan spaced a substantial distance from the pan pivot, and means pivotally mounting the end of the face conveyor with its discharge end over the corner pan and connecting the corner pan and the face conveyor at a point spaced a substantial distance from the pan pivot for shaking the face conveyor; and shaking means connected with the line conveyor to shake the latter and the face conveyor longitudinally.

3,368,849
JET SUCTION DEVICE
Burl L. Cheely, 3534 W. Rosecrans Ave., Hawthorne, Calif. 90250
Filed June 17, 1966, Ser. No. 558,417
5 Claims. (Cl. 302—15)



The application discloses a jet nozzle designed to use liquid as the propellant force to move a stream of liquid and entrained solids and the construction includes telltale means to indicate failure of the orifice cone member of the device.

3,368,850
SLOT TYPE HYDROSTATIC BEARINGS
Roy Milton Wilcox, 2803 Locust Lane, South Bend, Ind. 46615
Continuation-in-part of application Ser. No. 221,176, Sept. 4, 1962. This application May 27, 1965, Ser. No. 459,364
12 Claims. (Cl. 308—5)



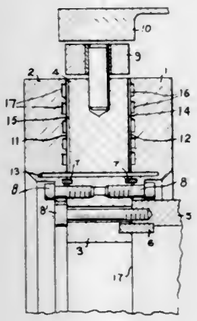
For slot type hydrostatic gas bearings which require very thin uniform slots to restrict flow and prevent gas

vibration, two uniformly close fitting opposed bearing members one of which is separable at an R_1 slot feeding and distributing pressure gas to between the bearing surfaces. The walls of the slot are maintained in uniform close proximity by periodic lands on one wall with screws through the lands. The continuously parallel bearing surfaces and this very thin uniform slot provide pressure distribution without vibration-causing gas pockets in unrestricted communication with the load carrying elastic film. An interface equidistant from each of the separable bearing surfaces maintains exact bearing surface alignment.

3,368,851
GAS-LUBRICATED DOUBLE-ACTING AXIAL BEARING

Jean Eggmann, Baden, Switzerland, assignor to Aktiengesellschaft Brown Boveri & Cie., Baden, Switzerland, a joint-stock company

Filed Oct. 22, 1965, Ser. No. 501,504
Claims priority, application Switzerland, Oct. 28, 1964, 13,936/64
10 Claims. (Cl. 308—9)



A gas-lubricated double-acting axial bearing comprises a pair of annular bearing discs secured in parallel spaced relation by means of an annular spacer disc inserted therebetween and to which the bearing discs are secured, the annular spacer disc being secured to the shaft so that it and the parallel spaced bearing discs rotate with the shaft. A non-rotatable, annular bearing disc carried by a universal type mounting is positioned between the rotating annular bearing discs, and the opposite faces of the non-rotatable bearing disc establish gas-lubricated clearance gaps with adjacent faces of the rotating bearing discs. The clearance gaps of the double-acting axial bearing are thus determined by the thickness of the spacer disc and can be adjusted accordingly by changing the thickness of this disc.

3,368,852
PIN-TYPE BUSHING ASSEMBLY

Edward J. Herbenar, Detroit, and Richard Cass, Birmingham, Mich., assignors to TRW Inc., Cleveland, Ohio, a corporation of Ohio

Filed Oct. 24, 1965, Ser. No. 504,716
10 Claims. (Cl. 308—26)

A pin-type bushing assembly of the pre-loaded, self-lubricating type for use in steering mechanisms and in spring-suspended wheel mountings, wherein the joint assembly comprises housing having a cylindrical socket, a pin mounted in the socket for relative rotation with respect thereto, a perforated inner sleeve surrounding the pin and in surface contact therewith, a molded rubber bushing surrounding the inner sleeve, a bearing member in surface contact with the bushing, and a two-part sleeve adapted when the parts are telescoped for assembly to load the bushing and force the material thereof into locking engagement with the perforated inner sleeve, thereby confining the relative rotational movement to the conforming surfaces of the bearing member and the sleeve. The bearing member is made in two parts, with

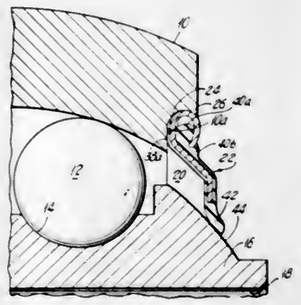


interdigital mating surfaces provided along their confronting ends, whereupon by interlocking the same a unitary bearing member results. The bearing member is preferably formed of a polymeric material, or resin, having self-lubricating properties.

3,368,853
BEARING AND SEAL THEREFOR

Derek Van Wyk, Newington, and Herbert D. Moe, Danielson, Conn., assignors to The Fafnir Bearing Company, New Britain, Conn., a corporation of Connecticut

Filed Mar. 17, 1965, Ser. No. 440,363
8 Claims. (Cl. 308—187.2)

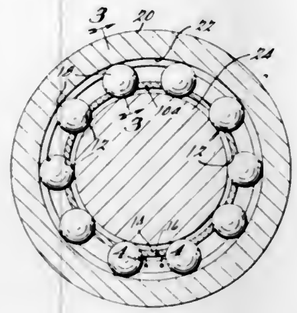


A bearing sealing ring in which flexible sealing materials which cannot be securely bonded to metal can be employed. A sheath of such material is placed over a rigid underbody, and retained in place by crimping the periphery of the underbody over a raised portion of the sheath.

3,368,854
BEARING RETAINER AND METHOD OF MAKING AND ASSEMBLING SAME

John S. Adams, Lancaster, Pa., assignor to Federal-Mogul Corporation, Detroit, Mich., a corporation of Michigan

Filed Dec. 30, 1965, Ser. No. 517,767
20 Claims. (Cl. 308—201)

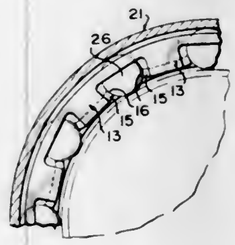


A ball bearing retainer made from a flat strip of material which is formed into a circular shape.

3,368,855
BEARING RETAINER

John H. Cowles, Forestville, and Robert H. White, Torrington, Conn., assignors to The Torrington Company, Torrington, Conn., a corporation of Maine

Filed Oct. 24, 1965, Ser. No. 504,832
8 Claims. (Cl. 308—217)



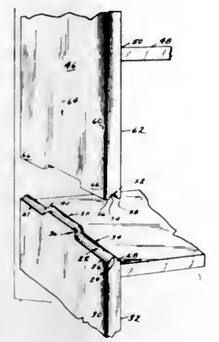
This disclosure relates to a retainer for rollers and includes an annular rim having projecting therefrom a plurality of axially extending retaining elements lying in a cylindrical pattern and being equally circumferentially spaced. The retaining elements are connected to the annular rim by radial tabs and are of a generally U-shaped cross section. Each retaining element includes a central portion and radially sloping edge portions with the edge portions terminating in roller retaining faces and the spacing between the edge portions being slightly less than the diameter of the roller whereby a roller may be snapped between adjacent edge portions.

3,368,856
FURNITURE MODULE STACKING AND LOCKING ARRANGEMENT

Thomas W. Tisdall, and Calvin E. Brown, Altavista, Va., assignors to The Lane Company Inc., Altavista, Va., a corporation of Virginia

Filed Nov. 15, 1965, Ser. No. 507,796
8 Claims. (Cl. 312—111)

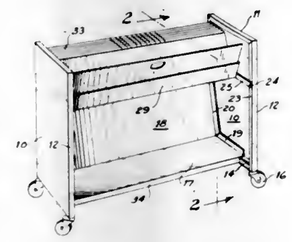
A furniture module locking and stacking arrangement wherein is provided an interdigitable bead and groove for locking a pair of stacked modules in a vertical alignment whereby said bead and groove is adapted to prevent horizontal movement either in the width direction or in the depth direction.



3,368,857
RECORD FILING CABINET

John R. Harding, Waynesboro, Va., assignor to Acme Visible Records, Inc., Crozet, Va., a corporation of Delaware

Filed Oct. 13, 1965, Ser. No. 495,395
3 Claims. (Cl. 312—250)



A record filing cabinet comprising a spaced pair of end walls, a shelf secured to and between said walls adjacent their lower end portions, an inclined wall extending upwardly from said shelf and secured to and between said walls, a horizontally disposed bar engaged to the inner face of each of said walls adjacent their upper end portions and an upwardly open tray secured to and between said bars.

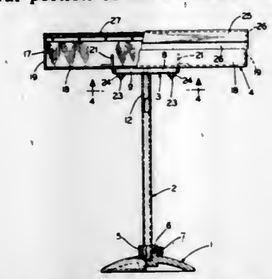
3,368,858
PORTABLE DESK

Louis L. Motter, Louis C. Motter, Kenneth P. Motter, and Larry L. Motter, all of 1550 Ashland Road, Mansfield, Ohio 44905

Filed Mar. 1, 1966, Ser. No. 530,920
3 Claims. (Cl. 312—250)

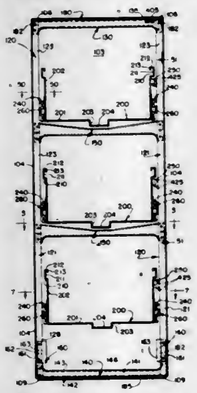
A portable desk including a circular base having an upright hollow central boss, a tubular pedestal the lower end of which is detachably mounted in said boss, a hollow case having a relatively high front wall and relatively low rear wall and end walls with downwardly and rearwardly inclined top edges, a downwardly and rearwardly inclined writing table hingedly connected to the top of the front wall and normally resting upon the top of the rear and

end walls, angle irons upon the top of the bottom wall of the case dividing the interior thereof into shallow compartments. An attaching spider is detachably connected to the central portion of the bottom of the bottom wall



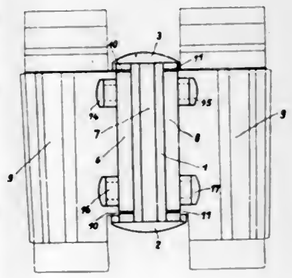
and has a depending central journal pin adapted to be rotatably received in the upper end of the tubular pedestal, the parts being of such relative proportions that the base, pedestal and attaching spider may all be enclosed within the case for shipping and storage.

3,368,859
FILE CABINET
Kenneth D. Schreyer, Doylestown, Pa., assignor to Lyon Metal Products, Incorporated, Aurora, Ill., a corporation of Illinois
Filed Mar. 15, 1966, Ser. No. 534,382
25 Claims. (Cl. 312—330)



There is disclosed a file cabinet including a case having a body with a rear wall and a pair of forwardly projecting side walls integral therewith and defining a front opening therebetween, a front frame positioned between the side walls on the forward ends thereof and completely surrounding the front opening and including a plurality of projections extending outwardly toward the adjacent one of the side walls, first bodies of mastic disposed between the front frame and the side walls, the side walls being welded to the front frame at the projections thereon, a center support positioned between the side walls and disposed toward but spaced from and substantially parallel to the front frame and including a plurality of projections extending outwardly toward the adjacent one of the side walls, a top covering the area bounded by the rear wall and the side walls and having flanges extending downwardly around the periphery thereof and covering the adjacent upper ends of the rear wall and the side wall and secured thereto and extending forwardly beyond the front frame, bottom flanges integral with the bottom edges of the body and extending inwardly with respect thereto, and a bottom wall mounted on the bottom flanges and secured thereto and including a front flange extending upwardly between the side walls and covering at least a portion of the front frame; a drawer disposed in the case upon a pair of drawer suspension structures each including a case rail mounted on the case and a neutral member disposed about the case rail and a drawer rail overlying and disposed about the neutral member and mounted on the drawer, the adjacent portions of the case rail and the neutral member defining two inner ball races having first sets of balls disposed therein, and the neutral member and the drawer rail defining two outer ball races therebetween and having a second pair of balls disposed therein, the drawer being mounted on the drawer rail by pairs of drawer clips on opposite sides thereof and drawer brackets mounted adjacent to the forward ends of the drawer rails and overlying the adjacent one of the drawer clips to hold the drawer on the drawer rail, and a downturned rear flange on the rear of each of the drawer clips engaging the rear of the associated drawer rail and preventing the front end of the drawer from being lifted off the drawer rail due to the drawer brackets thereon until the rear of the drawer has been lifted and the drawer moved bodily rearwardly to clear the drawer brackets from the associated drawer clips; the drawer having a drawer head formed of an outer front wall fixedly disposed with respect to the bottom side walls thereof and an inner front wall removably mounted thereon with a body of rigid cellular construction disposed therebetween and adhesively secured thereto; there is also provided an improved combination pull and latch and a cooperating improved lock structure for latching and locking the drawer with respect to the case; and finally, there has been provided in the housing of the case knockouts which can be removed to provide aligned openings between adjacent cases through which a fastener can be inserted for interconnecting adjacent cases to form an integrated row of cases.

3,368,860
BINOCULAR WITH PROTECTIVE DEVICE FOR ITS CLOSED KNUCKLE JOINT
Ludwig Faust, Braunfels, near Wetzlar, and Erwin Altenheiner, Hasselborn, Kreis Wetzlar, Germany, assignors to Carl Zeiss-Stiftung, doing business as Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany, a corporation of Germany
Filed Apr. 22, 1964, Ser. No. 361,723
Claims priority, application Germany, Apr. 24, 1963, H 44,677
8 Claims. (Cl. 350—71)



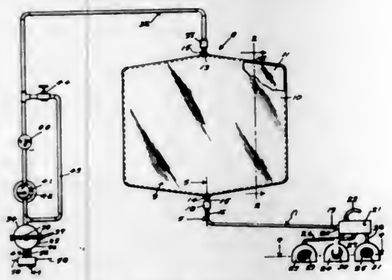
Binoculars having shock absorbing sheathings on their two lens containing casings and in addition thereto a shock absorbing device for the knuckle joint which connects said casings. The shock absorbing device comprises two caps attached to and covering the ends of the knuckle joint. The caps are integrally formed on the ends of a bar-shaped member extending loosely along the entire length of the knuckle joint.

3,368,861
FARADAY ROTATOR UTILIZING TERBIUM ALUMINUM GARNET AND DYSPROSIUM ALUMINUM GARNET
Charles B. Rubinstein, Summit, and Le Grand G. Van Uitert, Morris Township, Morris County, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 4, 1964, Ser. No. 364,535
4 Claims. (Cl. 350—151)



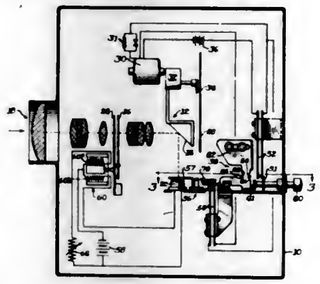
1. An optical device comprising, in combination, a light rotating medium consisting essentially of terbium aluminum garnet, a source of polarized light for directing polarized light through said medium, means for analyzing the light transmitted from the said medium, magnetic means for impressing a magnetic field on said medium, said field having a component in the direction of propagation of the light through the medium.

3,368,862
COLOR CHANGING WINDOW WITH CLOSED LIQUID CIRCULATION SYSTEM
Hollie Thomas Dean, Williamsport, Md., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 24, 1965, Ser. No. 490,010
4 Claims. (Cl. 350—312)



A color changing window with a closed liquid and air circulating system having a liquid receptacle, a sealed transparent window chamber and an expansible chamber. A vacuum pump and check valve are interposed in the system to pump air from window chamber to the expansible chamber, drawing the liquid from the receptacle to the window chamber. A bypass conduit and manually operable valve are connected into the system on both sides of the pump and check valve for reintroducing the air from the expansible chamber to the window chamber allowing the liquid to flow from the window chamber to the receptacle.

3,368,863
MOTION PICTURE CAMERA
Arthur C. Mueller, Chicago, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed July 6, 1964, Ser. No. 380,391
12 Claims. (Cl. 352—141)



In a multiple speed camera having a behind the diaphragm light sensing element, a mask is selectively positionable in the light path to that element only when the quantity of light to that element is to be reduced by a discrete amount as when the operating speed of the camera is increased.

ERRATA

For Class 401—119 see:
Patent No. 3,368,238

For Class 401—196 see:
Patent No. 3,368,233

For Class 401—206 see:
Patent No. 3,368,232

For Class 401—263 see:
Patent No. 3,368,234

CHEMICAL

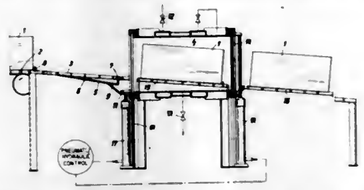
3,368,864
COLOR MATCHING PROCESS
Ulrich Gugerli, Reinach, Basel-Land, Switzerland, assignor to Sandoz Ltd. (also known as Sandoz AG), Basel, Switzerland
No Drawing. Filed June 10, 1963, Ser. No. 286,498
Claims priority, application Switzerland, June 12, 1962, 6,995/62; Sept. 20, 1962, 11,099/62
3 Claims. (Cl. 8—25)

The color of dyed and pigmented articles is effectively duplicated by, first, preparing a series of colored articles approximating the original article in color. The optical reflective spectra of the articles is measured and the difference between the spectra of the original article and the apparent duplicates noted. A determinant not equal to zero is set up involving the color concentrations and the number of dyeings therewith. The gradient of the color differences at the center of gravity of the concentration range of the coloring agents used is determined and this value is used in a further formula involving the expected rate of change of the color difference with concentration to determine the next set of proportions of different colors to mix. The mixing, dyeing, and calculations are repeated to match colors. A 2^n-factorial statistical design is used in the arrangement of proportions of colorant and concentrations thereof.

3,368,865
APPARATUS FOR THE SEQUENTIAL STERILIZATION OF ARTICLES IN RECEPTACLES
Ludwig Josef Schuck, Bacham, near Prien, Germany, assignor to Rud. A. Hartmann Gross-Apparate und Spezialmaschinen G.m.b.H. & Co., Berlin, Germany
Filed Dec. 17, 1963, Ser. No. 331,292
Claims priority, application Germany, Dec. 17, 1962, H 47,714
3 Claims. (Cl. 21—96)

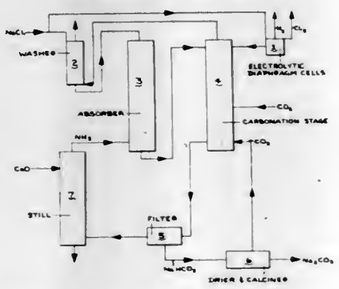
Apparatus for the sequential sterilization of receptacles containing an assortment of articles to be sterilized wherein a downwardly inclined roller conveyor delivers the receptacles in succession to a further roller conveyor in

an autoclave whose entrance door is coupled with a detent lever at the input conveyor to alternately immobilize the



receptacles and admit them in succession to the sterilization chamber upon opening and closing of the entrance door.

3,368,866
PROCESS FOR THE MANUFACTURE OF SODIUM CARBONATE
Pierre Seguela, Brussels, Belgium, assignor to Solvay & Cie, Brussels, Belgium
Continuation-in-part of application Ser. No. 301,467, Aug. 12, 1963. This application Oct. 19, 1966, Ser. No. 587,782
Claims priority, application Belgium, Aug. 13, 1962, 621,370
6 Claims. (Cl. 23—63)



A process for producing sodium carbonate by calcination of sodium carbonate obtained by mixing the caustic liquor obtained by the electrolysis of sodium chloride brines and an ammoniacal brine containing sodium chloride and ammonia and derived from a conventional ammonia-soda process, and by introducing into this mixture carbon dioxide for producing the carbonation reaction.

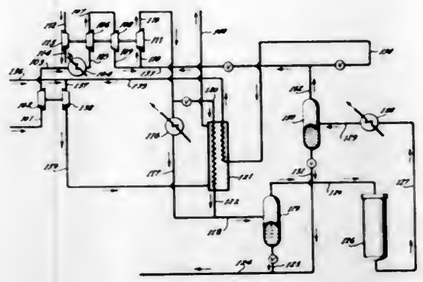
3,368,867
CHROMATOGRAPHIC PURIFICATION OF INFLUENZA VIRUS WITH BRUSHITE MODIFIED BY AUTOCLAVING
Milton Lapidus, Rosemont, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Sept. 15, 1964, Ser. No. 396,736
2 Claims. (Cl. 23—108)

Influenza viruses, including B strains, are recovered from impure solutions by chromatographic adsorption on brushite which has been modified by autoclaving. After desorption the purified viruses can be killed, then formulated into vaccines useful to prevent influenza.

3,368,868
METHOD OF INHIBITING DECOMPOSITION OF TRIAMMONIUM NITRIDOTRISULFATE
Noriyuki Okuda, Tokyo, and Kikuji Suzuki, Funabashi, Japan, assignors to Daiichi Seiyaku Co., Ltd., Tokyo, Japan
No Drawing. Filed Aug. 6, 1963, Ser. No. 300,159
1 Claim. (Cl. 23—114)

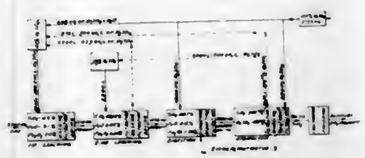
1. A method of inhibiting the decomposition of wet triammonium nitridotrisulfate obtained by reaction in an aqueous phase which comprises admixing an effective inhibiting amount of triammonium imidodisulfate with said wet triammonium nitridotrisulfate.

3,368,869
AMMONIA SYNTHESIS
Lee S. Gaumer, Jr., Allentown, Pa., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Sept. 10, 1964, Ser. No. 395,405
5 Claims. (Cl. 23—199)



In an ammonia synthesis loop, a turbine-driven compressor is provided wherein fuel gas is expanded in the turbine and synthesis gas is precompressed in the compressor. The expanded low-temperature fuel gas is further utilized by heat exchange with the compressed synthesis gas to cool the latter and the portion of the recycle gas from the last ammonia separator which is normally discharged and used as fuel gas is also utilized to cool the synthesis gas and drive the turbine.

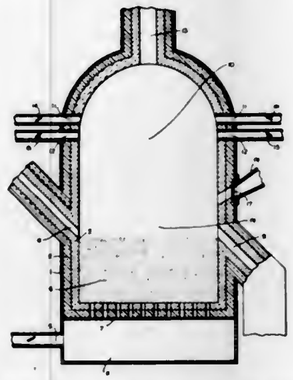
3,368,870
METHOD OF PRODUCING TITANIUM HYDROXIDE AND HIGH GRADE PIGMENTS PRODUCED THEREFROM
Nicolas Soloducha, 3487 Northcliffe Ave., Montreal, Quebec, Canada
Filed Dec. 4, 1964, Ser. No. 415,904
Claims priority, application Canada, Dec. 6, 1963, 890,682
4 Claims. (Cl. 23—202)



A process is described for the beneficiation of titaniferous ores by subjecting the ore to pressure leaching in at least two stages at elevated temperature and superatmospheric pressure. Essentially, the process consists in carrying the first pressure leaching in the presence of 25–55% strength by weight sulfuric acid in an amount from 10% less to 10% more than the theoretical amount required, the second leaching being carried out with 25–40% strength by weight sulfuric acid in a large excess up to 1000% over the theoretical amount required to remove the remaining metallic impurities following the first leaching. The process results in high grade product which can

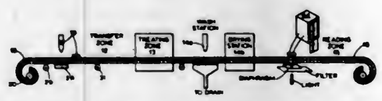
then be subjected to digestion and hydrolysis. If the digestion and hydrolysis are carried out with sulfuric acid and the hydrolysis is under super-atmospheric pressure, the total acid for the first and second leaching can be obtained by recirculating the spent acid from the hydrolysis stage without any water evaporation from spent acid in the case when ore has a minimum 52% TiO_2.

3,368,871
FLUIDIZED BED PROCESS FOR THE PREPARATION OF COLLOIDAL SILICON CARBIDE
Thomas L. O'Connor, Dedham, and Wayne A. McRae, Lexington, Mass., assignors to Ionics, Incorporated, Watertown, Mass.
Continuation-in-part of application Ser. No. 473,202, July 19, 1965. This application Dec. 5, 1966, Ser. No. 599,157
10 Claims. (Cl. 23—208)



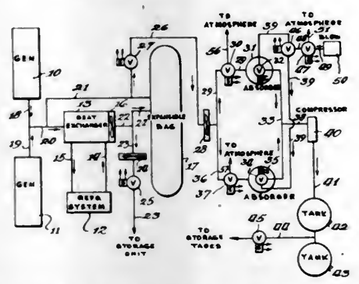
A method of making white silicon carbide particles in a fluidized bed reactor having a lower, middle and upper zone, the process comprising reacting particles of carbon and a silicon compound in the lower fluidized bed zone and removing the silicon carbide product from the middle discharge zone. The heat necessary for maintaining the reaction occurring in the fluidized bed zone is obtained primarily from heat radiated from the upper combustion zone where exothermic combustible materials are reacted in the presence of oxygen.

3,368,872
AUTOMATIC CHEMICAL ANALYZER
Samuel Natelson, Valley Stream, N.Y., assignor to Scientific Industries, Inc., Queens Village, N.Y.
Original application Aug. 31, 1964, Ser. No. 393,096, now Patent No. 3,260,413, dated July 12, 1966. Divided and this application Feb. 14, 1966, Ser. No. 547,110
4 Claims. (Cl. 23—253)



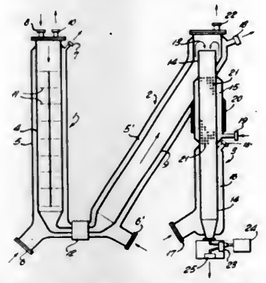
A device for the chemical analysis of fluids automatically comprising a device for dispensing a liquid sample in the form of a drop on a tape combination, said tape combination comprising a transparent porous portion travelling with and in close contact with an absorbent tape, said absorbent tape having been impregnated with a reagent for producing a color reaction with the component of the sample sought, a transfer zone maintained at constant temperature through which the drop of sample supported on said porous tape passes and in which zone said drop and said tapes moves for a fixed period of time, the component for assay passing through said porous tape to said reagent tape, a washing station where water flows over the porous tape to remove the spent sample, a drying zone where warm dry air dries the tape combination and a readout zone where a beam of collimated monochromatic light passes through said tape combination and is recorded by means of a photocell attached to a recorder.

3,368,873
APPARATUS FOR PROVIDING A PRESERVING ATMOSPHERE
Marvin A. Fuller, Benton Harbor, Jack I. Anderson, Stevensville, and Roy W. Kruggel, St. Joseph, Mich., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Oct. 17, 1963, Ser. No. 317,004
5 Claims. (Cl. 23—281)



An atmosphere generating system, preferably transportable, to permit continuous operation of atmosphere generating equipment for selectively supplying either an expansible atmosphere storage reservoir, or compressed atmosphere storage tanks, or fixed or transportable food storage containers. During peak utilization periods, the atmosphere in the reservoir or the compressed tanks can be selectively utilized to supply the food storage container.

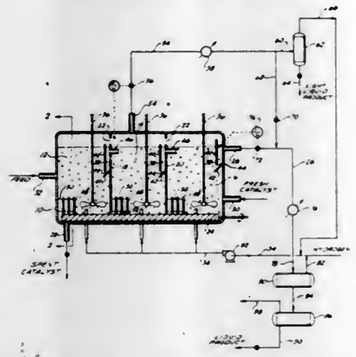
3,368,874
APPARATUS FOR THE CONTINUOUS POLYMERIZATION OF MONOMERIC SYNTHETICS
Hermann Ludewig, Rudolstadt, Germany, assignor to Veb Chemiefaserwerk Schwarza "Wilhelm Pieck," Rudolstadt, Germany
Filed Sept. 25, 1964, Ser. No. 399,215
3 Claims. (Cl. 23—283)



The present invention relates to a device for the continuous polymerization of molten monomeric synthetic polyamide-forming substances, more particularly ε-caprolactam, said device comprising a vertical down-tube, adjacent thereto an inclined riser tube, and then a second vertical down-tube so arranged that the head portion of

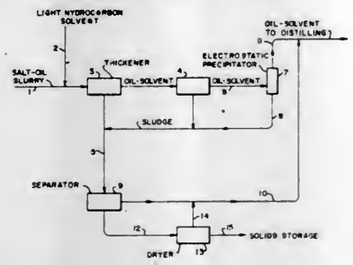
the riser tube encloses the top portion of the second down-tube so that the melt is permitted to overflow from the riser into the second down-tube, where it passes down along the inner wall; in a preferred embodiment the overflowing film of the melt in said second down-tube is traversed in its upper portion by superheated steam for the removal of monomers.

3,368,875
APPARATUS FOR THE TREATMENT OF MINERAL OILS
Anthony J. Tulleners, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Feb. 1, 1965, Ser. No. 429,512
5 Claims. (Cl. 23—288)



Mineral oils are hydrogenated (e.g. hydrofined and/or hydrocracked) in the liquid phase by passing the oil horizontally through a plurality of juxtaposed hydrogenation zones, while effecting a generally countercurrent, horizontal flow of powdered, suspended hydrogenation catalyst serially through said hydrogenation zones. Apparatus is also described, including means for transporting the catalyst serially through said zones, and for transferring catalyst-free oil from one zone to the next.

3,368,876
SEPARATING ASPHALTENE COATED WATER-SOLUBLE SOLIDS FROM AN OIL PHASE
William A. Bailey, Jr., Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed June 21, 1965, Ser. No. 465,445
3 Claims. (Cl. 23—300)



An improved method of separating water-soluble solids slurried in an asphaltene-containing hydrocarbon oil for pipeline transportation, the improvement residing in separating said solids at the terminal end of the pipeline by diluting said oil slurry with a light hydrocarbon so as to cause precipitation of the solids and thereafter removing said precipitated solids from the oil.

3,368,877
PLUTONIUM CARBONITRIDE
James L. Guyton, Amarillo, Tex., and Milton A. Thompson, Boulder, Colo., assignors to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Dec. 16, 1965, Ser. No. 514,408
3 Claims. (Cl. 23—344)

A method of making plutonium carbonitride from solid plutonium carbide and plutonium metal in which the carbide and metal are nitrided with ammonia and heated to about 1,000° C. Thereafter the mixture is homogenized under vacuum at the above temperature.

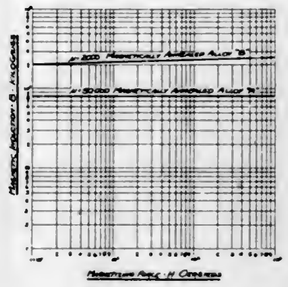
3,368,878
POLYMERS DERIVED FROM METAL DECABORATES AND DODECABORATES
Boynton Graham, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 14, 1964, Ser. No. 389,790
15 Claims. (Cl. 23—361)

When anhydrous metal salts of B_{10} and B_{12} polyhedral borates are heated, insoluble polymers are formed wherein the polyhedral borane cages are linked by B—B bonds. The insoluble polyborates can be hydrolyzed to soluble polymers which can be cast into films.

3,368,879
TUNGSTEN STRUCTURES
Richard H. Krock, Peabody, and Edward J. Zdanuk, Lexington, Mass., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Original application Feb. 16, 1966, Ser. No. 527,909, now Patent No. 3,320,058, dated May 16, 1967. Divided and this application Mar. 6, 1967, Ser. No. 652,637
1 Claim. (Cl. 29—182.1)

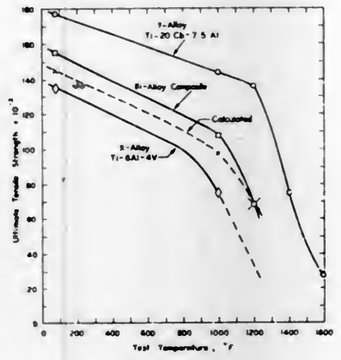
A tungsten structure having an impervious skin of tungsten particles coated with nickel. The impervious skin has a substantially uniform depth and surrounds and is integral with a sintered core of tungsten having controlled porosity.

3,368,880
COMPOSITE NICKEL MATERIAL
Pierre Paul Turillon, Ramsey, N.J., Robert Roy Crawford, Suffern, N.Y., and Robert Howard Trapp, deceased, late of Ringwood, N.J., by Gloria Worthington Trapp, executrix, Pittsburgh, Pa., and Francis Laurence La Que, South Orange, N.J., assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 4, 1965, Ser. No. 453,577
10 Claims. (Cl. 29—183.5)



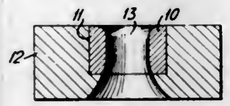
Directed to a composite coinage material having outer layers made of a corrosion resistant and wear resistant alloy such as a nickel alloy containing about 5% silicon and having a central layer of a soft ferromagnetic alloy such as an alloy containing about 16% iron, about 4% molybdenum, and the balance nickel, so as to confer a controlled magnetic permeability to the composite and to provide coins which are interchangeable in sophisticated coin selection devices with silver alloy coinage.

3,368,881
TITANIUM BI-ALLOY COMPOSITES AND MANUFACTURE THEREOF
Stanley Abkowitz and Albert R. Kaufmann, Lexington, and Alan K. Wolff, Harvard, Mass., assignors to Nuclear Metals Division of Textron Inc., West Concord, Mass.
Filed Apr. 12, 1965, Ser. No. 447,119
3 Claims. (Cl. 29—192)



A composite of at least two titanium base alloy components, for example, two-thirds by weight of a Ti-6Al-4V alloy component, and one-third of a Ti-20Cb-7.5Al alloy component, in which the Ti-6Al-4V alloy component is ductile at room temperature and drops off rapidly in strength as its temperature is increased above 900° F., in which the Ti-20Cb-7.5Al alloy component is brittle at room temperature but has high strength at 1200° F., and in which the composite is characterized by having a desired combination of a high strength property at 1200° F. originating from one component and a ductile property originating from the other component.

3,368,882
SURFACE HARDENED COMPOSITE METAL ARTICLE OF MANUFACTURE
John L. Ellis, White Plains, and Stuart E. Tarkan, Monsey, N.Y., assignors to Chromalloy American Corporation, a corporation of New York
Filed Apr. 6, 1965, Ser. No. 445,917
3 Claims. (Cl. 29—195)



A surface hardened composite metal article of manufacture is provided containing about 25% to 80% by volume of primary grains of a hard refractory metal carbide distributed throughout a nitridable steel matrix metal making up essentially the balance of the composition. In order to assure anchoring of the primary grains of the carbide at the surface of the matrix metal, the surface surrounding the carbide grains is nitrided so that the composite metal article is characterized by a microstructure at the surface wherein refractory metal carbide grains are dispersed through the nitrided layer.

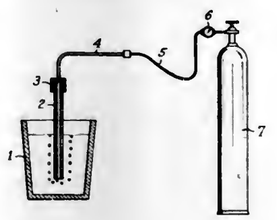
3,368,883
DISPERSION-MODIFIED COBALT AND/OR NICKEL ALLOY CONTAINING ANISODIAMETRIC GRAINS
William J. Barnett, Brandywine Hundred, Del., Gerold A. Mancini, Rochester, N.Y., and John Symonds, Annapolis, Md., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 29, 1965, Ser. No. 475,670
8 Claims. (Cl. 29—182.5)

Alloy having as metal components, by weight, 10 to 40% of chromium and/or molybdenum and/or tungsten, the maximum of chromium being 35% and of molybdenum plus tungsten 22%, the balance of the metal components being cobalt and/or nickel in the proportion of at least 60%, the alloy being dispersion-modified with up to 6% by volume of refractory metal oxide particles having an average size less than 100 millimicrons, and being characterized by containing a substantial proportion of anisodiametric grains with a length-to-thickness ratio greater than 3.

3,368,884
HEAT SOAKING OF IRON ORE TO PREVENT BOGGING
C. F. Gray and Robert O. Maak, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Dec. 31, 1964, Ser. No. 422,564
6 Claims. (Cl. 75—26)

The direct reduction of iron ore in staged fluidized beds is handicapped by bogging, especially at high temperatures in ferrous reduction zones. The tendency toward bogging can be reduced by pretreatment of the ore under controlled conditions at low temperatures until the surfaces of the ore particles are made resistant to bogging.

3,368,885
METHODS OF DESULPHIDING A BATH OF METAL
Nicolas Volianik, Sevres, France, assignor to Centre Technique des Industries de la Fonderie, Paris, France, a public utility institute of France
Continuation-in-part of application Ser. No. 128,515, Aug. 1, 1961. This application Nov. 17, 1964, Ser. No. 412,598
Claims priority, application France, Aug. 18, 1960, 836,083, Patent 1,274,499
6 Claims. (Cl. 75—53)



Molten metal is desulfurized by depositing powdered calcium carbide on the upper surface of the bath of molten metal and then blowing an inert gas into the bath below its surface at such a rate of flow as to cause violent turbulence in the bath producing eddies which draw the powdered calcium carbide from the upper surface and

disperse it through the bath to effect rapid desulfurizing thereof. The operation takes but a few minutes and does not require heat to be applied to the molten metal to keep it molten.

3,368,886

ATMOSPHERIC CORROSION-RESISTANT COLD-ROLLED STEEL SHEET OF DEEP DRAWING QUALITY

Toru Muta, Mineo Shimizu, Kameo Matsukura, and Tadashi Nishi, Fukuoka Prefecture, Japan, assignors to Yawata Iron & Steel Co., Ltd., Tokyo, Japan

No Drawing. Continuation-in-part of application Ser. No. 238,523, Nov. 19, 1962. This application July 5, 1966, Ser. No. 562,474

Claims priority, application Japan, Dec. 11, 1961, 36/45,152

1 Claim. (Cl. 75—125)

An atmospheric corrosion-resistant cold-rolled steel sheet is provided which is of deep drawing quality. The steel is composed of less than 0.01% C, less than 0.08% Si, 0.20 to 0.50% Mn, 0.05 to 0.12% P, 0.2 to 0.6 Cu, less than 0.05% As, less than 0.001% free N and the rest Fe accompanied by unavoidable impurities.

3,368,887

CONSUMABLE WIRE FOR IMPROVING MECHANICAL PROPERTIES OF WELD METAL

Allan Enis, Clark, N.J., Clarence E. Jackson, Worthington, Ohio, and Arthur R. Lytle, Bethesda, Md., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Aug. 17, 1965, Ser. No. 480,516

6 Claims. (Cl. 75—128)

1. A consumable ferritic wire consisting essentially of less than 0.30% C, 0.1 to 2.5% Mn, 1 to 12% Ni, 0.05 to 1.5% Mo, 0.05 to 1.5% Cr, up to 4% Co, 0.6% max. Si, 0.005 to 0.20% Ta and the balance iron.

3,368,888

NICKEL BASE ALLOY

Heinrich Winter, Eschborn, Taunus, Germany, assignor to The Federal Republic of Germany as represented by the Secretary of Defense

No Drawing. Filed July 9, 1964, Ser. No. 381,548

Claims priority, application Germany, July 19, 1963, W 34,925

2 Claims. (Cl. 75—171)

1. A nickel base alloy having improved high temperature strength consisting essentially in percent by weight of about 8–12 chromium, 5–10 cobalt, 4–7 aluminum, 3–6 molybdenum, 1–3 niobium, 1–3 vanadium, 1–3 tungsten, 0.5–2 titanium, 0.2–1 zirconium, 0.05–0.3 carbon, the balance being essentially nickel, the Ti/C ratio being about 6–7:1.

3,368,889

WEAR- AND OXIDATION-RESISTING HARD ALLOYS

Anton Bäumel, Goethestrasse 26, Lank (Lower Rhine), Germany

No Drawing. Filed Nov. 4, 1964, Ser. No. 408,773

Claims priority, application Austria, Nov. 11, 1963, A 8,982/63

4 Claims. (Cl. 75—171)

This invention relates to an acid corrosion-resistant hard alloy consisting of 0.3–4.0% carbon, 15–40% chromium, up to 3.5% silicon, up to 2.0% manganese, 38–80% cobalt with a combination of copper, molybdenum and nickel, 2.5–18% of at least one of the alloying elements from the class consisting of niobium, tantalum and vanadium, remainder iron and inevitable impurities, the cobalt content being at least 16%.

3,368,890

METAL POWDER FROM CAST IRON CHIPS

William L. Schroeder and Peter Vernia, Rochester, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 27, 1966, Ser. No. 605,064

7 Claims. (Cl. 75—211)

Iron powders particularly suitable for compaction by powder metallurgical techniques may be prepared from cast iron particles such as chips, borings, or the like. The particles are first comminuted to a powder of suitable particle size. An iron oxide is then blended with the powder and the mixture annealed at an elevated temperature below the austenite region in a reducing atmosphere. After cooling, any loose graphite or ultrafine iron powder is separated from the mixture.

3,368,891

PROCESS FOR THE MANUFACTURE OF PHOTOGRAPHIC MATERIAL CONTAINING OXIDIZED POLYSACCHARIDES

Jean Lucien Laenen, Edegem, Belgium, assignor to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a company of Belgium

No Drawing. Filed Mar. 10, 1964, Ser. No. 350,686

Claims priority, application Belgium, Mar. 12, 1963, 42,413

10 Claims. (Cl. 96—1)

In the manufacture of pigmented photographic paper, the pigment layer contains as a binding agent an alkali or ammonium salt of casein or soybean protein and is hardened by means of a polysaccharide which has at least some, preferably 50–100%, of its secondary alcohol groups converted into aldehyde groups, or water-soluble derivatives of such polysaccharides.

3,368,892

METHOD OF COPYING UTILIZING AN INFRARED-ABSORPTIVE IMAGE FORMED BY ELECTROSTATIC ATTRACTION

Richard Owen, Brooklyn Center, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Original application Aug. 10, 1959, Ser. No. 832,793, now Patent No. 3,328,167, dated June 27, 1967. Divided and this application June 12, 1967, Ser. No. 645,406

3 Claims. (Cl. 96—1)

Exposure of a copy-sheet to a light-image forms a latent image which is developed to a differentially infrared-absorptive image and then irradiated to cause localized heating and image formation in a heat-sensitive layer of the sheet.

3,368,893

ELECTROPHOTOGRAPHIC METHOD OF PREPARING ETCHABLE PRINTING PLATES

Walter L. Garrett, Freeland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 14, 1964, Ser. No. 389,802

6 Claims. (Cl. 96—1)

The present invention comprises an improved electrophotographic composition containing a photoconductive zinc oxide dispersed in a cross-linking, insulating, film-forming, resinous binder, the binder being selected from a soluble solid epoxy resin of diglycidyl ether of bis-phenol-A, a blend of said epoxy resin with an intermediate silicone resin, or a prepolymer of said epoxy resin and said silicone resin.

3,368,894

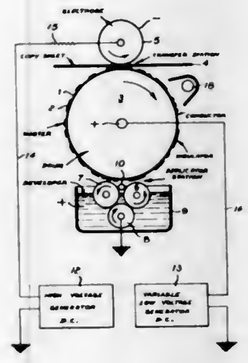
MULTIPLE COPY PRINTING METHOD AND APPARATUS

Josef Matkan, Malvern, South Australia, and Robert J. Wright, Tranmere, South Australia, Australia, assignors to Research Laboratories of Australia Pty. Limited, North Adelaide, South Australia, Australia

Filed Nov. 3, 1964, Ser. No. 408,645

Claims priority, application Australia, Nov. 5, 1963, 37,308/63

4 Claims. (Cl. 96—1)



A method and apparatus for printing multiple copies from a master having a printing surface consisting of insulator sections interspersed with relatively conductive sections. The insulator sections of the master are charged to a high D.C. voltage of given polarity at a combination charging and transfer station, by conductive connection to a roller electrode. From the charging and transfer section the master is moved to an applicator station where it is contacted with a liquid developer containing toner particles that are attracted to a charge of the aforesaid given polarity, thus producing a developed image on the printing surface of the master. The master is then returned to the combination charging and transfer station, at which the developed image is transferred to a copy sheet passing between the charging electrode and the master printing surface, the copy sheet constituting a part of the conductive connection between the electrode and the printing surface. Thus, the printing surface insulator sections are recharged simultaneously with the transfer operation as a part of the next printing cycle. Throughout the complete printing cycle, the conductive sections of the master are maintained at a low unidirectional potential of opposite polarity from the potential to which the insulator sections are charged, by means of a conductive connection to an adjustable low voltage D.C. supply. The potential of the conductive portions of the master is adjusted to obtain optimum contrast in the developed image as transferred to the copy sheet. The preferred apparatus utilizes a drum construction for continuous printing operation with the master being maintained on the periphery of the drum and moving continuously between the transfer station and the applicator station and back again. Where the conductive sections of the master comprise a photoconductor, the printing surface is illuminated at a point intermediate the transfer station and the applicator station to prevent maintenance of a developable charge on these portions of the master.

3,368,895

VACUUM CONDENSED SILVER HALIDE LAYERS OF INCREASED SENSITIVITY

Reinhart Matejec, Imbach uber Opladen, and Walter Reichelt, Hanau, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Aug. 26, 1963, Ser. No. 304,331

Claims priority, application Germany, Sept. 13, 1962, A 41,146

7 Claims. (Cl. 96—28)

3. A photographic material comprising a sheet-like support, a first light-sensitive silver halide layer 1 to 100 microns thick produced by vacuum condensation of silver halide on said support and a second thinner, light-sensitive silver halide layer 0.01 to 1 micron thick produced by vacuum condensation on said first silver halide layer of a mixture of silver halide with 10^{-3} to 20 mol percent of a sensitizing agent selected from the oxides, sulphides, selenides and tellurides of metals of Groups Ib, IIb, and VIII of the periodic system.

5. In the process of producing photographic images by imagewise exposing a light-sensitive silver halide layer to a high-intensity source of radiation to form an image which is most faintly visible and then developing said image by exposure of the layer to diffused light of lower intensity, the improvement which comprises using as the silver halide layer one that is from 1 to 100 microns thick produced by vacuum condensation on a support of a mixture of silver halide with from 10^{-3} to 20 mol percent of a sensitizing agent selected from the halides and thiocyanates of Cu^{+}, Au^{+}, Pt^{+2}, Pd^{+2}, Rh^{+}, Fe^{+3}, Ni^{+2}, Co^{+2}, Hg^{+}, Sn^{+2} and Pb^{+2}.

7. A process for producing photographic silver images which consists essentially of imagewise exposing a vacuum-condensed light-sensitive silver halide layer about 1 to 100 microns thick and mixed with 10^{-3} to 20 mol percent of a sensitizing agent selected from the halides and thiocyanates of Cu^{+}, Au^{+}, Pt^{+2} Pd^{+2}, Rh^{+}, Fe^{+2}, Ni^{+2}, Co^{+2}, Hg^{+}, Sn^{+2}, and Pb^{+2} and the oxides, sulfides, selenides and tellurides of metals of Groups Ib, IIb and VIII of the periodic system, to an object to be reproduced developing said exposed material with a silver halide developing solution devoid of silver halide solvents to form a negative silver image, transferring said image to an auxiliary support, and then developing the residual silver halide of the photographic material to obtain therein a positive silver image of the object to be reproduced.

3,368,896

IMAGE-RECEIVING MATERIAL FOR THE PRODUCTION OF PHOTOGRAPHIC IMAGES BY THE SILVER SALT DIFFUSION PROCESS

Alexander Riebel and Hans Ulrich, Leverkusen, Wolfgang Himmelmann, Cologne-Stammheim, and Karl-Heinz Britz, Leverkusen, Germany, assignors to Afga Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed June 26, 1963, Ser. No. 290,603

Claims priority, application Germany, July 28, 1962, A 40,836

8 Claims. (Cl. 96—29)

1. In an image-receiving protein layer having dispersed nucleating particles for the production of photographic images by the silver salt diffusion process, the improvement according to which there is heterogeneously dispersed in the protein layer a maleic anhydride-alkyl vinyl ether copolymer that has been at least partially transformed to semi-ester and semi-amide by reaction with a low molecular weight alkanol and with a monoalkanolamine, the reacted copolymer being in an amount from about 5 to about 200% calculated on the weight of the protein.

3,368,897
VISCOUS PRE-DEVELOPMENT SOLUTION FOR REWIND PROCESSING

Walter F. Burrows, Greene, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 8, 1964, Ser. No. 416,887
5 Claims. (Cl. 96—50)

Process for rewind processing of silver halide photographic film—not later than the initial developing stage—in an aqueous solution containing a polyvinyl alkyl ether-polycarboxylic acid anhydride copolymer, a water-soluble cellulose derivative, or a polymethacrylic acid organic thickening agent.

3,368,898
AUTOPOSITIVE FILM AND PAPER AND EMULSIONS THEREFOR

Daniel A. Nepela, Saratoga, Calif., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 17, 1963, Ser. No. 317,033
6 Claims. (Cl. 96—64)

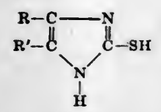
5. A method of producing strong, direct positive X-ray photographs which comprises dispersing in an ammonia type silver halide emulsion a small amount of phenylthiourea, coating said emulsion on a support, image-wise exposing said emulsion through a pattern, developing and fixing the exposed emulsion.

3,368,899
EMULSION LAYERS AND ELEMENTS

Ralph Kingsley Blake, Westfield, and Roxy Ni Fan, Highland Park, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 13, 1964, Ser. No. 403,660
8 Claims. (Cl. 96—107)

1. A photographic emulsion layer comprising, before exposure to actinic radiation, light-sensitive silver halide crystals having associated therewith in greater than fog-inhibiting amounts of silver mercaptide of a substituted compound of the formula



wherein R and R' are members selected from the group consisting of hydrogen and hydrocarbon nuclei of 1–14 carbon atoms connected through carbon to the imidazole ring, at least one of R and R' when separate being a hydrocarbon nucleus of 3–14 carbon atoms and when taken together constituting the atoms necessary to complete with the two carbon atoms of the imidazole ring a cyclic radical; said silver mercaptide being of lower solubility in water than silver chloride, the silver halide crystals so associated with the silver mercaptide dissolving more slowly in 10% aqueous sodium thiosulfate than untreated silver halide crystals at a predetermined pH, the mercapto compound of said formula being present in such amount, in terms of the ratio of its weight to the surface area of said silver halide crystals, that when admixed in such ratio with an aqueous silver chlorobromide (70/30 mole percent) gelatin dispersion containing 10 g. of gelatin per mole of Ag and .57 mg. of Ag per ml., and said silver chlorobromide dispersion is treated with 10%, by weight, aqueous sodium thiosulfate (so that the resulting mixture contains 0.29 mg. of silver and 100 mg. of sodium thiosulfate), at least three times the amount of silver chlorobromide remains undissolved as compared with a similar dispersion successively treated with 5%, by weight, aqueous sodium hypochlorite and 10%, by weight, aqueous sodium thiosulfate (so that the resulting mixture contains 0.29 mg. of silver, 25 mg. of sodium hypochlorite and 100 mg. of sodium thiosulfate), after vigorous agitation of both dispersions for 30 seconds at 25° C.

3,368,900
POLYMERIZABLE COMPOSITIONS AND ELEMENTS

Marion Burg, Metuchen, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 3, 1964, Ser. No. 372,394
12 Claims. (Cl. 96—115)

Photopolymerizable compositions comprising (1) an addition polymerizable ethylenically unsaturated compound capable of forming a high polymer, (2) a polynuclear quinone photoinitiator, and (3) an aromatic aldehyde; and elements comprising a support and a layer of such compositions.

3,368,901
SILAGE AND METHOD OF PREPARING SAME

John E. Thompson, 908 Burns Ave., Flossmoor, Ill. 60422

No Drawing. Continuation-in-part of application Ser. No. 392,914, Aug. 28, 1964. This application May 5, 1967, Ser. No. 636,257
4 Claims. (Cl. 99—8)

Green ensilage is preserved by adding 0.1–2% sodium hexametaphosphate or sodium tripolyphosphate as a gelling agent prior to fermenting to reduce the amount of drainage and loss of nutrients.

3,368,902
CORN CHIP

Isadore A. Berg, 1613 Asmann Ave., Cincinnati, Ohio 45229

No Drawing. Continuation-in-part of application Ser. No. 352,980, Mar. 18, 1964. This application Mar. 22, 1967, Ser. No. 625,004
12 Claims. (Cl. 99—83)

A process of making a corn chip including the steps of cooking corn and grinding it to form a masa, recooking the masa with additional water to form a gelatinized mass, forming small particles of the mass, drying the particles and frying them in cooking oil.

3,368,903
BAKED GOODS DOUGH AND METHOD

Robert H. Johnson and Eileen A. Welch, Norwalk, Conn., assignors to R. T. Vanderbilt Company, Inc., New York, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 274,068, Apr. 19, 1963, which is a continuation-in-part of application Ser. No. 191,878, May 2, 1962. This application Feb. 18, 1966, Ser. No. 532,045
15 Claims. (Cl. 99—91)

A lipase preparation exhibiting activity in the pH range of 4.0 to 6.5, substantially free from deleterious amounts of proteinases, amylases and reducing substances, and which has the ability to increase the extractable monoglyceride content of a dough is added to a dough to retard the tendency of the baked goods obtained from the dough to become stale.

3,368,904
PROCESS FOR MAKING A VISCOSITY STABILIZED STARCH-CONTAINING PRODUCT

Kenneth J. Young, North St. Paul, and Edward L. Galle, St. Paul, Minn., assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware

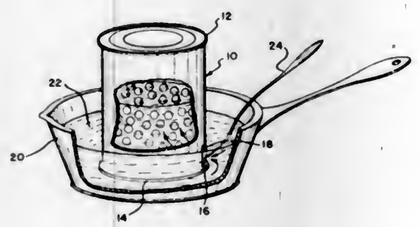
Continuation-in-part of application Ser. No. 154,971, Nov. 27, 1961. This application Dec 28, 1964, Ser. No. 421,305
5 Claims. (Cl. 99—93)

1. A process for making a dry product from a natural cereal flour which comprises subjecting the flour, in a substantially normally dry state, rapidly to pressurized steam having a pressure of about 5–30 pounds per square inch above atmospheric pressure and a temperature of approximately 228–274° F., holding the pressure for at least 5 seconds to substantially inactivate the starch degrading enzymes contained therein without substantially modifying the granular starch component of the flour, and then removing the pressure and flash drying the product to substantially its original condition of dryness.

3,368,905
ART OF HYDRATING LIQUID COMBINABLE PRODUCTS

Murray L. Rollins, Old Tappan, N.J., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 314,734, Oct. 8, 1963. This application Feb. 11, 1964, Ser. No. 346,367
19 Claims. (Cl. 99—104)



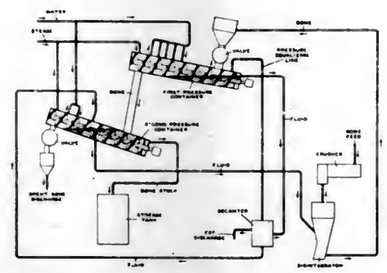
1. In the art of hydrating a liquid combinable product packaged under vacuum within a vacuum sealed container directly in contact with and solely enclosing said product, the improvement which comprises, breaking open the vacuum seal of said container at a discrete area in the surface of said container by actuation of easy opening means, and maintaining the opening at said discrete area in communication solely with a hydrating liquid under a pressure greater than the interior pressure of said container, whereby said liquid is caused to enter said container and hydrate said product under the force of the differential in pressure between that on said liquid and that within said container.

3,368,906
PROCESS FOR PREPARING BONE STOCK

William J. Coffin, Cinnaminson, and Robert W. Hockenbury, Moorestown, N.J., assignors to Campbell Soup Company, Camden, N.J., a corporation of New Jersey

Filed Jan. 17, 1966, Ser. No. 520,989
10 Claims. (Cl. 99—110)

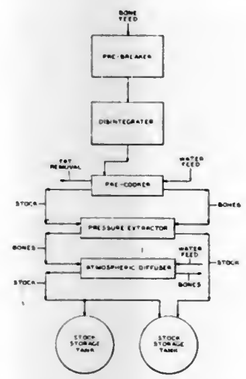
A continuous process for extracting flavoring from bones that includes the steps of breaking the bones; feeding the bones in water to a first pressure container in the weight ratio of water to bones of between about 0.5 to 1.5; heating the bones in the first container in the presence of the water for from about five to thirty minutes at a temperature not substantially below 275° F. and not substantially above 325° F. at a pressure at which said water will not boil and solubilizing the flavoring in said bones and forming a flavored liquid with said water and, while heating the bones in the first container feeding the bones in a first direction through the first container and the water in the opposite direction; feeding the bones in the first container into a second pressure container and in a first direction through the second container; withdrawing the flavoring liquid from the first container and feeding the liquid to the second container in a direction opposite to the direction of movement of the bones in the second container; while feeding the bones and the liquid in opposite directions, heating the bones and the liquid in the second container for from about fifteen to forty-five minutes at a temperature of not substantially below 275° F. and not substantially more than 325° F., at a pressure at which the liquid will not boil and solubilizing the flavoring remaining in said bones and forming a further flavored liquid of the remaining flavoring and the flavored liquid and removing the further flavored liquid from the second container.



3,368,907
PROCESS FOR PREPARING BONE STOCK

Ralph A. Miller, Cherry Hill, N.J., assignor to Campbell Soup Company, Camden, N.J., a corporation of New Jersey

Filed Sept. 10, 1964, Ser. No. 395,502
16 Claims. (Cl. 99—110)



A process for preparing flavoring stock from bones that includes the steps of feeding ground bones and water into a container; heating the bones in water in the container for about 15 minutes at a temperature of about 210° F.; skimming fat from the heated liquid; placing the bones in skimmed liquid under pressure and heating the bones and skimmed liquid, while under pressure, to

a temperature of about 300° F. for about 30 to 45 minutes; releasing the pressure and removing the liquid; feeding fresh water to the remaining bones; heating the fresh water and remaining bones for about 30 to 60 minutes at a temperature of about 200° to 210° F. and thereafter, separating the bones and liquid.

3,368,908
PROCESS FOR THE PREPARATION OF SQUID FILLETS
Beverly E. Williams, 716 N. La Grange Road, La Grange Park, Ill. 60525
No Drawing. Filed July 19, 1965, Ser. No. 473,213
4 Claims. (Cl. 99—111)

1. In a process for preparing squid fillets for human consumption which are substantially non-curling upon heating and cooking, the steps of cleaning and skinning the mantle of the squid Surumeika, trimming the cleaned and skinned mantle to fillet shape, shrinking the mantle to approximately 4" x 5" in size with boiling water from 5 to 15 seconds with increase in thickness thereof, and then cutting and scoring the ligaments, membrane and flesh of the mantle by a plurality of spaced cuts clear through the mantle extending in at least two mutually opposed directions so that substantially all of the ligaments and the membranous covering are repeatedly scored, cut and severed into lengths of approximately ⅛ to ½" each.

3,368,909
METHOD FOR COATING FRUITS
Carl O. Moore, Decatur, and John W. Robinson, Blue Mound, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware
No Drawing. Filed Feb. 3, 1964, Ser. No. 342,228
4 Claims. (Cl. 99—168)

1. A method for providing a fruit which has surface deposits of sugar with a protective, edible, non-coherent coating which comprises contacting the fruit with an aqueous medium comprising an aqueous dispersion of amylose and an edible amylose plasticizer to form a coating, the amount of amylose dry substance in the dispersion being from about 3 to about 30% by weight based on the weight of the water in the dispersion, and gelling the coating on the fruit.

3,368,910
BISMUTH-FREE BARIUM TITANATE CERAMIC COMPOSITIONS
Ernest R. Glabau, Monroe, Conn., assignor to Vitramon, Incorporated, Monroe, Conn., a corporation of Delaware
Filed July 29, 1964, Ser. No. 385,965
4 Claims. (Cl. 106—39)

3. A ceramic dielectric composition which is substantially free of bismuth and substantially inert to palladium and which has a high dielectric strength, a voltage break down of at least 500 volts per mil and a high dielectric constant which varies by not more than plus or minus 15% when the temperature is lowered from 25° C. to —55° C. and raised from 25° C. to 125° C., which comprises 85 to 95 mole percent of barium titanate; 3 to 6 mole percent of at least one first oxide from the group consisting of tin oxide and titanium oxide; from 1 to 5 mole percent of at least one second oxide from the group consisting of cerium, neodymium, praseodymium and uranium oxides; from 0.5 to 2 mole percent of at least one stannate from the group consisting of nickel, barium, strontium, calcium and magnesium stannates; and from 0.5 to 2 mole percent of at least one compound from the group consisting of alkaline earth zirconates and hafniates, the mole percent ratio of said first oxide to said second oxide being within the range of 1:0.2 to 0.85.

3,368,911
COLLAGEN-CARBONIC ACID SURGICAL SPONGE
Eloise Kuntz, Okemos, Mich., and Elle S. Nuwayser, Basking Ridge, N.J., assignors to Ethicon, Inc., a corporation of New Jersey
No Drawing. Filed Mar. 25, 1965, Ser. No. 442,805
5 Claims. (Cl. 106—155)

Collagen fibrils are swollen and dispersed in an aqueous solution of carbonic acid. Lyophilization of the dispersion produces porous collagen sponges of high purity.

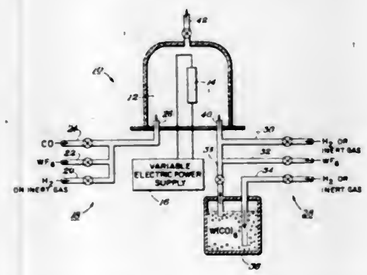
3,368,912
DECORATIVE CRYSTALLIZATION PROCESS
Dionysios M. Adamis, 7 Dexter Road, Wellesley, Mass. 02181
No Drawing. Filed Sept. 10, 1964, Ser. No. 395,546
4 Claims. (Cl. 117—42)

1. The method of producing crystalline designs comprising forming an aqueous solution containing sodium barbital and a gel forming substance and having a pH between 5.5 and 9.0, spreading a layer of said solution on the surface to be decorated, and allowing said solution to dry.

3,368,913
PROCESS FOR THE TREATMENT OF METAL SURFACES PRIOR TO ENAMELING
Georg Ziehr and Hermann Droedziok, Dusseldorf-Holthausen, Germany, assignors to Henkel & Cie G.m.b.H., Dusseldorf-Holthausen, Germany
No Drawing. Filed Jan. 22, 1964, Ser. No. 339,318
Claims priority, application Germany, Jan. 29, 1963, H 48,090
4 Claims. (Cl. 117—53)

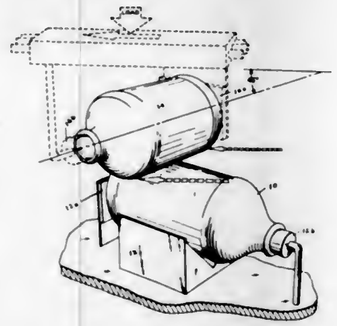
Aqueous solutions of mixtures for the total removal of iron salt from iron and steel sheet formed during etching prior to passivation in preparation for vitreous enameling of the sheet. The active ingredients of the mixture are an alkali together with a lower aliphatic alkanolamine, wherein the alkali constitutes 25 to 50 weight percent of the mixture in a 1 to 5 weight percent solution. It also is opportune to incorporate in the solution an aminocarboxylic acid which amounts to up to 20 weight percent, based upon the total amount of said acid taken together with said alkali and said alkanolamine. These solutions remove all iron salts present and yield a clean and silver-white surface thus ensuring perfect conditions for enameling.

3,368,914
PROCESS FOR ADHERENTLY DEPOSITING A METAL CARBIDE ON A METAL SUBSTRATE
James R. Darnell and Donald A. Tarver, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Aug. 5, 1964, Ser. No. 387,725
20 Claims. (Cl. 117—71)



A process involving the diffusion of a metal, such as tungsten, into a metal substrate, such as steel, followed by the depositing of a carbide of the diffused metal onto the substrate by chemical vapor deposition. After the diffusion of the metal into the substrate, a film of the diffused metal may be deposited on the substrate surface followed by the depositing of a carbide of the diffused metal on said film.

3,368,915
ABRASION-RESISTANT GLASS ARTICLE HAVING DUAL PROTECTIVE COATINGS THEREON
David G. Carl, 83 Woodland Drive, Bridgeton, N.J. 08302, and Herman A. Steigelman, 2884 Wiltshire Drive, Lambertville, Mich. 48144
Original application Mar. 27, 1964, Ser. No. 355,252, now Patent No. 3,323,889, dated June 6, 1967. Divided and this application Sept. 21, 1966, Ser. No. 630,146
7 Claims. (Cl. 117—72)



1. An article of manufacture having a glass surface said surface having a thin, transparent, substantially colorless two-layer combination coating thereon which improves the abrasion-resistance properties of said glass surface, said coating comprising immediately adjacent the glass surface a first layer of a member selected from the group consisting of titanium oxide and zirconium oxide and as the second layer, a low molecular weight olefin polymer bonded to said first layer, said two-layer combination coating being substantially insoluble in water and caustic solutions.

3,368,916
LIGHT RESISTANT FLAME RETARDANT POLYMERS
Kiyoshi Hattori, Chicago, Ill., assignor to The Richardson Company, Melrose Park, Ill., a corporation of Ohio
No Drawing. Filed May 28, 1964, Ser. No. 371,083
8 Claims. (Cl. 117—136)

An article of manufacture with resistance to burning and light degradation and composed of a styrene polymer, an organic bromine-containing flame retardant agent, a compound to prevent thermal degradation of the flame retardant agent, and having a clear coating with a light stabilizer to reduce yellowing of the article.

3,368,917
COATED TEXTILE YARN
Donald W. Belcher, Spartanburg, and Roland Z. Farkas, Columbia, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 277,457, May 2, 1963. This application Jan. 6, 1967, Ser. No. 607,656
7 Claims. (Cl. 117—138.8)

A rubber-like textile yarn having a coating of a primary branched chain saturated liquid alcohol such as 2-butyl-1-hexanol, or esters of such alcohols with fatty acids such as hexadecyl stearate. These coatings act as lubricants for the rubber-like yarns without adversely affecting the yarn.

3,368,918
SIGNAL RECORDING TECHNIQUE
Lumeno Frank Miro, Flushing, and Vincent J. Gale, Valley Stream, N.Y., assignors to Litton Industries, Inc., Beverly Hills, Calif.
Filed Sept. 26, 1962, Ser. No. 226,261
2 Claims. (Cl. 117—216)



1. A method of making three dimensional recording member having a compound curvature formed with a varying circumference and having a fine grain recording surface for providing high definition electrical recording comprising the steps of:

forming a self-supporting base member having a compoundly curved surface with a varying circumference,

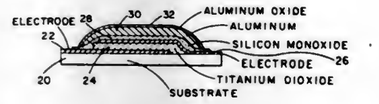
spraying a coating of a water suspension of small particle oil furnace carbon black to uniformly cover the surface to be recorded with a thin layer without causing running of the spray over the surface,

said water suspension having at least 1% by weight of the liquid spray and at least 5% by weight of the solid content of the spray consisting of small particle carbon black and the remainder comprising water, binder, dispersing agent, thickener, and additional carbon particles,

drying the sprayed coating by heating the base member to a temperature significantly above ambient temperature to form a high electrical resistance, fine grain uniform coating of the small particle carbon black over the surface thereby to provide high image resolution in the recording member,

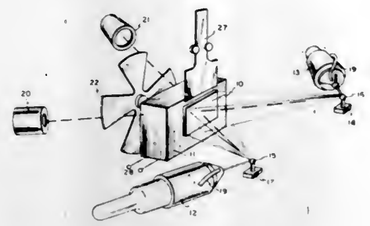
and spraying an adherent outer coating of a different color on top of the base coating.

3,368,919
COMPOSITE PROTECTIVE COAT FOR THIN FILM DEVICES
Ralph Casale, Chelmsford, and John M. Woulbroun, Brookline, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed July 29, 1964, Ser. No. 385,991
9 Claims. (Cl. 117—217)



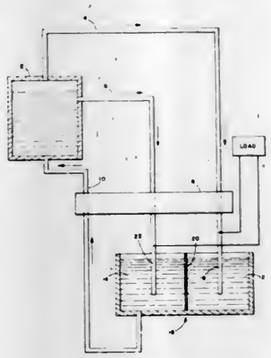
A protective overcoating or structure for a thin film device which is impervious to moisture and which also provides a thermal and radiation barrier and mechanically strong, abrasion resistant coating. The protective structure includes a layer of a specified metal formed over and separated from the active device by a layer of an oxide of this metal, and a second oxide layer formed over the outer surface of the metal layer.

3,368,920
METHOD FOR THE FORMATION OF THIN FILMS
Arno K. Hagenlocher, Bayside, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware
Filed Apr. 1, 1964, Ser. No. 356,603
6 Claims. (Cl. 117—221)



A method for forming a thin film of barium titanate, or other perovskite material, by simultaneously evaporating in the presence of oxygen two or more metal oxide constituents and depositing them on a heated substrate. A chemical reaction takes place between the constituents at substrate temperatures as low as 350° C. due to the presence of oxygen.

3,368,921
CONVERSION OF HEAT TO ELECTRICITY BY ELECTROCHEMICAL MEANS USING UO_3 MELT
Donald E. McKenzie, Woodland Hills, and John P. Howe, Calabasas, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed June 17, 1960, Ser. No. 36,885
4 Claims. (Cl. 136—86)



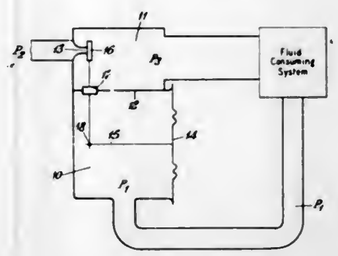
1. A method for the conversion of heat to electricity by electrochemical means, which comprises providing a melt of UO_3 in an alkali metal phosphate salt electrolyte, heating said solution at a temperature sufficient to decompose said UO_3 to U_3O_8 and O_2, separating the resulting U_3O_8 melt and the resulting oxygen gas, cooling said U_3O_8 and O_2, separately introducing the cooled U_3O_8 melt and oxygen decomposition products into an electrolytic cell, said cell having an alkali metal phosphate electrolyte, introducing said oxygen into a separate cathode compartment of said cell, and said U_3O_8 melt into a separate anode compartment of said cell, thereby reforming UO_3 at the anode and donating electrons to an external load, removing the resulting reformed UO_3 from the anode compartment, heating the removed UO_3, and returning the resulting UO_3 for repeating the foregoing cycle.

3,368,922
POLYELECTROLYTE MEMBRANE COMPRISING A COPOLYMER INCLUDING ACRYLONITRILE AND FUEL CELL WITH SAME
Ival O. Salyer, Dayton, Ohio, assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Oct. 26, 1962, Ser. No. 233,425
19 Claims. (Cl. 136—86)

1. A solid membraneous polyelectrolyte obtained by molding, at a temperature of from 50° C. to 200° C. and a pressure of 100 to 10,000 p.s.i. and in the presence of a peroxidic free-radical-liberating agent, a copolymer of an aliphatic mono-olefinic hydrocarbon of from 2 to 4 carbon atoms with acrylonitrile or with an alkyl acrylate having from 1 to 4 carbon atoms in the alkyl, said copolymer consisting from 15 to 85% by weight of the mono-olefinic hydrocarbon and said peroxidic agent being present in a quantity of from 0.5% to 15% by weight of the copolymer, and subsequently hydrolyzing the resulting molded product.

2. A fuel cell comprising a pair of spaced electrodes in electrical contact with each other through the membraneous polyelectrolyte of claim 1 interposed between said electrodes.

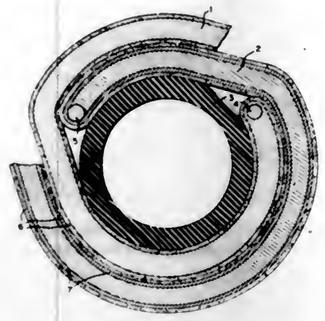
3,368,923
FLUID SUPPLY REGULATOR AND FUEL CELL SYSTEM WITH SAME
George E. Smith, Westlake, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed Apr. 30, 1964, Ser. No. 363,692
6 Claims. (Cl. 136—86)



Apparatus for regulating the flow of fluid from a high pressure source to a low pressure system which includes a first chamber communicating with the system and a second chamber communicating with the high pressure source, and a valve stem mounted in a resilient gland in a wall separating the two chambers, the valve being responsive to pressure changes in the first chamber. Circulation of fluid through the system can be obtained by a restricted orifice between the first and second chambers.

3,368,924
BATTERY WITH ZINC ANODE COATED WITH ALKALI METAL GETTER
Asaf A. Benderly, Potomac, Md., and Allan M. Biggar, Arlington County, Va., assignors to the United States of America as represented by the Secretary of the Army
Filed Jan. 28, 1966, Ser. No. 523,806
3 Claims. (Cl. 136—102)

1. A battery having a zinc anode and in the dry-charged condition wherein the zinc anode is coated with a fugitive alkali metal which is capable of dissolving in the electrolyte during the use of said battery.



2. A battery according to claim 1 wherein the metal is sodium.

3,368,925
TREATING ZINC PLATES OF ZINC-SILVER OXIDE BATTERY
Irving A. Denison, Silver Spring, Md., and William J. Pauli and Gilbert R. Snyder, Arlington, Va., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Nov. 15, 1957, Ser. No. 696,887
2 Claims. (Cl. 136—126)

1. A method of treating negative zinc plates before assembling in a zinc-silver oxide reserve battery intended for use at very low temperatures, said plates having been formed by electrolytic deposition in an alkaline bath, said method comprising the steps of: soaking the zinc plates immediately after removal from the alkaline bath in an ammonium chloride solution, the time of soaking and the concentration of ammonium chloride being sufficient to complete the formation of $ZnCl_2 \cdot 2NH_3$ on the zinc plates, removing the plates from said solution, heating the plates under vacuum to the sublimation temperature of ammonium chloride so as to remove unreacted ammonium chloride from the plates, cooling the plates to room temperature, bringing the cooled plates to atmospheric pressure by the introduction of an inert gas, and then storing the plates in an inert environment until assembly.

3,368,926
LOW TEMPERATURE ELECTROCHEMICAL CELLS AND BATTERIES
Madeline S. Toy, Fountain Valley, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Apr. 15, 1966, Ser. No. 543,773
7 Claims. (Cl. 136—155)

1. A low-temperature battery having an electrolyte therein, said electrolyte comprising liquid nitrosyl fluoride.

3,368,927
PROCESS OF DEPOLARIZING AN ELECTROLYTIC CELL
Charles H. Worsham, Fanwood, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Jan. 11, 1963, Ser. No. 250,764
2 Claims. (Cl. 136—160)

1. A method of reducing the polarization of an electrode which has been increased during use in a low temperature electrolytic cell employing an aqueous acid electrolyte with methanol mixed therewith, without interruption of the operation of the cell which comprises passing the aqueous acid electrolyte-methanol mixture through the cell at a rate of about 200 to 550 ml./hr./0.1 ft.² until the increased polarization drops to the normal operating polarization.

3,368,928
PRIMER COMPOSITION AND METHOD OF BONDING SILICONE RUBBER TO A METAL SURFACE SUSCEPTIBLE TO SULFIDE FORMATION
Rejenjra N. Chadha and Townsend H. Porter, Adrian, Mich., assignors to Stauffer Chemical Company
No Drawing. Filed July 6, 1964, Ser. No. 380,646
8 Claims. (Cl. 148—6.2)

Method of increasing the reception of a metal surface for silicone rubber which consists of coating the metal surface with a solution of a hexavalent chromium compound and then with a primer composition. The primer composition consists of a liquid alkylpolysilicate, boric acid or an alkyl borate and a mutual solvent. The method is particularly applicable to metal surfaces which are to be subjected to the influence of hot oils containing sulfur in a form reactable with the metal.

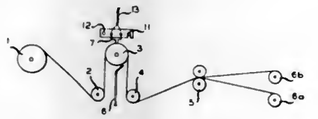
3,368,929
PARTICULATE AMMONIUM NITRATE SENSITIZED WITH A LIQUID HYDROCARBON FUEL CONTAINING CALCIUM CHLORIDE AS ANTI-CAKING AGENT
Gordon W. Bell, Marion, Ill., assignor to Commercial Solvents Corporation, a corporation of Maryland
No Drawing. Filed Dec. 28, 1964, Ser. No. 421,695
6 Claims. (Cl. 149—46)

1. Free-flowing ammonium nitrate particulate composition comprising anti-caking amounts of calcium chloride particles having a size from about 6 to 20 mesh (U.S. Sieve Series).

2. The composition of claim 1 wherein the anti-caking amounts are from about 0.1 to 10 weight percent.

3. The composition of claim 2 wherein the composition contains a normally liquid hydrocarbon fuel in an amount sufficient to sensitize the composition for use as an explosive.

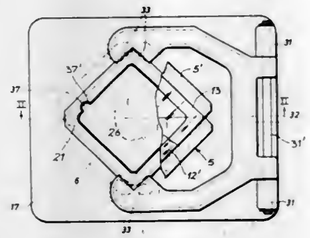
3,368,930
METHOD AND APPARATUS FOR FORMING TUBES OF THERMOPLASTIC FILM
Elmer C. Beason, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 16, 1964, Ser. No. 404,332
6 Claims. (Cl. 156—251)



6. A method of continuously forming at least one thin-walled tube of a heat-fusible and heat-sealable thermoplastic material such a polyethylene from a continuous traveling web having two layers adjacent and parallel to one another which comprises: advancing said thermoplastic material past a heating element at 1500–2000° F. so that said heating element is protruded through said continuously advancing layers, heating and severing them along a path essentially parallel to the direction of travel of said advancing layers in such a manner that the heated and severed edges are fused together to form a clean, strong, continuous joint when cooled, said advancing web being passed over said heating element in a tangential relationship to said heating element such that the area

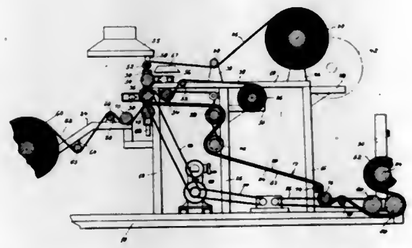
of contact between said advancing web and said heating element is over a length of said heating element.

3,368,931
DEVICE FOR MOUNTING TRANSPARENCIES
Carl Schröter, Schmiden, Wurttemberg, and Heiko Hortmeyer, Wuppertal-Elberfeld, Germany, assignors to Heinrich Hermann, Stuttgart-Wangen, Germany, a corporation of Germany
Filed Aug. 28, 1964, Ser. No. 392,792
Claims priority, application Germany, Sept. 5, 1963, H 50,193
8 Claims. (Cl. 156—479)



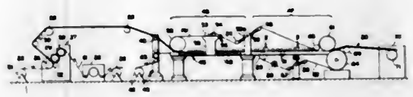
1. In a device for mounting transparencies, comprising a base formed with a recess, a frame-support plate mounted in said recess for displacement therein between a first position wherein the surface of said plate is disposed above the periphery of said recess and a second position wherein said surface is disposed below said periphery whereby flaps of a transparency-binder frame are deflected around the edges of a pair of transparent cover members sandwiching a transparency between them, and means for positioning said cover members with said transparency between them on said transparency-binder frame, the improvement which comprises registering means on said frame-support plate engaging said transparency-binder frame for receiving the latter in only a single operative position of said frame.

3,368,932
APPARATUS FOR LAMINATING TWO FABRICS TO FOAM IN ONE SINGLE OPERATION
Norman Weill, Rockaway Beach, N.Y. (132—17 Rockaway Beach Blvd., New York, N.Y. 11693); Robert Woods, Clifton, N.J.; and Milton K. Solomon, Rockaway Beach, N.Y. (198 Beach 133rd St., Belle Harbor, N.Y. 11693)
Filed May 8, 1964, Ser. No. 366,054
5 Claims. (Cl. 156—497)



A laminated structure composed of layer of foamed plastic sheet material and layers of sheet fabric on both surfaces thereof, the fabric layers being placed thereon when the surfaces are soft and tacky from being heated. The invention comprehends apparatus for making such structure including guide rollers for guiding the sheets of material through the apparatus, heating means for heating both surfaces of the foamed plastic sheet material and other rollers adapted to be moved into contact with the guide rollers by blasts of air.

3,368,933
CORRUGATOR COMBINER MACHINE
Dan B. Wicker, Loudonville, N.Y., assignor to Huyck Corporation, Stamford, Conn., a corporation of New York
Filed Nov. 15, 1963, Ser. No. 323,935
10 Claims. (Cl. 156—498)



1. A corrugator combiner machine comprising, in combination, means for assembling a faced corrugated web, feed path defining means for receiving the assembled web, a heating section and a cooling section disposed in that order along the feed path for first raising and then lowering the temperature of said web, a nonwoven synthetic belt of substantially crystalline polymeric sheet material for directing said web along said feed path adjacent said heating and cooling sections, said belt having two end portions and the thickness of said belt being within the range of from about 10.0 mils to about 42.0 mils, said feed path defining means advancing said belt along the path in contact with said web, means for joining the end portions of said belt, and means for guiding said belt during its movement along said path.

3,368,934
NONWOVEN FABRIC OF CRIMPED CONTINUOUS POLYETHYLENE TEREPHTHALATE FIBERS
William George Vosburgh, Sr., West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 13, 1964, Ser. No. 367,002
3 Claims. (Cl. 161—150)

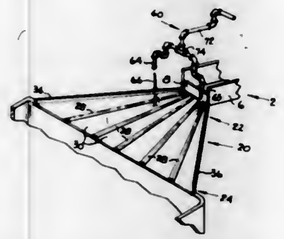


Nonwoven fabrics of crimped continuous synthetic organic filaments having (1) between 10 and 25% by weight of a specified synthetic organic binder distributed through the fabric and (2) at least 1500 discrete self-bond areas per square inch of fabric surface with the self-bond areas covering between about 2 and 15% of the surface area of the fabric, are useful as window shade material.

3,368,935
SULFITE PULPING PROCESS WITH UREA
Alfred M. Heald and Julius D. Robertson, Hartsville, S.C., assignors to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina
No Drawing. Filed Oct. 12, 1964, Ser. No. 403,384
7 Claims. (Cl. 162—72)

1. A sulfite pulping process comprising the steps of mixing cellulosic raw material with a sulfite cooking liquor having urea as a constituent in an amount sufficient to produce a predetermined terminal pH in the mixture, reacting said liquor and said cellulosic raw material at a temperature no lower than the temperature at which ammonia is formed from said urea for neutralizing the wood acids hydrolytically released during said reaction and continuing said reaction to completion at said predetermined terminal pH to form for processing into fibrous sheet material.

3,368,936
METHOD AND APPARATUS FOR INTRODUCING A FLOCCULATING AGENT TO AN ASBESTOS-CEMENT SLURRY TO CONTROL THE THICKNESS OF THE SHEET USED IN WINDING TO FORM A PIPE
George E. De Long, Denison, Tex., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 360,265, Apr. 16, 1964. This application Mar. 17, 1967, Ser. No. 624,683
8 Claims. (Cl. 162—118)



1. The method of controlling the thickness of a sheet of particulate material on a conveyor across the width of said conveyor comprising:
(a) containing a slurry of particulate material in a vat,
(b) depositing portions of said particulate material from said slurry and forming on a conveyor a sheet of said particulate material across the width of said conveyor wherein said conveyor has a width extending in the same direction as the width of said vat,
(c) introducing an agent into said slurry at spaced locations across the width of said vat to control the rate of deposition of said particulate material from said vat onto said conveyor, and
(d) adjusting the space between said spaced locations where said agent is being introduced to control the rate of deposition of said particulate material from said slurry across the width of said vat and the thickness of said sheet across the width of said conveyor.

5. Apparatus for controlling the thickness of a sheet of particulate material across the width thereof wherein said sheet is formed on a conveyor from a slurry of said particulate material comprising:
(a) a vat containing a slurry of particulate material,
(b) means for depositing portions of said particulate material from said slurry and forming on a conveyor a sheet of said particulate material across the width of said conveyor,
(c) said conveyor having a width extending in the same directions as the width of said vat,
(d) means for controlling the rate of deposition of said particulate material from said slurry including the addition of an agent to said slurry at spaced locations across the width of said vat, and
(e) means for adjusting the space between said spaced locations where said agent is being introduced to control the rate of deposition of said particulate material from said slurry across the width of said vat and the thickness of said sheet across the width of said conveyor.

3,368,937
INJECTABLE SOLID STEROID-ANESTHETIC
Thomas J. Macek, Baederwood, and Robert Edward King, Doylestown, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Continuation-in-part of applications Ser. No. 221,865, Sept. 6, 1962, and Ser. No. 254,485, Jan. 28, 1963. This application Jan. 26, 1965, Ser. No. 428,215
12 Claims. (Cl. 167—52)

11. A clear, injectable solution consisting essentially of the following ingredients in the quantities stated:

	Weight in milligrams, per milliliter of solution
Dexamethasone 21-phosphate disodium salt	4
Lidocaine base	8.93
Creatinine	8
Sodium bisulfite	2
Ethylenediaminetetra-acetic acid disodium	0.5
Phenol	5.0
Sodium hydroxide	6.0
Hydrochloric acid	5.2
Water for injection, to 1 ml.	

3,368,938
CONTROLLING FUNGI WITH 5-FLUOROCYTOSINE
Julius Berger, Passaic, and Robert Duschinsky, Essex Fells, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 181,822, Mar. 22, 1962. This application Jan. 13, 1966, Ser. No. 520,371
5 Claims. (Cl. 167—58)

4. A method of controlling fungi selected from the group consisting of *Candida albicans* and *Cryptococcus neoformans* which comprises subjecting human host for said fungi to the action of a composition comprising 5-fluorocytosine and a carrier thereof.

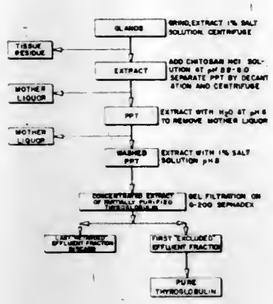
3,368,939
METHOD OF PRODUCING TRANQUILIZATION
Maxwell Gordon, Philadelphia, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Oct. 10, 1966, Ser. No. 585,274
4 Claims. (Cl. 167—65)

A method of treating subject in need of tranquilizing by oral administration of 2-methyl-2-propyl-1,3-propanediol. Also described are oral dosage units useful in this method.

3,368,940
PROCESS FOR THE ISOLATION AND PURIFICATION OF THYROGLOBULIN
James E. Turner, Jr., and John Doczi, Morristown, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
Filed Apr. 20, 1964, Ser. No. 361,142
4 Claims. (Cl. 167—76)

1. Process for selectively isolating a partially purified thyrogobulin from a crude extract of thyroid glands which

comprises contacting a solution of chitosan having a pH of from 4.8 to 6.5 with said crude extract of thyroid



glands and recovering an insoluble chitosan-thyroglobulin complex therefrom.

3,368,941

AZO COMPOUNDS FOR DYEING HUMAN HAIR

Karl-Josef Boosen, Dusseldorf-Holthausen, Germany, assignor to Therachemie chemisch therapeutische Gesellschaft m.b.H., Dusseldorf, Germany

No Drawing. Filed Aug. 27, 1964, Ser. No. 392,585
Claims priority, application Germany, Sept. 4, 1963, T 24,642
4 Claims. (Cl. 167—88)

Agents for dyeing of human hair which are of the directly fixing type and are applicable at room temperature. The active ingredients are substituted aminobenzenes and can be combined, if desired, with other direct dyes, such as anthraquinone dyes. The dyestuffs preferably are applied in the form of a neutral to slightly alkaline cream which additionally may contain a shampoo, permanent waving agents, perfumes, and mixtures thereof.

3,368,942

WATER SOLUBLE AMINOANTHRAQUINONE HAIR DYES

Wilhelm Jakob Kaiser, Offenbach am Main, and Alfons Sturm and Karl-Josef Boosen, Dusseldorf-Holthausen, Germany, assignors to Therachemie chemisch therapeutische Gesellschaft m.b.H., Dusseldorf, Germany

No Drawing. Filed Aug. 27, 1964, Ser. No. 392,586
Claims priority, application Germany, Sept. 4, 1963, T 24,643
8 Claims. (Cl. 167—88)

Hair dyeing agents applicable at room temperature and resistant to fading. The agents are based on substituted aminoanthraquinones, whereby the substituents render the compounds water-soluble. Methods for the production of the agents are described.

3,368,943

α-ALKOXYISOBUTYRATES AND α-HALO-β-ALKOXYISOVALERATES IN PERFUMES AND CLEANING PRODUCTS

Allan H. Gilbert, 200 Beechwood Road, Oradell, N.J. 07649, and Ronald Ross Winnegrad, 1493 E. Terrace, West Englewood, N.J. 07666

No Drawing. Filed Oct. 20, 1965, Ser. No. 498,990
20 Claims. (Cl. 167—94)

This specification is concerned with certain α-alkoxyisobutyrates and α-halo-β-alkoxyisovalerates which are perfumes and is concerned with products having these perfumes therein.

3,368,944

X-RAY-CONTRAST MEDIUM WITH A DENSITY OF 0.8–1.1

Stig Jöhs Gustav Sandmark, Knut Wicksells Vag 19, Lund, Sweden, and Ernst Helmer Hagstam, Tuborgsgatan 1B, Malmo, Sweden

No Drawing. Continuation-in-part of application Ser. No. 251,760, Jan. 16, 1963. This application Feb. 9, 1965, Ser. No. 431,428
Claims priority, application Sweden, Jan. 23, 1962, 723/62
7 Claims. (Cl. 167—95)

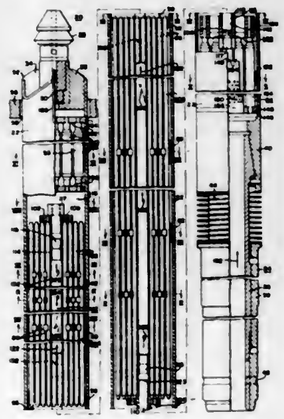
1. An X-ray contrast medium comprising an X-ray absorber comprising a member of the group consisting of barium sulphate, bismuth subcarbonate, thorium oxide and iodine, a particulate, therapeutically acceptable resin foam comprising a member of the group consisting of polystyrenes, polyethylenes and urea resins, water, and at most 1% based on the X-ray contrast medium of a non-toxic thickening agent of the group consisting of thickeners of seaweed origin, vegetable gums and water soluble cellulose esters, the proportions of said components being such that the X-ray contrast medium has a density of 0.8 to 1.1 g./cm³.

3,368,945

FUEL ASSEMBLY FOR A NEUTRONIC REACTOR

Herbert W. Keller, Penn Hills, and Harry N. Andrews, Pitcairn, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 21, 1963, Ser. No. 289,469
19 Claims. (Cl. 176—77)



1. In a nuclear fuel assembly the combination comprising an elongated casing structure, at least two fuel bundle portions spacedly disposed in tandem relationship within said casing structure, each of said bundle portions being formulated from a plurality of elongated fuel elements extending longitudinally of said casing structure in a generally parallel spaced array, at least one but less than all of said fuel elements extending continuously into each of said bundle portions and across the space therebetween, means for joining said one fuel element at one end thereof to an end portion of said casing structure to provide support for said fuel bundle portions, means within said casing structure for resiliently and laterally supporting those end portions of said fuel bundles which are adjacent said space to afford limited lateral movement relative thereto, and means for laterally supporting the other end portions of said fuel bundles substantially rigidly with said casing structure so that uneven heating of said fuel bundles will cause the latter to move away

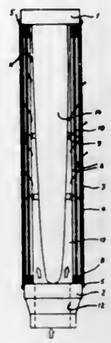
from the hottest portion thereof, and said one fuel element being disposed to permit ready bowing thereof at said space.

3,368,946

FUEL ASSEMBLY

Sverre K. Jenssen, Saltsjobaden, Sweden, assignor to Alfa-Laval AB, Tumba, Sweden, a corporation of Sweden

Filed Feb. 25, 1965, Ser. No. 435,216
Claims priority, application Sweden, Mar. 4, 1964, 2,640/64
6 Claims. (Cl. 176—78)



1. In a nuclear reactor fuel assembly having a plurality of fuel elements spaced from each other and forming an elongated fuel body substantially in the shape of a cylinder, said elements being disposed around an internal channel extending axially of the cylinder and which has at one end an inlet for a cooling agent, the spaces between said elements accommodating flow of cooling agent from said channel to the region outside the cylindrical fuel body, the combination with said fuel elements of a casing in said channel forming a filling member which provides the channel with a throughflow area that decreases gradually from said inlet end toward the other end of the channel, said casing having an inlet for a cooling agent and having perforations forming outlets for flow of cooling agent from the casing into said channel, and means on the casing adjacent said perforations for directing streams of cooling agent from the casing into coaction with cooling agent streams in said channel to effect flow through said spaces in directions having a first component parallel to the longitudinal direction of the fuel body and a second component perpendicular to said longitudinal direction, said second component being smaller than the first component, and the ratio of the magnitudes of said components being substantially constant throughout said spaces.

3,368,947

PROCESS FOR PRODUCING NICOTINAMIDE DINUCLEOTIDE

Kiyoshi Nakayama, Sagamihara-shi, and Haruo Tanaka, Tokyo, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Apr. 9, 1965, Ser. No. 447,101
Claims priority, application Japan, Apr. 11, 1964, 39/20,292
14 Claims. (Cl. 195—28)

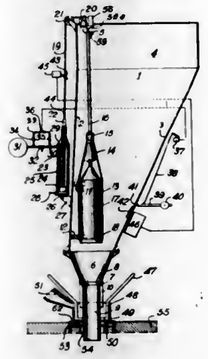
A process for producing nicotinamide dinucleotide by fermentation which comprises culturing the microorganism *Brevibacterium ammoniagenes* in an aqueous nutrient medium under aerobic conditions in the presence of nicotinic acid, nicotinic acid amide, a mixture of nicotinic acid with nicotinic acid amide, adenine and/or a derivative of adenine, such as adenine riboside or adenine ribotide, or a mixture of nicotinic acid amide with adenine and/or a derivative of adenine, accumulating the resultant nicotinamide dinucleotide therein, and recovering the same from the fermentation medium.

3,368,948

APPARATUS FOR CHARGING COKE OVENS

Maurice Germain Jacques Meunier, Pont-a-Vendin, Joachim Humez, Wingles, and Georges Emile Henri Saison, Lillers, France, assignors to Houilleres du Bassin du Nord et du Pas-de-Calais, Douai, Nord, and Societe Industrielle de Lillers, Paris, France

Filed Apr. 28, 1964, Ser. No. 363,211
Claims priority, application France, May 6, 1963, 933,787, Patent 1,364,035
13 Claims. (Cl. 202—262)



The present invention relates to a coke oven chamber charging apparatus, having at least one hopper having distributing means of its coal charge said hopper being movably mounted over juxtaposed chambers on the upper paving of said cake oven, whereby successively charging said chambers when at least a charging hole is aligned with said distributing means, wherein are present in combination, a hopper, an internally disposed tubular protector inside said hopper, a tubular obturator slidably mounted within said protector, obturator having a lip, a guide at the base of said hopper, said guide being inside the contact line of said lip on said base when said obturator is in obturating position, a slidable telescopic tubular distributor in said guide, adapted for penetrating a charging hole when lowered and for being retracted inside said obturator when raised, means for moving said obturator, and means for moving said telescopic distributor.

3,368,949

PROCESS FOR ELECTROFORMING INLAID CIRCUITS

Jacob T. George, Baltimore, Md., assignor to The Bendix Corporation, Baltimore, Md., a corporation of Delaware

Filed June 10, 1963, Ser. No. 286,659
5 Claims. (Cl. 204—3)

A process for making electrical circuits inlaid into plastic backing boards. A master nickel plate has one side coated with a photoresist and subjected to light through a mask, whereby a latent image of the desired circuit pattern is produced in the photoresist. After the photoresist is developed to expose on the master plate the desired circuit pattern, the master plate is exposed to an

oxidizing environment whereby a thin oxide film is produced on the exposed surface of the plate. An electroformed layer is then deposited on the exposed surface of the master plate. This electroformed layer, which is in the form of the desired circuit pattern, is then transferred to a plastic backing plate by sandwiching an adhesive between the master plate and the plastic backing plate, allowing the adhesive to cure, and then separating the backing plate from the master plate. The hardened photoresist, representing the spaces between the circuit tracks, having remained on the master plate, effectively prevents the adhesive from coming into contact with the nickel surface of the backing plate, thereby facilitating removal of the plastic backing plate with its inlaid circuit from the master plate.

3,368,950
METHODS FOR ELECTRODEPOSITION ON THIN CONDUCTIVE FILMS

Duane G. Levine, Colonia, N.J., Morton Beltzer, New York, N.Y., and Barry L. Tarmy, Berkeley Heights, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Nov. 27, 1962, Ser. No. 240,243
4 Claims. (Cl. 204—27)



1. A process for electrodepositing a uniform coating of more noble metal onto a thin sheet of electroconductive less noble metal having a thickness in the range of about 0.01 to about 20 microns to form an electrode, which comprises attaching a continuous current collector to the said sheet in electrical contact with said thin metal sheet around substantially the entire periphery thereof, connecting said current collector through a direct current supply source to an anode in contact with a bath of a solution of a salt of the said more noble metal, immersing the said thin sheet of less noble metal and the accompanying current collector into said bath so that current flows through the said bath to said anode immediately on contact of the sheet and current collector with the bath, maintaining the sheet in the bath until a coating of the more noble metal of the desired thickness has formed thereon.

3,368,951
METAL PLATING PROCESS AND ARTICLE MADE THEREBY

Milton C. Otto, Indianapolis, Ind., assignor to Union Carbide Corporation, a corporation of New York

Filed Feb. 17, 1964, Ser. No. 345,510
9 Claims. (Cl. 204—32)

3. A method for plating nickel on metals taken from the class consisting of thorium and zirconium comprising cleaning said metal; immersing the clean metal into a nickel plating bath which is an aqueous solution consisting essentially of from about 20 to about 50 grams per liter nickel sulfate; from about 6 to about 12 grams per liter zirconium sulfate; from about 10 to about 30 grams per liter sodium hypophosphate; from about 10 to about 30 grams per liter sodium acetate; from about 10 to about 30 grams per liter sodium citrate, maintaining the temperature of said bath between about 85° and 100° C.; applying a D.C. voltage of from about 1 to 50 volts for about 1 to 5 seconds between the immersed metal acting as a cathode and an anode to initiate the chemical reaction whereby nickel is coated on the metal cathode.

3,368,952
ALLOY FOR CATHODIC PROTECTION GALVANIC ANODE

Michael J. Pryor and Douglas S. Keir, Hamden, and Philip R. Sperry, North Haven, Conn., assignors to Olin Mathieson Chemical Corporation

No Drawing. Application Jan. 14, 1963, Ser. No. 251,024, now Patent No. 3,189,486, dated June 15, 1965, which is a continuation-in-part of applications Ser. No. 60,166, Oct. 3, 1960, and Ser. No. 171,114, Feb. 5, 1962. Divided and this application May 18, 1964, Ser. No. 374,869
5 Claims. (Cl. 204—148)

3. The method of cathodically protecting a ferrous metal structure in contact with a medium corrosive thereto which comprises: connecting to said metal structure an aluminous sacrificial anode and immersing said anode in said corrosive medium, said anode being an aluminum base alloy consisting essentially of between 0.04 and 0.5 percent tin with the tin being retained in solid solution to the maximum degree, said maximum degree being 0.1 percent, balance essentially aluminum.

3,368,953
PHOTOCHEMICAL METHOD OF PREPARING 4-HALO-N-ACYLAMIDES

Robert C. Petterson, New Orleans, La., assignor to Research Corporation, New York, N.Y., a nonprofit corporation of New York

No Drawing. Filed Mar. 31, 1965, Ser. No. 444,420
4 Claims. (Cl. 204—158)

1. A method of making 4-halo-N-acylamides of alkanoic acids containing at least four carbon atoms in the aliphatic chain bearing the acylamide group which comprises irradiating the corresponding N-halo-N-acylamide with actinic light.

3,368,954
PROCESSES FOR PRODUCING NEW POLYSACCHARIDE-LIKE SUBSTANCES

Tadayuki Goda, 16, 2-chome Akasaka Aoyamaminamicho, Minato-ku, Tokyo, Japan

Filed Jan. 3, 1964, Ser. No. 335,640
5 Claims. (Cl. 204—160.1)

A process for producing a new polysaccharide-like substance which comprises irradiating with specific, yet different, ray wavelengths successively a mixture of carbon dioxide, water and aluminum silicate while circulating said mixture through a highly purified quartz tube.

3,368,955
RADIOCHEMICAL SYNTHESIS OF CYCLOALKANOLS AND CYCLOALKANONES

Alfred J. Restaino, Trenton, N.J., and Robert F. Hornbeck, Livermore, Calif., assignors to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 18, 1962, Ser. No. 224,521
3 Claims. (Cl. 204—162)

1. A radiochemical process for preparing cycloalkanols and cycloalkanones which comprises subjecting an unsubstituted cycloalkane having from 5 to 7 carbon atoms per molecule, nitric oxide and chlorine to high energy, ionizing radiation sufficient to deliver a total radiation dosage ranging from about 5×10^4 rads to about 20×10^6 rads.

3,368,956
SYNTHESIS OF AMMONIA FROM NITROGEN AND HYDROGEN

George C. Yeh, Willistown Township, Chester County, Pa. (Smedley Drive, R.D. 1, Newtown Square, Pa. 19073)

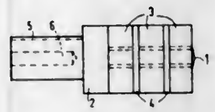
No Drawing. Continuation-in-part of application Ser. No. 413,312, Nov. 23, 1964. This application June 14, 1967, Ser. No. 646,427
The portion of the term of the patent subsequent to Sept. 26, 1984, has been disclaimed
4 Claims. (Cl. 204—177)

A process involving impressing an electrostatic charge on a catalyst and passing nitrogen and hydrogen in contact with the catalyst to produce ammonia.

3,368,957
SILVER-SILVER CHLORIDE ELECTRODE OF HIGH CURRENT-CARRYING CAPACITY FOR VOLTAGE MEASUREMENT IN A SYSTEM PROVIDING CATHODIC PROTECTION AGAINST CORROSION

Emil Walther, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed July 1, 1965, Ser. No. 468,802
Claims priority, application Germany, July 2, 1964, S 91,835
6 Claims. (Cl. 204—195)



1. Electrode of high current-carrying capacity for measuring voltage in a system providing cathodic protection against corrosion, comprising a plurality of lamellae alternately consisting of silver and silver chloride respectively, said lamellae being mechanically fixed to one another, and a silver base member in engagement with said plurality of lamellae, said base member being electrically connected to said silver lamellae.

3,368,958
ALUMINUM ALLOY FOR CATHODIC PROTECTION SYSTEM AND PRIMARY BATTERY

Michael J. Pryor and Douglas S. Keir, Hamden, and Philip R. Sperry, North Haven, Conn., assignors to Olin Mathieson Chemical Corporation

No Drawing. Continuation-in-part of applications Ser. No. 60,166, Oct. 3, 1960, Ser. No. 171,114, Feb. 5, 1962, and Ser. No. 313,445, Oct. 3, 1963. This application Mar. 30, 1965, Ser. No. 444,071
12 Claims. (Cl. 204—148)

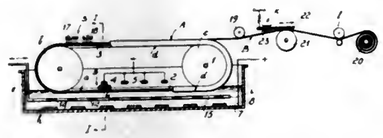
An aluminum alloy advantageously utilized as sacrificial anode in cathodic protection and as anode in a primary battery, said alloy consisting essentially of between 0.001 and 0.1% boron, with the tin being retained in solid solution to the maximum degree, said maximum degree being 0.1% balance essentially aluminum.

3,368,959
APPARATUS FOR PRODUCING AN ENDLESS SHEET OF ELECTROLYTIC COPPER

Antonio Pedone, 10 Vivaio St., Milan, Italy

Filed Nov. 18, 1963, Ser. No. 324,574
2 Claims. (Cl. 204—202)

This invention relates to an apparatus for continuously producing a strip of electrolytic copper, including an electrolyte tank, a travelling endless belt conveyor-like cathode having an upper and a lower substantially horizontal strands and an external surface of the lower strand immersed in the electrolyte for continuously depositing thereon copper by electrolysis as said surface is moved in immersed condition along said tank and an inner surface opposite to said external surface, means to move said

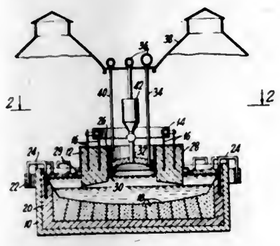


belt conveyor-like cathode, anodes disposed in said tank in proximity of said immersed external surface, means for continuously stripping the deposited copper in the form of band from said belt conveyor-like cathode.

3,368,960
ALUMINA REDUCTION CELL

Mathias Övrom Sem, Smestad, Oslo, Norway, assignor to Elektrokemisk A/S, Oslo, Norway, a corporation of Norway

Filed June 29, 1962, Ser. No. 210,289
Claims priority, application Norway, July 4, 1961, 140,757; Oct. 21, 1961, 141,868
6 Claims. (Cl. 204—247)



1. An electric furnace for the production of aluminum by melt electrolysis which comprises a furnace pot having a continuous Soderberg anode therein, said anode being positioned in the space between an exterior permanent annular casing and an interior permanent annular casing and an interior permanent annular casing whereby said anode is correspondingly shaped into an annular configuration having a hollow center coextensive with the longitudinal anode axis, said anode sliding down through said space during operation of the furnace, a roof positioned within said hollow center substantially below the upper edge of said anode, said roof being surrounded by and in sealed contact about its entire periphery with said interior permanent annular casing, said roof thereby providing a gastight cover over that portion of the space of said hollow center extending below the position of said roof.

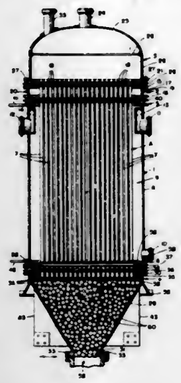
3,368,961
ELECTROCHEMICAL CELL

James E. Laubach, Lake Jackson, Tex., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

Filed Apr. 20, 1964, Ser. No. 361,039
8 Claims. (Cl. 204—269)

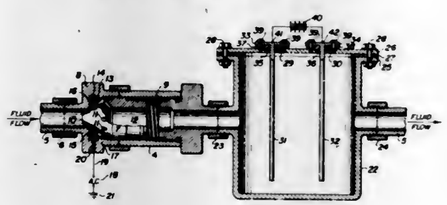
An electrochemical cell having a plurality of tubular electrodes between aligned apertures in end plates at opposite ends and having hollow end closure members at opposite ends, said tubular electrodes comprising a sacrificial anode material which can be introduced into one

of said hollow end members and is supported in the other, is provided with flanged tubular insulating sleeves that



extend into the hollow portion of said last named end closure member, thereby preventing short circuiting.

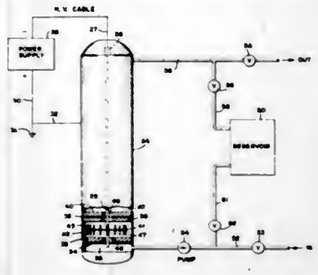
3,368,962
APPARATUS FOR DECONTAMINATING HYDRAULIC SYSTEMS
Irvin R. Kramer, Baltimore, Md., assignor to Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland
Filed Apr. 30, 1962, Ser. No. 191,122
9 Claims. (Cl. 204—299)



1. In a hydraulic system utilizing a dielectric fluid, the improvement comprising:
an electrically conductive valve body connected in said system;
means for electrically insulating said valve body from the other elements of said system; and
means for impressing an electrical potential on said valve body whereby any foreign particles in said fluid having an electrical charge of the same polarity to that impressed on said valve body will be repelled away from said valve body.

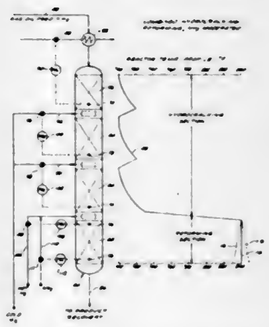
3,368,963
APPARATUS FOR REMOVING CONTAMINANTS FROM HIGH-RESISTIVITY FLUIDS
Herbert J. Hall, Skillman, N.J., assignor to Research-Cottrell, Inc., Bridgewater Township, N.J., a corporation of New Jersey
Continuation-in-part of application Ser. No. 369,689, May 25, 1964. This application Oct. 6, 1964, Ser. No. 405,004
4 Claims. (Cl. 204—302)

Single or series-arranged units for removing and collecting particulate and liquid contaminants from high resistivity fluids such as oils, fuels or solvents utilize high voltage divergent electrostatic fields which effect a plurality of closely spaced electrostatic discharges into a continuous fluid flow. The contaminants acquire a charge and are impelled from the fluid and embedded in a replaceable porous non-conducting matrix located adjacent the flow path, where they are held by entrapment in the pores and by pressure of the electrostatic field. The highly divergent



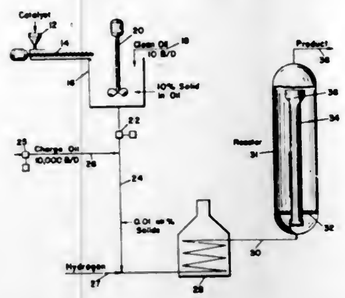
field produced by a plurality of pointed discharge electrodes provides turbulent mixing of the fluid, and the synergistic combination of fluid turbulence and electrical field forces effects optimum contaminant removal.

3,368,964
CATALYTIC HYDROCARBON CONVERSION PROCESS
Norman C. Ch'in and Robert H. Hass, Fullerton, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Sept. 27, 1965, Ser. No. 490,225
10 Claims. (Cl. 208—60)



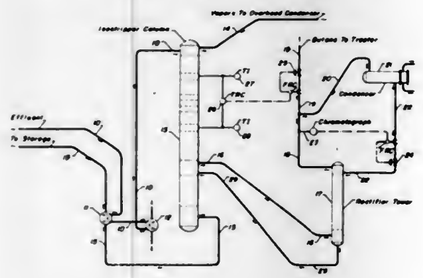
6. A combined hydrocracking-reforming process for converting a gas oil feedstock to a high-octane, aromatic gasoline product, which comprises passing said feedstock in admixture with hydrogen through an elongated conversion zone in contact with a hydrocracking catalyst at a pressure above about 500 p.s.i.g., maintaining in an upstream portion of said conversion zone hydrocracking temperatures between about 400° and 750° F., such that substantial exothermic hydrocracking takes place, maintaining in a downstream portion of said conversion zone a relatively higher average temperature, between about 800° and 1,000° F., such that substantial reforming takes place, and continuously adding ammonia to the reactant stream in said conversion zone at one or more points between said upstream and downstream portions without significant thermal quenching so as to decrease the net exothermicity of the reaction in said downstream portion, said hydrocracking catalyst comprising a Group VI–B and/or Group VIII metal hydrogenating component deposited upon a refractory solid cracking base having a cracking activity in excess of that corresponding to a Cat-A activity index of about 40.

3,368,965
TWO STAGE SLURRYING
Seymour C. Schuman, Princeton, N.J., assignor to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey
Continuation-in-part of application Ser. No. 277,283, May 1, 1963. This application Aug. 4, 1965, Ser. No. 480,241
3 Claims. (Cl. 208—143)



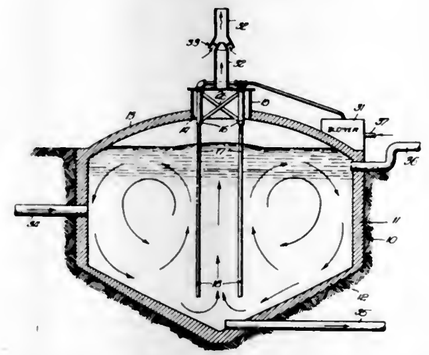
Pretreatment of hydrogenation catalyst by wetting with a clean oil having lower Ramsbottom carbon residue, low inorganic content and low aromaticity prior to slurrying with the feed oil to prevent excessive catalyst poisoning from the initial contact with the feed.

3,368,966
CONTROL OF ISOBUTANE FRACTIONATING COLUMN
William B. Borst, Jr., and Charles E. Wood, Mount Prospect, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Dec. 27, 1966, Ser. No. 604,883
5 Claims. (Cl. 208—351)



1. Method for separating a hydrocarbon feed mixture containing C_3 hydrocarbons, isobutane, n-butane, and alkylate by fractionation means comprising
(a) introducing said feed mixture into the upper section of a multiple-deck fractionating column operating under fractionation conditions;
(b) removing an overhead stream comprising C_3 hydrocarbons and isobutane;
(c) removing a sidecut stream comprising n-butane;
(d) removing a bottoms stream comprising alkylate containing sufficient n-butane to produce a predetermined vapor pressure alkylate;
(e) measuring a temperature difference in said column between an upper deck level having liquid thereon containing less than 0.1% molar C_3 hydrocarbon and a lower deck level having liquid thereon comprising a molar ratio of isobutane to n-butane of less than 2.0 and greater than 0.5;
(f) passing said sidecut stream into a sidecut stripper column under conditions sufficient to produce an overhead vapor stream comprising n-butane and a bottoms stream comprising hydrocarbons boiling higher than n-butane;
(g) analyzing said stripper overhead vapor stream for hydrocarbons boiling higher than n-butane;
(h) condensing a portion of said stripper overhead vapor stream and returning the resulting liquid fraction to said stripper as reflux thereon at a rate responsive to said measured composition of Step (g); and,
(i) returning said bottoms stream from Step (f) to said fractionating column at a locus lower than the drawoff deck level for said sidecut stream of Step (c).

3,368,967
PROCESS FOR TREATMENT OF SLUDGE AND APPARATUS THEREFOR
Thomas O. Weaver, Rochelle, and Arden P. Cornell, Genoa, Ill., assignors to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Oct. 19, 1965, Ser. No. 497,639
11 Claims. (Cl. 210—12)

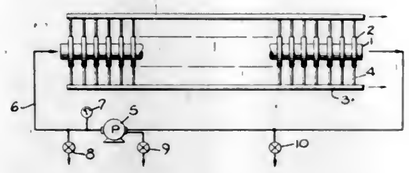


The present invention is directed to a process and apparatus for treatment of sludge wherein compressed air is supplied to the bottom region of a vented thermal insulated treatment vessel containing sludge, the temperature of the sludge is maintained within a range of from about 70° F. to about 140° F. and the supply of compressed air is controlled so that the compressed air is contained in the vessel in quantities sufficient to suppress anaerobic digestion and the production of methane gas but insufficient to support aerobic digestion. In one embodiment heat conductor tubes are submerged in the sludge and compressed air is passed through the tubes. As it travels to the bottom of the vessel, the heat from the compressed air is transferred through the tubes to the sludge.

3,368,968
METHOD FOR THE DESALINIZATION OF WATER
Simon L. Ruskin, deceased, late of New York, N.Y., by Dan B. Ruskin, Miami Beach, Fla., and Milton Reder and Carol Farhi, New York, N.Y., executors, assignors to American Machine & Foundry Company, a corporation of New Jersey
Original application Nov. 20, 1957, Ser. No. 697,519, now Patent No. 3,197,402, dated July 27, 1965. Divided and this application Mar. 3, 1965, Ser. No. 439,516
3 Claims. (Cl. 210—42)

A method for effecting the desalinization of water and the like containing dissolved salt comprising the steps of

passing the liquid through an elongated path in a strong magnetic field to cause the impurities to be propelled outward from the main stream to the periphery of said



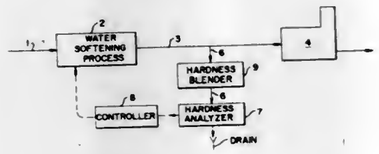
path substantially to decrease the concentration of said salt in said main stream and collecting the purified liquid from the main stream.

3,368,969

METHOD OF MONITORING AND CONTROLLING WATER HARDNESS

Clifford T. Palen, Fullerton, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed June 25, 1965, Ser. No. 466,998
4 Claims. (Cl. 210—58)



1. In a method for determining the residual hardness of a sample of water which has been softened by blending with an alkali metal salt of ethylenediaminetetraacetic acid, wherein the known volume sample of the softened water is blended with a known volume of a color reagent and the resulting color of the blend measured is an indication of the residual hardness, the improvement comprising:

adding a predetermined quantity of water hardness to the water sample prior to the measurement, whereby a hardness measurement above the added amount of hardness indicates the residual hardness of the water and a hardness measurement below the added amount indicates an excess of the alkali metal salt of ethylenediaminetetraacetic acid.

3,368,970

LUBRICATING COMPOSITION AND METHOD

Herbert Grunze and Ingrid Grunze, Berlin-Friedrichshagen, Germany, assignors to Deutsche Akademie der Wissenschaften zu Berlin, Berlin-Adlershof, Germany

No Drawing. Filed Jan. 9, 1967, Ser. No. 607,901
11 Claims. (Cl. 252—25)

A lubricating composition for lubricating ductile metals during deformation of the same in contact with a solid deforming member, consisting essentially of ortho and/or condensed phosphates of alkali metals intimately mixed with a metal oxide, which metal oxide is either a trivalent metal oxide or a mixture of bivalent and trivalent metal oxides, wherein the molar proportion of the bivalent metal oxides is at most twice that of the trivalent metal oxides.

3,368,971

LUBRICATING OIL COMPOSITIONS

James B. Retzloff, Royal Oak, and Richard G. Abowd, Jr., Farmington, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Nov. 22, 1965, Ser. No. 509,156
6 Claims. (Cl. 252—33.4)

Increased corrosion resistance is imparted to lubricating oils by the addition of a mixture of (1) the reaction product of an alkenyl succinic anhydride with diethanolamine, and (2) an oil-soluble calcium compound such as calcium phenates or calcium sulfonates.

3,368,972

HIGH MOLECULAR WEIGHT MANNICH BASES AS ENGINE OIL ADDITIVES

Ferdinand P. Otto, Woodbury, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Jan. 6, 1965, Ser. No. 423,866
7 Claims. (Cl. 252—47.5)

1. An improved lubricating oil comprising said lubricating oil and 0.05 to 25% by weight of said lubricating oil of a condensation product of (1) a high molecular weight alkyl-substituted hydroxyaromatic compound wherein said alkyl substituent has a molecular weight of 600–3000, (2) an amine, which contains an HN< group, and (3) an aldehyde wherein the respective molar ratio of reactants is 1:0.1–10:0.1–10.

5. The lubricating oil of claim 1 wherein the alkyl-substituted hydroxyaromatic compound is selected from the group consisting of an alkyl-substituted phenol and an alkyl-substituted phenol sulfide.

3,368,973

EXTREME PRESSURE LUBRICANTS

Carl E. Johnson, Glen Ellyn, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed May 11, 1965, Ser. No. 454,965
6 Claims. (Cl. 252—49.8)

The instant invention pertains to the use of the reaction product of phosphorous acid and lanolin as a primary component for an extreme pressure lubricant.

3,368,974

PYRENYL COMPOUNDS AND USE THEREOF

Allen K. Sparks, Des Plaines, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 422,402, Dec. 30, 1964. This application May 16, 1967, Ser. No. 638,715
12 Claims. (Cl. 252—50)

Novel pyrenyl compounds of the formula:

$$R-\underset{\displaystyle R''}{\overset{|}{C}}=N-R'$$

where R and R′ are pyrenyl or non-pyrenyl aryl with at least one thereof being pyrenyl, and R″ is selected from hydrogen and hydrocarbyl. These compounds are particularly useful as additives to organic substances which deteriorate due to oxidation and/or ultraviolet absorption.

3,368,975

ANTIOXIDANTS

Thomas G. Davis and John W. Thompson, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 2, 1966, Ser. No. 554,673
8 Claims. (Cl. 252—51.5)

N-(C_1–C_{14} alkyl)-p,p′-dioctyl-diphenylamines as antioxidants for lubricating oils, especially synthetic lubricants such as jet lubricants.

3,368,976

INSULATING COMPOSITIONS CONTAINING HEAT TEMPERED ESSENTIALLY MONTMORILLONITE-FREE KAOLIN

Robert F. Conley, Elizabeth, N.J., assignor to Georgia Kaolin Company, Elizabeth, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 373,832, June 9, 1964. This application Feb. 18, 1966, Ser. No. 528,407
2 Claims. (Cl. 252—63.5)

1. An electrical insulating composition of low dielectric constant, low dissipation factor, and involving low abrasiveness, consisting essentially of an insulating synthetic organic resin compound and an amount of 1% to 80%, by weight, of a powdered kaolin containing less than about 1%, by weight based on the kaolin, of montmorillonite, and which has been heat-tempered at about 700° C. to about 800° C., air annealed, and processed in the absence of water with or without slurrying chemicals.

3,368,977

BUILT LIQUID DETERGENT COMPOSITIONS

Melvin E. Tuvell, St. Ann, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Mar. 23, 1965, Ser. No. 442,163
20 Claims. (Cl. 252—137)

1. A liquid detergent composition consisting essentially of, on a 100 parts by weight basis (a) from about 8 parts by weight to about 40 parts by weight of a water-soluble, dihydroxyl alcohol-soluble, anionic detersive surfactant, said surfactant containing a cationic radical of the general formula

$$N(H)_n(R)_m$$

wherein n is an integer of from 1 to 4, m is an integer of from 0 to 3, $n+m$ equals 4, R is an alkanol radical and said cationic radical contains at most about 10 carbon atoms and said surfactant is selected from the group consisting of detersive alkyl aryl sulfonates, detersive alkyl sulfate, detersive alkyl phenol polyoxyethylene ether sulfates, detersive dialkyl sulfosuccinates and mixtures thereof; (b) from about 5 parts by weight to about 20 parts by weight of a dihydroxy substituted saturated hydrocarbon containing from 5 to 10 carbon atoms and (c) from about 20 parts by weight to about 80 parts by weight of a sodium polyphosphate selected from the group consisting of sodium tripolyphosphate, tetrasodium pyrophosphate and mixtures thereof, said sodium polyphosphate having a maximum particle size of about 5 microns and an average particle size of at most about 3 microns; the weight ratio of said anionic detersive surfactant to said sodium polyphosphate in said liquid detergent composition being from about 2:1 to about 1:10.

3,368,978

BUILDER COMPOSITIONS AND DETERGENT COMPOSITIONS USING SAME

Riyad R. Irani, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 28, 1964, Ser. No. 421,603
19 Claims. (Cl. 252—137)

A heavy duty detergent composition consisting essentially of a surface active agent selected from the group consisting of anionic, nonionic, and amphoteric synthetic detergents and mixtures thereof and, as a builder, a composition consisting essentially of (a) from about 3% by weight to about 16% by weight of certain organic sequestering agents, (b) from about 30% by weight to about 80% by weight of sodium tripolyphosphate, and (c) from about 15% by weight to about 55% by weight of an alkali metal salt, said percents by weight being based upon the total weight of the builder composition; the weight ratio of the surface active agent to the builder composition in the detergent composition being from about 2:3 to about 1:5.

3,368,979

NUCLEAR FUEL COMPOSITION FOR MULTIPLICATION DETERMINATION IN REACTORS AND DRIVING SUBCRITICAL LATTICES

Maurice A. Robkin, Castro Valley, and Charles R. Porter, Livermore, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed May 3, 1967, Ser. No. 637,042
2 Claims. (Cl. 252—301.1)

A nuclear fuel composition for improving neutron flux levels and neutron multiplication in a nuclear reactor by uniformly distributing small amounts of californium–252 throughout the fissile fuel material.

3,368,980

METHOD OF PREPARING YTTRIUM OXIDE PHOSPHORS

Frank J. Avella, Flushing, and Frank C. Palilla, Maspeth, N.Y., assignors to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware

No Drawing. Filed Dec. 24, 1964, Ser. No. 421,082
13 Claims. (Cl. 252—301.4)

A method of preparing europium-activated yttrium oxide phosphor having a particle size suitable for dusting on cathode ray tube screens. The method includes the step of blending the yttrium and europium oxides with an alkaline earth halide flux. Other rare-earth activated yttrium oxide phosphor compositions having particles of predetermined size may also be prepared by this method.

3,368,981

UTILIZATION OF SUPERACTIVE CATALYTIC MATERIALS

Charles J. Plank, Woodbury, and Edward J. Rosinski, Deptford, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed July 2, 1965, Ser. No. 469,320
4 Claims. (Cl. 252—455)

1. That method for increasing the activity of a hydrocarbon cracking catalyst of moderate activity which consists of:

providing discrete particles of said catalyst of moderate activity

and producing upon the surfaces of said discrete particles an adherent coating of superactive crystalline aluminosilicate catalytic material by

admixing with the discrete particles dry powdered superactive crystalline aluminosilicate catalytic material and dry powdered binder material, both of which are of average sizes substantially less than about 40 microns and also substantially less than that of the discrete particles,

and tumbling the dry mixture at elevated temperatures of from about 800° F. to about 1300° F.

3,368,982

NICKEL AND NICKEL OXIDE CATALYSTS ON A NICKEL SPINEL BASE

Charles Gordon Milbourne, Lansdowne, Pa., assignor to United Engineers & Constructors Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Mar. 9, 1964, Ser. No. 350,520
7 Claims. (Cl. 252—466)

A nickel-impregnated alumina body is heated to a temperature of at least 1900° F. in an oxygen-containing atmosphere until at least the surfaces of the alumina particles in the outer periphery of the body have been converted to nickel spinel, and the resulting body is hereafter impregnated with nickel salt which is decomposed to pro-

vide, on the nickel spinel, a film of catalytically active nickel or nickel oxide. In the resulting catalyst body, the outer periphery consists essentially of particles at least the surfaces of which consist of nickel spinel, said particles additionally having thereon a film of catalytically active nickel or nickel oxide. The catalyst is primarily useful in cyclic processes employing massive, stationary catalyst zones subjected to high temperatures and oxygen-containing gas.

3,368,983
CYCLOPENTYL EPOXIDES AND RESINOUS COMPOSITIONS

Samuel W. Tinsley, South Charleston, and Paul S. Starcher, Charleston, W. Va., and Paul A. King, Warwick, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 54,579, Sept. 8, 1960. This application Apr. 19, 1963, Ser. No. 274,298

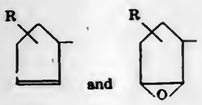
11 Claims. (Cl. 260—2)

1. An epoxide compound containing a plurality of joined radicals from the group consisting of cyclopentyl and cyclopentenyl, at least one of said radicals is cyclopentyl possessing an oxirane group as part thereof.

3. An epoxide compound of the formula:

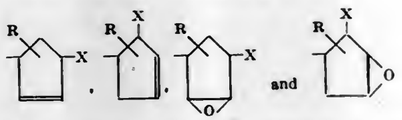
A—B

wherein A is a radical from the class consisting of

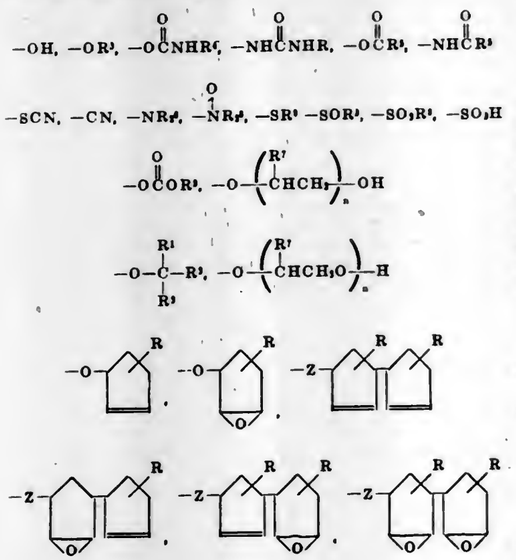


and

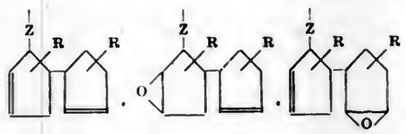
B is a radical from the class consisting of



each R is a member of the group consisting of hydrogen and alkyl of from 1 to 12 carbon atoms; X is a radical from the class consisting of



and



wherein Z is from the class consisting of oxygen, sulfur, sulfoxide and sulfone; R^1 is a member from the group consisting of alkenyl radicals of from 2 to 12 carbon atoms and vicinal epoxyalkyl of from 2 to 12 carbon atoms; R^2 is from the group consisting of hydrogen, alkyl of from 1 to 12 carbon atoms, alkenyl of from 2 to 12 carbon atoms and vicinal epoxyalkyl of from 2 to 12 carbon atoms; R^3 is from the group consisting of aryl and alkaryl; R^4 is an alkyl group of from 1 to 12 carbon atoms; R^5 is a radical from the class consisting of alkyl of from 1 to 12 carbon atoms, alkenyl of from 2 to 12 carbon atoms, vicinal epoxyalkyl of from 2 to 12 carbon atoms, aryl and alkaryl; R^6 is from the class consisting of R^5 and hydrogen; R^7 is from the class consisting of hydrogen and methyl; and n is an integer of from 1 to 6; said epoxide compound containing at least one vicinal epoxy group therein.

8. A resinous composition comprising a polymeric composition of an epoxide compound of claim 3 and a catalyst from the group consisting of acidic and basic compounds capable of opening a vicinal epoxy radical of said compound at the site of a carbon to oxygen bond.

3,368,984
PROCESS FOR THE PRODUCTION OF POLYACETAL FROM TERMINAL DIOLEFIN DIOXIDES AND PRODUCT

Friedrich August Fries, Marl, Germany, assignor to Chemische Werke Huls Aktiengesellschaft, Marl, Kreis Recklinghausen, Germany, a corporation of Germany

No Drawing. Filed May 6, 1964, Ser. No. 365,480
Claims priority, application Germany, Oct. 2, 1963, C 31,028
7 Claims. (Cl. 260—2)

Polyacetals are formed by reacting terminal diolefin dioxides such as those obtainable by epoxidation of terminal diolefins such as 1,2;5,6-diepoxyhexane, 1,2;5,6-diepoxy-2,5-dimethylhexane and 1,4-dimethylenecyclohexane dioxide with an acid agent such as sulfuric acid, phosphoric acid, zinc chloride, iron chloride and borotrifluoride, preferably in the presence of an inert solvent at a temperature within the range from −10° to +40° C. The polyacetals are characterized by adhesiveness to smooth glass plates and polished metals and their solutions may be used to form transparent films.

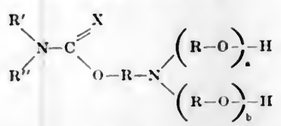
3,368,985
POLYURETHANES PRODUCED FROM HYDROXYL-TERMINATED CARBAMATES

Marco Wismer, Gibsonia, James F. Foote, Sarver, and Paul R. Mosso, Natrona Heights, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

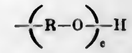
No Drawing. Filed Mar. 19, 1965, Ser. No. 441,289
5 Claims. (Cl. 260—2.5)

1. A polyurethane resin prepared from reactants consisting essentially of:

(a) an organic polyisocyanate, and
(b) a carbamate of the structure

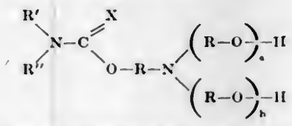


wherein X is selected from the class consisting of oxygen and sulfur, each R is a 1,2-alkylene radical containing from 2 to 10 carbon atoms, R′ and R″ are selected from the class consisting of hydrogen atoms, alkyl radicals, aryl radicals, alkylphenyl radicals, and

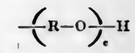


groups, where R, R′ and R″ may be the same or different, and a, b, and c represent a number from 0 to 10, and $a+b+c$ is from 1 to 10.

2. A cellular polyurethane resin prepared from reactants consisting essentially of:
(a) an organic polyisocyanate, and
(b) a carbamate of the structure



wherein X is selected from the class consisting of oxygen and sulfur, each R is a 1,2-alkylene radical containing from 2 to 10 carbon atoms, R′ and R″ are selected from the class consisting of hydrogen atoms, alkyl radicals, aryl radicals, alkylphenyl radicals, and



groups, where R, R′ and R″ may be the same or different, and a, b, and c represent a number from 0 to 10, and $a+b+c$ is from 1 to 10,
in the presence of a blowing agent.

3,368,986
CARBONYL-CONTAINING EPOXIDES

Carl G. Schwarzer, Walnut Creek, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 10, 1965, Ser. No. 454,706
7 Claims. (Cl. 260—2.5)

Preparation of novel epoxides by condensing a phenol with an unsaturated carbonyl compound under basic conditions and subsequently reacting said condensates with an epoxy-halo-substituted alkane.

3,368,987
STARCH COMPOSITION MODIFIED WITH HALF AMIDE/HALF SALT STYRENE MALEIC ANHYDRIDE COPOLYMERS

Kenneth A. Pollart, Kirkwood, and August F. Ottinger, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 345,117, Feb. 17, 1964. This application Jan. 4, 1965, Ser. No. 423,344
17 Claims. (Cl. 260—17.4)

This invention relates to compositions comprising starch and half-amide/half salt styrene-maleic anhydride copolymers having molecular weights of from about 2,000 to about 10,000.

3,368,988
SOLVENT-SOLUBLE, NON-GELLED INTERPOLYMER COMPRISING RESINOUS HYDROXY-TERMINATED POLYETHYLENICALLY UNSATURATED POLYURETHANE

Kazys Sekmakas, Chicago, Ill., assignor to De Soto, Inc., a corporation of Delaware

No Drawing. Filed Apr. 9, 1963, Ser. No. 271,603
26 Claims. (Cl. 260—21)

1. A solvent-soluble, heat-hardening, non-gelled interpolymer comprising: (A) an amide of an ethylenically unsaturated carboxylic acid; and (B) resinous hydroxy-terminated polyethylenically unsaturated polyurethane; said interpolymer having amido hydrogen atoms replaced by the structure:



in which R is selected from the group consisting of hydrogen, furyl, and aromatic and saturated lower aliphatic hydrocarbon radicals containing up to 10 carbon atoms, and R_1 is selected from the group consisting of hydrogen and the etherification residue of aliphatic alcohol containing up to 10 carbon atoms.

3,368,989
IMAGE TRANSFER COMPOSITIONS COMPRISING ETHYLENE-VINYL ACETATE OR ETHYLENE-ETHYL ACRYLATE COPOLYMER, WAX AND INCOMPATIBLE PLASTICIZER

Robert R. Wissinger, Des Moines, and Gerry H. Ehrhardt, West Des Moines, Iowa, assignors to Pacific Industries Inc., San Francisco, Calif., a corporation of California

Continuation-in-part of applications Ser. No. 292,392, July 2, 1963, and Ser. No. 307,615, Sept. 9, 1963. This application Oct. 27, 1966, Ser. No. 590,024
16 Claims. (Cl. 260—23)

An improved pressure sensitive transfer media constituted by a carrier substrate having a transfer coating formed of a relatively small amount of a high molecular weight copolymer of ethylene and a mono-ethylenically unsaturated monomer, selected from the group consisting of vinyl acetate and ethyl acrylate in a wax base in association with a pigment and an incompatible plasticizer.

3,368,990
ACRYLIC LACQUERS COMPRISING CARBON BLACK, ORGANIC COPPER COMPOUND AND AROMATIC DIAMINE

Philip H. Goulston, Peabody, Mass., assignor to Cabot Corporation, Boston, Mass., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 475,008, July 26, 1965, which is a continuation-in-part of application Ser. No. 234,248, Oct. 30, 1962. This application Jan. 27, 1967, Ser. No. 612,092
14 Claims. (Cl. 260—23)

Carbon black pigmented lacquer based on thermoplastic acrylic resins as known in the art and comprising as an adjuvant therein an organic copper salt such as copper oleate, copper naphthenate, copper acetate and the like and carbon black. The aforesaid salt provides extraordinarily good color development of carbon black pigmentation qualities of such lacquer. Aromatic amines such as the phenylene diamines are also desirable adjuvants in the lacquer compositions of the invention. In general, a black lacquer composition according to the invention will comprise 10 to 50% by weight of resin; about 1 to 6%, based on the weight of lacquer of an aftertreated channel black; 0.5 to 5% of copper, based on the weight of carbon black; and 2 to 20 parts of an aromatic diamine, also based on the weight of carbon black.

3,368,991

TRANSFER INK AND COATED TRANSFER PAPER CONTAINING ETHYLENE/VINYL ACETATE CO-POLYMER AND NATURALLY OCCURRING WAX

Robert Rosenbaum, Hanover Township, Morris Plains, Morris County, and Richard A. Signorelli, Clifton, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Feb. 19, 1964, Ser. No. 345,850
6 Claims. (Cl. 260—28.5)

The present invention more specifically describes and relates to oil retentive wax compositions comprising blends of a minor portion of a low molecular weight ethylene-vinyl acetate copolymer wax with major portions of naturally occurring wax, and the production of new and improved carbon black containing transfer inks suitable for carbon paper and the like and containing said blends of ethylene-vinyl acetate copolymer wax with naturally occurring wax.

3,368,992

PROCESS OF DISPERSING A FIBER-FORMING POLYAMIDE AND PIGMENTS IN A DISPERSING MEDIUM

Hans Altermatt, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland

No Drawing. Filed Aug. 7, 1959, Ser. No. 832,169
Claims priority, application Switzerland, Aug. 12, 1958, 62,825/58
2 Claims. (Cl. 260—29.2)

1. A process for producing preparations of solid substances, comprising heating fiber-forming polyamide in a closed vessel at a temperature within the range of about 100–200° C. with a dispersion of a pigment in the presence of a liquid selected from the group consisting of water, formamide, γ-butyro-lactone, pyridine and dimethyl-sulfoxide, with the exclusion of oxygen, until the polyamide has dissolved, and cooling the resulting mixture, at least 1 part by weight of pigment being used for every 10 parts by weight of polyamide.

3,368,993

ACRYLONITRILE POLYMER SOLUTION

Akira Nakajima, Saidalji, Japan, and Makoto Shinohara, Syracuse, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Mar. 29, 1965, Ser. No. 443,672
Claims priority, application Japan, Apr. 21, 1964, 39/22,531
8 Claims. (Cl. 260—29.6)

1. A composition of matter comprising a homogeneous solution of an acrylonitrile copolymer containing a styrene comonomer polymerized therewith dissolved in a solvent mixture of a thiocyanate salt, water and a ketone, the water to ketone ratio being one at which the acrylonitrile copolymer forms a homogeneous solution and the relative proportions of acrylonitrile and styrene is said copolymer being such that said copolymer is incapable of forming a homogeneous solution in either said ketone alone or an aqueous solution of said thiocyanate salt alone.

3,368,994

LEAK INDICATING MISSILE FINISH

Arthur Stander, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Continuation-in-part of application Ser. No. 334,052, Dec. 27, 1963. This application Aug. 2, 1966, Ser. No. 570,142
1 Claim. (Cl. 260—31.8)

The subject invention relates to an improved composition which is applied to the exterior surface of a rocket motor fuel container and which detects leakage of the contents of the container by means of a change in its color. The ingredients of the improved composition include titanium dioxide, a resinous vehicle such as a methyl methacrylate polymer, the color indicates phenolphthalein and diphenylbenzidine which respectively change color in the presence of an amine fuel and red fuming nitric acid, the plasticizer butyl benzyl phthalate, and a suitable solvent.

3,368,995

FIBERGLASS REINFORCED POLYETHYLENE TEREPHTHALATE

Takashi Furukawa, Tokyo, and Takeshi Kamiya and Atsumi Nakamura, Sagamihara-shi, Japan, assignors to Teijin Limited, Osaka, Japan, a corporation of Japan

Filed Oct. 22, 1965, Ser. No. 502,648
Claims priority, application Japan, Aug. 3, 1965, 40/47,059; Sept. 28, 1965, 40/59,356; Sept. 30, 1965, 40/60,036; Oct. 8, 1965, 40/61,719
6 Claims. (Cl. 260—40)

A reinforced polyethylene terephthalate composition for molding use and a molded article produced therefrom, said composition comprising polyethylene terephthalate resin, glass fibers of an average length of greater than 0.4 mm. in an amount of from 10% to 50% by weight based on the composition, and at least one nucleating agent in an amount of at least 0.1% by weight based on said polyethylene terephthalate resin. Also, a process for molding articles of such reinforced polyethylene terephthalate which comprises molding the reinforced composition at a temperature of from 120° C. to 200° C. or molding and thereafter heating the resultant molded article at such a temperature.

3,368,996

POLYALKENYL ESTERS OF POLYBASIC ORGANIC ACIDS PLASTIC COMPOSITION AND METHODS OF MANUFACTURE

Harry H. Beacham, Severna Park, Md., and Leo S. Burnett, Scarsdale, N.Y., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 270,175, Apr. 3, 1963. This application Apr. 20, 1967, Ser. No. 637,320
16 Claims. (Cl. 260—40)

This application discloses polymer gels derived from poly-unsaturated, unconjugated thermosetting monomers and particularly those derived from polyalkenyl esters of polybasic organic acids, that can be prepared by polymerizing the monomer to a point of substantially complete acetone insolubility (of the order of under 10% acetone solubles based on total gel). The gel is in finely divided form and is prepared in the form of a finely divided filler impregnated with an addition polymer of a polyethylenically unsaturated, unconjugated thermosetting monomer, converted to a gel that is substantially insoluble in acetone and contains residual unsaturation, the ratio of filler to polymer being at least equal to the ratio at which the oil absorption of the filler is just satisfied by the monomer from which the polymer is derived. The finely divided gel compositions are used in making molding compositions comprising a filler and a binder comprising (*a*) a polymer derived from a polyalkenyl ester of polybasic organic carboxylic acid, in the form of a finely divided gel which is substantially completely insoluble in acetone, (*b*) an unsaturated monomer, (*c*) a linear polyester derived from difunctional alcohol and dibasic acid, and (*d*) a catalyst in concentration sufficient to convert the binder to the insoluble state at molding temperature.

The method of making the plastic composition comprises mixing (*a*) a filler with (*b*) a liquid polyalkenyl ester of a polybasic organic carboxylic acid in such proportions that the liquid is present in an amount not above that necessary to satisfy the oil absorption of the filler,

and (*c*) a polymerization catalyst comprising a peroxide stable at a temperature of at least 120° C., heating the mixture to a temperature to induce polymerization of the ester, continuing the heating through the exotherm developed and until the ester is converted to a point where less than 10% remains soluble in acetone, and then converting the resultant products to a fine powder.

3,368,997

COMPOSITION AND METHOD FOR THE STABILIZATION OF ORGANIC MATERIAL

David Albert Gordon, Scarsdale, N.Y., assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 15, 1965, Ser. No. 507,703
4 Claims. (Cl. 260—45.8)

Synthetic polymers, particularly polystyrene, are protected from deterioration due to light by the addition of from about 0.001 to about 5% by weight of a stabilizer composition of certain benzotriazoles and esters of hindered phenolic substituted lower alkanoic acids. A preferred stabilizer composition consists of 60% by weight of 2(2′-hydroxy-5′-methylphenyl)benzotriazole and 40% by weight of methyl β-(3,5-di-t-butyl-4-hydroxyphenyl) propionate.

3,368,998

CRYSTALLINE POLYESTER POLYMER

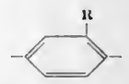
Isaac Goodman, James Eric McIntyre, and Derek Harry Aldred, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed May 20, 1963, Ser. No. 281,764
Claims priority, application Great Britain, May 22, 1962, 19,643/62
1 Claim. (Cl. 260—47)

1. A linear crystalline polyester polymer consisting of at least 50% of repeating units of the formula:

—CO—R′—COO—R″—O—

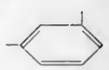
wherein each of the groups R′ and R″, which may be the same or different, is of the formula:



wherein R is a radical taken from the group consisting of Cl, Br, —CH_3 and —OCH_3, and up to 50% of repeating units of the formula:

—CO—R‴—COO—R″—O—

wherein R″ is as defined above and R‴ is taken from the group consisting of



and —$(CH_2)_8$—.

3,368,999

HIGH TEMPERATURE SIMULTANEOUS COPOLYMERIZATION AND ALKYLOLATION OF THERMOSETTING AMIDE INTERPOLYMERS

Kazys Sekmakas and Karolis Drunga, Chicago, Ill., assignors to De Soto, Inc., a corporation of Delaware

No Drawing. Filed Nov. 9, 1964, Ser. No. 409,981
13 Claims. (Cl. 260—72)

Organic solvent-soluble alkylolated amide-containing interpolymers are produced by a process in which the unsaturated amide, such as acrylamide, is copolymerized with other ethylenically unsaturated material in an organic solvent medium containing a C_1–C_3 alkanol at elevated temperatures, preferably at least about 275° F. in the presence of an agent providing formaldehyde with copolymerization and methylolation being carried out in a single stage reaction with pressure being used to maintain the liquid phase. In the presence of a small proportion of basic catalyst and without removal of volatile component, it is found that the rapid high temperature reaction carried out under pressure does not cause gelation despite the fact that the interpolymers so-produced exhibit a significant thermosetting effect when baked at temperatures of 275° F. and higher. In this way, the solvent medium used may contain a major weight proportion of aromatic hydrocarbon solvent and a minor weight proportion of C_1–C_3 alkanol.

3,369,000

POLYURETHANE PREPARATIONS CONTAINING HYDROLYZABLE ESTERS

Friedrich Blomeyer, Leverkusen, Bayerwerk, and Hermann Gruber, Reinhard Hebermehl, and Rolf Kubens, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Sept. 20, 1963, Ser. No. 310,472
Claims priority, application Germany, Sept. 29, 1962, F 37,923
6 Claims. (Cl. 260—75)

Use of certain hydrolyzable esters, for example, lower alkyl esters of orthoformic acid and tris(beta-chloroethyl)phosphite, as water binding agents in polyurethane preparations.

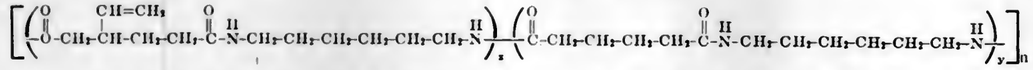
3,369,001

VINYL-MODIFIED LINEAR POLYAMIDES

Richard A. Marshall, Baytown, Tex., assignor to Esso Research and Engineering Company

Continuation-in-part of application Ser. No. 286,643, June 10, 1963. This application Sept. 19, 1966, Ser. No. 584,309
6 Claims. (Cl. 260—78)

This application discloses vinyl-modified linear polyamides, specifically a polyamide made up of adipic acid, β-vinyladipic acid and hexamethylene diamine having the following formula:



where *x* is from 2 to 50 and *y* is from 98 to 50, *n* being from 50 to 120.

The polyamide of the present invention may be used as a fiber (for example, as tire cord) or in the production of molded articles.

3,369,002

PERFLUOROALKYL TRIAZINE ELASTOMERS AND METHOD FOR MANUFACTURING SAME

Warren R. Griffin, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

No Drawing. Filed Jan. 24, 1964, Ser. No. 340,107
8 Claims. (Cl. 260—78.4)

Making a perfluoroalkyl triazine elastomer by mixing a perfluoroalkyl monoamidine and a perfluoroalkyldinitrile at 23–45° C. to make a bis-(perfluoroalkyl-imidoyl-amidine new intermediate selected from the group of

N,N′-bis-(perfluorobutylimidoyl)perfluoroglutaramidine
N,N′-bis-(perfluorocaprylmidoyl)perfluoroglutaramidine
N,N′-bis-(perfluorobutyrimidoyl)perfluoroadipamidine
N,N′-bis-(perfluorocaprylmidoyl)perfluoroadipamidine

and copolymerize the intermediate with a reactant selected from the group of perfluoroalkyldinitrile and an ammonia addition product of perfluoroalkyldinitrile at 120–150° C. in making the end product.

3,369,003

POLYMERS OF TERTIARY-ALKOXYALKYL ESTERS

Joseph A. Verdol, Dolton, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 202,963, June 18, 1962. This application Sept. 20, 1963, Ser. No. 310,474

5 Claims. (Cl. 260—78.5)

1. An addition polymer having an average molecular weight of at least about 500 formed by polymerization at the double bond of a monomer containing 1 to 100% of a diester of a monoolefinically unsaturated dicarboxylic acid selected from the group consisting of maleic acid, itaconic acid and fumaric acid and an alcohol in which one alcohol group is tertiary-alkoxyalkyl of the formula $-(R_1O)_x-R_2$, where R_1 is a divalent aliphatic hydrocarbon radical of 2 to 12 carbon atoms, R_2 is a tertiary alkyl radical of 4 to 10 carbon atoms, and x is a number from 1 to 25, and the other alcohol group is selected from the group consisting of tertiaryalkoxyalkyl of the formula $-(R_1O)_x-R_2$ and lower alkyl, the essential balance of the polymer being a copolymerizable olefinic compound of 2 to 12 carbon atoms.

3,369,004

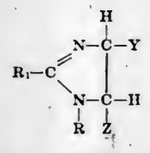
VULCANIZATION PROCESS

Laurence E. Stanton, Lisle, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Nov. 12, 1965, Ser. No. 507,579

6 Claims. (Cl. 260—79.5)

1. A process for vulcanizing rubber comprising incorporating into said rubber sulfur, from 0.1 to 10 parts per 100 parts of said rubber of a primary accelerator selected from the group consisting of organic base, thiocarbamate and thiazole accelerators, and from 0.1 to 5 parts per 100 parts of said rubber of an activator comprising a 1,2-substituted imidazoline of the formula:



where R_1 is an aliphatic group containing at least 11 carbon atoms R is selected from the group consisting of hydrogen, lower alkyl groups containing not more than 6 carbon atoms, CH_2CH_2OH and $(CH_2CH_2NH)_xH$ where x is an integer ranging from 1 to 3, and Y and Z are selected from the group consisting of hydrogen and lower alkyl groups containing not more than 6 carbon atoms, and thereafter heating said rubber to effect vulcanization.

3,369,005

COPOLYMERS OF OLEFINES WITH TRITHIANES

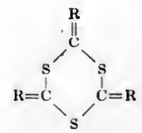
Janine Ourgaud, Paris, France, assignor to Societe Nationale des Petroles d'Aquitaine, Courbevoie, France

No Drawing. Filed May 27, 1966, Ser. No. 553,271

Claims priority, application France, June 9, 1965, 20,033

10 Claims. (Cl. 260—79.5)

The present invention relates to polymers of olefines particularly α-olefines, with unsaturated trithianes possessing the formula



wherein R represents an alkylidene group having from 1 to 6 carbon atoms. The invention more particularly is directed to polymers of ethylene, an aliphatic α-olefine having a formula $R—CH=CH_2$, where R represents an alkyl containing from 1 to 6 carbon atoms and a trithiane having the aforementioned formula. The polymers of the invention possess high molecular weight, are practically linear, are amorphous, unsaturated and vulcanizable. The polymers of the invention are prepared by polymerizing a mixture of an olefine with an unsaturated trithiane having the above formula at a temperature ranging from about −80° C. to 110° C. in the presence of a Ziegler type catalyst. Preferably the trithiane is present in said mixture in a molar proportion of from 0.1 to 20 mole percent.

3,369,006

NOVEL MONOMERS AND POLYMERS THEREOF CONTAINING SILOXANE LINKAGES AND PROCESS OF MAKING

Robert Brown, Beltsville, Md., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Jan. 31, 1964, Ser. No. 341,805

11 Claims. (Cl. 260—80)

A high temperature resistant machinable and moldable polyorganohalosiloxane and an unsaturated organohalosilane monomer and the method of making the siloxane from the silane by free radical polymerization.

3,369,007

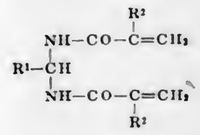
MOLECULAR SIEVING AGENT CONSISTING OF MAINLY BALL SHAPED GEL GRAINS AND A METHOD FOR THEIR MANUFACTURE

Per Gustaf Magnus Flodin, Perstorp, Sweden, assignor to Aktiebolaget Pharmacia, a company of Sweden

No Drawing. Filed Sept. 24, 1963, Ser. No. 311,216

9 Claims. (Cl. 260—80.3)

1. A molecular sieving agent, consisting essentially of beaded gel grains comprising a high molecular weight hydrophilic copolymerizate of alkylidene-bis-acrylamide having the formula



in which R^1 is a member selected from the group consisting of hydrogen and methyl, and R^2 is a member selected from the group consisting of methyl and hydrogen, with a substance having an ethylenic double bond, said copolymerizate having a water regain in the range of from 1 to 50 grains per gram of the dry substance.

3,369,008

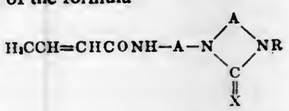
N-(CYCLIC UREIDOALKYL)CROTONAMIDES AND POLYMERS THEREOF

Melvin D. Hurwitz, Southampton, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed May 26, 1964, Ser. No. 370,364

11 Claims. (Cl. 260—80.72)

7. As a composition of matter, an addition polymer of a compound of the formula



(I)

wherein

A is an alkylene group having 2 to 3 carbon atoms,

R is selected from the group consisting of H, $—CH_2OH$, and $—CH_2OR'$ in which R' is an alkyl group having 1 to 4 carbon atoms, and

X is selected from the group consisting of O and S.

3,369,009

AZIDOFORMATE-CONTAINING COPOLYMERS

Norman C. MacArthur, Avondale, Pa., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Dec. 10, 1964, Ser. No. 417,512

11 Claims. (Cl. 260—80.81)

Copolymers of ethylenically unsaturated azidoformates and at least one other copolymerizable monomer are described. The copolymers, and particularly the copolymers of the monoazidoformate of 2-hydroxyethyl methacrylate or of the triallyl ether of pentaerythritol and ethyl acrylate, methyl methacrylate, butyl methacrylate and/or α-methylstyrene are useful as film-forming ingredients in coating compositions wherein, on curing at above the decomposition temperature of the azidoformate, they cross-link to impart strength and hardness to films thereof. The copolymers are produced by polymerizing a mixture of the azidoformate and comonomer(s) in the presence of redox catalysts or free radical initiators.

3,369,010

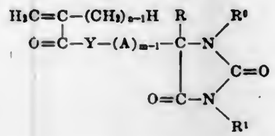
5-(4-ACRYLOXYALKYL)-HYDANTOINS AND POLYMERS THEREOF

Everett J. Kelley, Moorestown, N.J., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Original application June 8, 1964, Ser. No. 373,486. Divided and this application Oct. 12, 1965, Ser. No. 495,340

9 Claims. (Cl. 260—86.1)

1. As a composition of matter, an addition polymer of a compound of the formula



wherein

m is an integer having a value of 1 to 2,

n is an integer having a value of 1 to 2,

Y is selected from the group consisting of O and NH,

A is an alkylene group having 1 to 8 carbon atoms,

R is selected from the group consisting of H, benzyl, cyclohexyl, phenyl, and alkyl groups having 1 to 6 carbon atoms,

R^0 is selected from the group consisting of H, methylol, and alkoxymethyl groups having 2 to 5 carbon atoms, and

R^1 is selected from the group consisting of H, methylol, and alkoxymethyl groups having 2 to 5 carbon atoms.

3,369,011

PROCESS FOR PRODUCING AMORPHOUS COPOLYMERIZATES OF ETHYLENE AND HIGHER ALPHA-OLEFIN

Alberto Valvassori, Milan, Renato Serra, Ferrara, and Guido Sartoni, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Continuation of application Ser. No. 260,835, Feb. 25, 1963. This application Oct. 19, 1966, Ser. No. 587,936

Claims priority, application Italy, Feb. 27, 1962, 3,979/62

10 Claims. (Cl. 260—88.2)

1. The process for producing solid, linear, amorphous copolymerizates of ethylene and a higher alpha-olefin selected from the group consisting of propylene and butene-1 by copolymerizing a mixture of the monomers, in the liquid phase, in contact with a catalyst obtained by mixing (A) a dialkyl aluminum halide in which the alkyl groups each contain from 1 to 6 carbon atoms and (B) a coordination compound of a halogenated vanadium compound and a Lewis base selected from the group consisting of

diethyl ether	trimethyl amine
dipropyl ether	diethyl methylamine
diisobutyl ether	pyridine oxide
diethoxy ethane	pyridine, and
tetrahydrofuran	quinoline
dioxane	

at a molar ratio of (A) to (B) in the range 2:1 to 30:1, and at a molar ratio of higher alpha-olefin to ethylene in the liquid phase of at least 4:1 when the higher alpha-olefin is propylene, and of at least 20:1 when the higher alpha-olefin is butene-1, which process is characterized in that both the preparation of the catalyst and the copolymerization are carried out at a temperature in the range 0° C. to −80° C., where there is obtained a yield of the amorphous copolymerizate per unit weight of catalyst used higher than is obtained when the catalyst is prepared and the copolymerization is carried out at temperatures above 0° C.

3,369,012

POLYMERS CONTAINING DIHALOCYCLOPROPANE UNITS

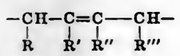
Robert Dean Lundberg, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 16, 1963, Ser. No. 251,728

4 Claims. (Cl. 260—94.7)

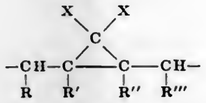
1. Tough, moldable, flame retardant polymers containing at least 50 percent by weight of recurring units having the structure

(A)



and

(B)



wherein R is a radical selected from the group consisting of hydrogen and methyl, R' is a radical selected from the group consisting of hydrogen and alkyl radicals containing from 1 to 5 carbon atoms, R'' is a radical selected from the group consisting of hydrogen, chlorine and alkyl radicals containing from 1 to 5 carbon atom, R''' is a radical selected from the group consisting of hydrogen

and alkyl radicals containing from 1 to 2 carbon atoms, and X is a halogen radical, at least 5 percent of the total number of A and B being B.

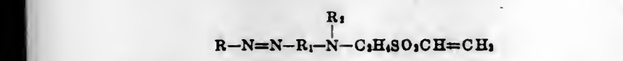
3,369,013

DISAZO DYES

Max A. Weaver, John I. Dale III, and James M. Straley, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 12, 1965, Ser. No. 471,456
8 Claims. (Cl. 260—186)

1. A disazo compound of the general formula



wherein

R=an azobenzene radical free of a vinylsulfonyl group,
R_1=a monocyclic aromatic radical, and
R_2=a member of the group consisting of hydrogen and a lower alkyl radical.

3,369,014

POLYETHERS CO-INITIATED BY SUCROSE AND SORBITOL AND URETHANE RESINS THEREFROM

Robert E. Booth, Syracuse, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 286,523, June 10, 1963. This application Sept. 13, 1966, Ser. No. 578,960
2 Claims. (Cl. 260—209)

The present invention relates to novel polyether compositions and methods for preparing them wherein the polyethers are characterized by a hydroxyl number of 350 and 600 and are prepared by reacting propylene oxide with a mixture of sucrose and sorbitol, wherein the ratio of sucrose to sorbitol in the reaction mixture is in the range of 0.5 to 2 mols sucrose per mol of sorbitol, at a temperature within the range of 100 to 110° C. and continuing the introduction of the propylene oxide into the mixture of sucrose and sorbitol while maintaining the temperature of the mixture between 90° C. and 110° C. until the hydroxyl number of the polyether reaction product is in the range of 350 to 600.

3,369,015

6,8 - DIDEOXY - 6 - (2,4 - DINITROANILINO) - D-ERYTHRO-D-GALACTO-ALDEHYDO - OCTOSE DITHIOACETALS

Herman Hoeksema, Cooper Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich, a corporation of Delaware

No drawing. Continuation-in-part of application Ser. No. 359,489, Apr. 13, 1964. This application Jan. 25, 1965, Ser. No. 427,948
4 Claims. (Cl. 260—211)

Novel 6,8 - dideoxy-6-(2,4-dinitroanilino) - D - erythro-D-galacto-aldehydo-octose dithioacetals [N-2,4-dinitrophenyl)linocosamine mercaptal] are produced by reacting a lincosamine mercaptal wherein the alkyl group of the mercaptal has from 1 to 8 carbon atoms, inclusive, or benzyl or 2-thenyl, with 1-fluoro-2,4-dinitrobenzene. The novel products have antimicrobial activity, useful to spray tomato plants, e.g. against tomato blight (*Alternaria solani*), or to disinfect hospital rooms and equipment, or as intermediates for useful quaternary ammonium compounds (active compound in electro-cardiographic jellies).

3,369,016

ADDUCT OF AZIRIDINE WITH TRIGLYCIDYL ETHER OF GLYCERINE

George R. Bulbenko and Riad H. Gobran, Levittown, and Elizabeth A. Blommers, Monroeville, Pa., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Original application Nov. 1, 1963, Ser. No. 320,856, now Patent No. 3,329,674, dated July 4, 1967. Divided and this application Mar. 1, 1967, Ser. No. 632,867
1 Claim. (Cl. 260—239)

The triadduct of aziridine or alkylaziridine with the triglycidylether of glycerine. The compound is useful as a curing agent for polymers which contain carboxyl groupings.

3,369,017

PREPARATION OF DECARBONYLATION PRODUCTS OF CARBOXYLIC ACIDS

Eduard F. J. Duynstee and Jan L. J. P. Hennekens, Geleen, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands

No Drawing. Filed July 12, 1965, Ser. No. 471,393
Claims priority, application Netherlands, July 18, 1964, 64—8,265
7 Claims. (Cl. 260—239.3)

The process for the decarbonylation of alpha-hydroxylamino-carboxylic acids is disclosed. Alpha-hydroxylamino-carboxylic acids are treated with a strong acid to form a nitrogenous product, which may be an oxime, an amide or a lactam.

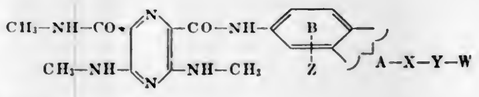
3,369,018

OPTICAL BRIGHTENERS DERIVED FROM 3,5-DIAMINOPYRAZINE - 2,6 - DICARBOXYLIC ACID

Gaudenz Girell Di Giovanoel, Munchenstein, Basel-Land, Reinhard Zweidler, Basel, and Rodolphe Vonderwahl, Reinach, Basel-Land, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Filed Oct. 20, 1964, Ser. No. 405,231
Claims priority, application Switzerland, Oct. 29, 1963, 13,225/63
7 Claims. (Cl. 260—250)

Compounds of the formula



wherein

A is either —SO_2— or —CO—,
X is either —NH— or —N(lower alkyl)—, but can also be —O— when A is —CO—,
Y is a divalent aliphatic radical containing from 2 to 12 carbon atoms,
Z is either hydrogen or an inert substituent, and
W is either a tertiary or quaternary anion group,

are optical brighteners for acrylonitrile polymer fiber materials.

3,369,019

PRODUCTION OF HETEROCYCLIC COMPOUNDS

Lyle A. Hamilton, Pitman, and Phillip S. Landis, Woodbury, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Nov. 26, 1963, Ser. No. 326,260
18 Claims. (Cl. 260—268)

1. A process for producing heterocyclic compounds containing hetero nitrogen atoms which comprises effecting reaction of ammonia with an organic compound selected from the group consisting of ethylene glycol, dichloroethane, ethylene oxide, ethanolamine and diethanolamine at a temperature of from about 100° to about 600° C. in the presence of a catalyst comprising an alumino-silicate containing active cation sites within an ordered internal structure; said ordered internal structure having a pore size of at least 5A. in diameter.

17. A process for producing piperazine which comprises effecting reaction of ammonia and ethylene oxide at a temperature of from about 100° to about 400° C. in the presence of a sodium form of faujasite and recovering a product of piperazine.

3,369,020

1,4-DIFORMYL-2,3,5,6-TETRAKIS(DIFLUORAMINO)PIPERAZINES

Alan Norman Ferguson, Irvine, and Godfrey Fort, Ardrossan, Scotland, assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed July 28, 1965, Ser. No. 475,601
Claims priority, application Great Britain, Aug. 6, 1964, 32,125/64
7 Claims. (Cl. 260—268)

1. 1,4 - diformyl-2,3,5,6-tetrakis(difluoramino)piperazine.

2. A process for the preparation of 1,4-diformyl-2,3,5,6-tetrakis(difluoramino)piperazine which comprises reacting a piperazine compound selected from the group consisting of 1,4-diformyl-2,3,5,6-tetrahydroxyperazine and acetate esters thereof with difluoramine in an inert atmosphere in presence of an acidic condensing agent.

3,369,021

PREPARATION OF LUBRICANT ADDITIVES WITH REDUCED ODOR

William M. LeSuer, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Mar. 7, 1966, Ser. No. 532,088
6 Claims. (Cl. 260—268)

Dispersants for use in lubricants are prepared by reacting the reaction product of a hydrocarbon-substituted succinic acid-producing compound (e.g., an acid, acid halide or anhydride) and a polyalkylene polyamine with a lower aliphatic aldehyde or reversible polymer thereof. Preferably, about 0.05–1.0% (calculated on the weight of the acid-amine intermediate) of the aldehyde or aldehyde polymer is used; the product has substantially no amine odor, as compared with the acid-amine intermediate which has a distinct odor.

3,369,022

3-PIPERAZINOALKYL-2-BENZOXAZOLINONES

Joseph Sam, Oxford, Miss., and Charles W. Richmond, Nashville, Tenn., assignors to A. H. Robins Company, Incorporated, Richmond, Va., a corporation of Virginia

No Drawing. Filed Nov. 7, 1966, Ser. No. 592,253
10 Claims. (Cl. 260—268)

3-piperazinoalkyl-2-benzoxazolinones. Compounds are useful as central nervous system depressants, having sedative, hypnotic, analgesic, and anesthetic, as well as anticonvulsant and antihistaminic properties.

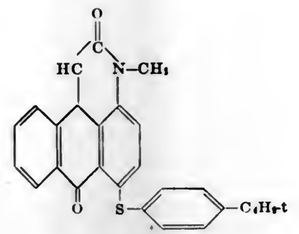
3,369,023

ANTHRAPYRIDONE DYESTUFFS

Guido R. Genta, Dunnstown, Lock Haven, Pa., assignor to American Aniline Products, Inc., a corporation of Delaware

No Drawing. Filed Sept. 20, 1966, Ser. No. 580,579
2 Claims. (Cl. 260—278)

1. A dye of the formula:



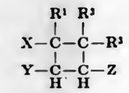
3,369,024

TERTIARYAMINOCYCLOBUTANES WITH ELECTRONEGATIVE SUBSTITUENTS

Kent C. Brannock, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of applications Ser. No. 115,305, June 7, 1961, and Ser. No. 34,881, June 9, 1960; said application Ser. No. 34,881 having been a continuation-in-part of application Ser. No. 837,579 filed Sept. 2, 1959. This application Mar. 15, 1965, Ser. No. 440,017
18 Claims. (Cl. 260—294.3)

Novel tertiaryamino-cyclobutanes having electronegative substituents which are useful as stabilizers, pharmaceuticals and chemical intermediates and are represented by the formula:



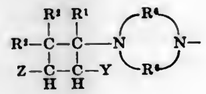
wherein X is a tertiaryamino group having a formula selected from the group consisting of:

(a)



and

(b)



Y is an electronegative radical selected from the group consisting of:

(a) alkoxycarbonyl of the formula —$COOR^7$, and
(b) carboxy;

Z is selected from the group consisting of:

(a) hydrogen,
(b) mononuclear carbocyclic aryl,
(c) alkoxycarbonyl of the formula —$COOR^7$, and
(d) carboxy;

wherein at least one of the substitutents R^1 and R^2 is hydrogen; and wherein each of R^1 and R^2, when taken singly, is selected from the group consisting of:

(a) hydrogen, and
(b) alkyl of 1–18 carbons;

wherein R^3, when taken singly and when only one of the substituents R^1 and R^2 is hydrogen, is alkyl of 1–18 carbons and R^3, when taken singly and when both R^1 and R^3 are hydrogen, is selected from the group consisting of:

(a) alkyl of 1–18 carbons,
(b) mononuclear carbocyclic aryl, and
(c) tertiaryaminomethyl of the formula $—CH_2X$

wherein R^1 and R^3, when taken collectively with the carbon atoms to which they are attached, represent a saturated carbocyclic group having 5–8 ring atoms;

wherein R^2 and R^3, when taken collectively with the carbon atom to which they are attached, represent a saturated carbocyclic group having 4–8 ring atoms;

wherein each of R^4 and R^5, when taken singly, is alkyl of 1–18 carbons and R^4 and R^5, when taken collectively with the nitrogen atom to which they are attached, represent a saturated heterocyclic group having 5–6 ring atoms; each of the substituents R^6 is the same alkylene group of 1–3 carbon atoms; and

R^7 is alkyl of 1–18 carbons.

3,369,025

3-PYRIDYLMETHYL PHENOXY(PHENYLTHIO AND ANILINO)ALKANOATES

William A. Bolhofer, Frederick, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed July 30, 1965, Ser. No. 476,191

6 Claims. (Cl. 260—295)

Pyridylmethyl esters of (1) phenoxylalkanoic acids, (2) phenylthioalkanoic acids and (3) anilinoalkanoic acids wherein the benzene ring is either unsubstituted or may be substituted by halogen, nitro, alkyl, cycloalkyl, alkenyl, alkoxy, alkylthio, alkylsulfonyl, aryl, aralkyl, aralkoxy, arylcarbonyl, methyl, arylamino, alkanamido or a divalent hydrocarbylene chain. The said esters are hypocholesterolemic agents which are useful in the treatment of atherosclerosis.

3,369,026

PROCESS FOR PREPARING GAMMA-METHYL GLUTAMATE N-CARBOXY ANHYDRIDE

Makoto Iwatsuki, 4530, Kamidono-cho Daishingawara, Kawasaki-shi, Kanagawa-ken, Shigeo Mori, 1413, 1-chome, Himonya Meguro-ku, Tokyo, and Setsuji Sakurai, 6810, Nakaoka, Kugenuma, Fujisawa-shi, Kanagawa-ken, Japan

No Drawing. Continuation-in-part of application Ser. No. 560,993, July 28, 1966. This application Dec. 12, 1966, Ser. No. 600,774

Claims priority, application Japan, July 23, 1963, 38/39,331

13 Claims. (Cl. 260—307)

When γ-methyl glutamate hydrochloride contaminated with glutamic acid hydrochloride is contacted with phosgene in a high-boiling aliphatic hydrocarbon, the γ-methyl glutamate hydrochloride is substantially completely converted to γ-methyl glutamate N-carboxyanhydride which dissolves in the solvent, whereas the glutamic acid hydrochloride does not react and is insoluble in the solvent from which it is readily separated.

3,369,027

N,N'-DISUBSTITUTED BENZIMIDAZOLONES

Erich Klauke, Cologne-Flittard, Engelbert Kuhle, Bergisch Gladbach, and Fritz Steinfatt, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 3, 1965, Ser. No. 511,314

Claims priority, application Germany, Dec. 16, 1964, F 44,728

5 Claims. (Cl. 260—309.2)

An N,N'-disubstituted benzimidazolone having high microbial activity, especially as a bactericide, fungicide and useful in imparting an antimicrobial finish to materials.

3,369,028

HERBICIDAL BENZIMIDAZOLE

Karl-Heinz Büchel, Hangelar, Germany, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 3, 1966, Ser. No. 569,799

Claims priority, application Germany, Aug. 6, 1965, S 98,709

1 Claim. (Cl. 260—309.2)

1. 2-methylthio-5,6-dichlorobenzimidazole.

3,369,029

3-GUANIDINO-ALKYLENE-CHROMANS

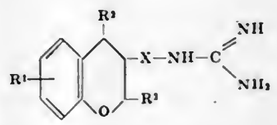
Joachim Augstein and Alastair M. Monro, Canterbury, Kent, England, assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 27, 1965, Ser. No. 490,625

Claims priority, application Great Britain, Oct. 1, 1964, 39,932/64

9 Claims. (Cl. 260—345.2)

1. A compound selected from the class consisting of organic bases of the formula:



and the mineral and organic acid addition salts thereof, wherein R^1 is a member selected from the group consisting of hydrogen, chlorine, bromine, lower alkyl and lower alkoxy; R^2 and R^3 are each a member selected from the group consisting of hydrogen and lower alkyl; and X is lower alkylene.

3,369,030

ETHYLENICALLY UNSATURATED AZIDOFORMATES

Norman C. MacArthur, Avondale, Pa., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 417,469, Dec. 10, 1964, and Ser. No. 475,232, July 27, 1965. This application Nov. 22, 1966, Ser. No. 596,053

6 Claims. (Cl. 260—349)

Ethylenically unsaturated compounds containing 1–5 azidoformate groups, such as the monoazidoformate of the triallyl ether of pentaerythritol, the monoazidoformate of 2-hydroxyethyl methacrylate, and oleyl azidoformate, are described. These compounds are useful in film-forming compositions, as tire cord adhesives, and can be homopolymerized and copolymerized.

3,369,031

2,6-DI-SUBSTITUTED-4,4-BIS(PENTACHLORO-PHENOXY)-2,5-CYCLOHEXADIENE-1-ONES

Hans-Dieter Becker, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Apr. 1, 1964, Ser. No. 356,628

4 Claims. (Cl. 260—396)

Novel di-pentachlorophenyl quinone ketals more specifically named 2,6-di-substituted-4,4-bis(pentachlorophenoxy)-2,5-cyclohexadiene-1-ones are prepared by reacting certain 2,6-di-substituted-4-halophenols with pentachlorophenol in the presence of active manganese dioxide. The quinone ketals so produced are useful as a stable source of free radicals or as polymerization inhibitors for polymerizable monomers.

3,369,032

METHYL-3β-ACETOXY-16-KETOBURICO-8,24(28)-DIEN-21-OATE

Patrick A. Diassi, Westfield, and Pacifico A. Principe, South River, N.J., assignors to E. R. Squibb & Sons Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 31, 1966, Ser. No. 590,560

1 Claim. (Cl. 260—397.1)

1. A compound having the name methyl 3β-acetoxy-16-ketoeburico-8,24(28)-dien-21-oate.

3,369,033

8,11,14-ESTRONE AND INTERMEDIATES IN THE PRODUCTION THEREOF

Luciano Re, South Orange, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 18, 1965, Ser. No. 480,765

18 Claims. (Cl. 260—397.45)

The invention disclosed herein is concerned with a novel synthesis of d,l-8-dehydroestrone and intermediate compounds useful in the synthesis thereof. More particularly, this invention relates to a synthesis of d,l-8-dehydroestrone starting with 1,2,3,4,7,8 - hexahydro-6-lower alkoxy-naphthalene-1-one or 6-lower alkoxy-1-tetralone. In this synthesis, the 6-lower alkoxy-1-tetralone is reacted with 2-ethylvinyl magnesium bromide to form 1,2,3,4-tetrahydro - 6 - lower alkoxy-1-(1-butenyl)-1-naphthol which, by reaction with succinic anhydride, is converted to d,l-8,11,14-tridehydroestrone. The latter compound is then reacted with hydrogen to produce d,l-dehydroestrone. d,l-8-dehydroestrone may be converted to d,l-estrone according to the procedure in the publication in Steroids, vol. 4, page 31 (1964).

3,369,034

PROCESS FOR SEPARATING SAPONIFIABLES AND UNSAPONIFIABLES IN MARINE ANIMAL OILS

William Chalmers and Alexander J. Shaw, Vancouver, British Columbia, Canada, assignors to Eversharp, Inc., a corporation of Delaware

No Drawing. Filed Apr. 27, 1964, Ser. No. 362,918

10 Claims. (Cl. 260—412.1)

Saponifiable and unsaponifiable matter in marine animal oil can be separated more efficiently following saponification and the first solvent extraction if the subsequent solvent extractions are carried out in the presence of an alkali metal salt of phosphoric acid.

3,369,035

π-ALLYLIC PALLADIUM HALIDE COMPLEXES AND PREPARATION

Robert G. Schultz, Vinita Park, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Nov. 29, 1963, Ser. No. 327,126

11 Claims. (Cl. 260—429)

Reaction of allene with dihalo-arylcyanide palladium (II) to obtain di-μ-halo-di (β-haloalkyl)dipalladium (II) and related π-allylic complexes.

3,369,036

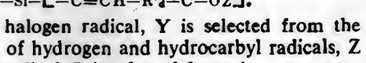
SUBSTITUTED ALKENYL HALOSILANES

Robert E. Miller, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Dec. 26, 1963, Ser. No. 333,680

7 Claims. (Cl. 260—448.2)

Hydrocarbyloxycarbonyl alkenyl halosilanes of the formula



wherein X is a halogen radical, Y is selected from the group consisting of hydrogen and hydrocarbyl radicals, Z is a hydrocarbyl radical, R is selected from the group consisting of hydrogen and alkyl radicals, R' is an alkylene radical, a is an integer from 1 to 3, b is an integer from 0 to 2, c is an integer from 1 to 3, provided that the sum of $a+b+c$ equals 4, and d is an integer from 0 to 1.

3,369,037

PREPARATION OF HIGH PURITY PRIMARY ORGANO ALUMINUM COMPOUNDS

James D. Johnston, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Apr. 29, 1964, Ser. No. 363,589

12 Claims. (Cl. 260—448)

Organo aluminum compounds having a high percentage of similar primary organo groups are produced from olefinic materials containing a substantial percentage of internal olefins by placing the internal olefins on aluminum as secondary organo groups; isomerizing the secondary organo groups to primary organo groups, preferably wherein the primary organo group content is about 90 percent and subjecting the product of the isomerizing step to displacement with alpha olefinic hydrocarbon of about the same molecular configuration as the primary organo groups on the aluminum. Olefins obtained from the displacement operation are preferably recycled to the first step for efficient utilization thereof.

3,369,038

CAROTENOID DYES

Teunis Krait and Hans Heinz Haeck, Van Houtenlaan. Weesp, Netherlands, assignors to North American Philips Company Inc., New York, N.Y., a corporation of Delaware

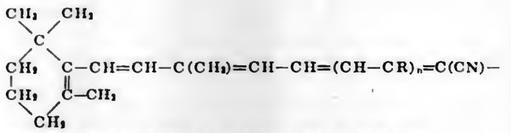
No Drawing. Filed Apr. 8, 1965, Ser. No. 446,712

Claims priority, application Netherlands, Apr. 29, 1964. 64—4,719

5 Claims. (Cl. 260—464)

Foodstuff dyes of the formula

A—CH=CH—B wherein A and B are moieties of the formula



wherein n is 0–3 and R is hydrogen or methyl.

3,369,039

PROCESS FOR THE PRODUCTION OF SILICON-CONTAINING TRIOXANE COPOLYMERS

Wolfgang von der Emden and Kuno Wagner, Leverkusen, Hans Niederprum, Monheim, and Walter Simmler, Cologne, Mulheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 3, 1966, Ser. No. 524,844

Claims priority, application Germany, Apr. 15, 1965, F 45,832

12 Claims. (Cl. 260—465)

Copolymerized trioxane and formals or carbonic acid esters of bis-(hydroxyalkyl) silicon compounds which

may be prepared at temperatures between 50 and 120° C. in the presence of a cationic initiator.

3,369,040

POLYMERCAPTANS AND THEIR PREPARATION FROM EPITHIO COMPOUNDS

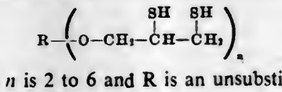
William De Acetis, Berkeley, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 63,961, Oct. 21, 1960. This application Oct. 19, 1962, Ser. No. 231,852

11 Claims. (Cl. 260—468)

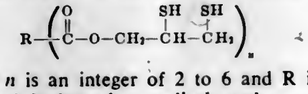
1. A polymercaptan of the group consisting of

(1) polymercaptan polyethers of the formula



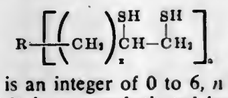
wherein n is 2 to 6 and R is an unsubstituted hydrocarbon radical,

(2) polymercaptan polyesters of the formula



wherein n is an integer of 2 to 6 and R is an unsubstituted hydrocarbon radical, and

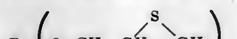
(3) polymercaptan-substituted hydrocarbons of the formula



wherein X is an integer of 0 to 6, n is an integer of 2 to 6 and R is an unsubstituted hydrocarbon radical.

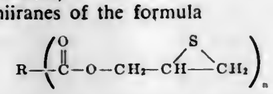
10. A process for preparing polymercaptans as described in claim 1 which comprises reacting a polythiirane compound of the group consisting of

(1) polythiiranes of the formula



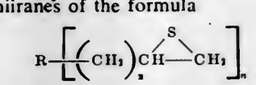
wherein n is 2 to 6 and R is an unsubstituted hydrocarbon radical,

(2) polythiiranes of the formula



wherein n is an integer of 2 to 6 and R is an unsubstituted hydrocarbon radical,

(3) polythiiranes of the formula



wherein X is an integer of 0 to 6, n is an integer of 2 to 6 and R is an unsubstituted hydrocarbon radical, with hydrogen sulfide in an equivalent ratio of H_2S to epoxide of 5:1 to 50:1 in the substantial absence of molecular oxygen.

3,369,041

ADAMANTYL CARBAZATES

Koert Gerzon and Eriks V. Krumkalns, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Delaware

No Drawing. Original application Jan. 21, 1965, Ser. No. 427,124. Divided and this application Feb. 13, 1967, Ser. No. 615,356

4 Claims. (Cl. 260—482)

Adamantyl carbazates, useful as intermediates, are prepared by reacting hydrazine with three different types of adamantyloxy intermediates.

3,369,042

N-(SUBSTITUTED PHENYL)ANTHRANILIC ACIDS, SALTS, AND ESTERS THEREOF

Robert A. Scherrer, Ann Arbor, Mich., assignor to Parke Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Apr. 7, 1964, Ser. No. 358,117

6 Claims. (Cl. 260—516)

1. A member of the class consisting of N-arylanthranilic acids chosen from among N-(2,6-dimethyl-3-dimethylsulfamoylphenyl)anthranilic acid, N-(6-chloro-2-methyl-3-dimethylsulfamoylphenyl)anthranilic acid, N-(2,6-dimethyl-3-methylthiophenyl)anthranilic acid, N-(2,6-dimethyl-3-methylsulfinylphenyl)anthranilic acid, and N-(2,6-dimethyl-3-methylsulfonylphenyl)anthranilic acid; pharmaceutically-acceptable salts thereof; lower alkyl esters thereof; di-lower alkyl-amino alkyl esters thereof; and pharmaceutically-acceptable acid-addition salts and quaternary salts of the di-lower alkyl-amino alkyl esters thereof.

3,369,043

PROCESS FOR THE PREPARATION OF UNSATURATED CARBOXYLIC ACIDS

Irwin Schlossman, Whitestone, N.Y., assignor to Halcon International, Inc., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 272,536, Apr. 12, 1963. This application Apr. 28, 1967, Ser. No. 634,774

7 Claims. (Cl. 260—530)

The present invention is directed to the production of unsaturated carboxylic acids from corresponding unsaturated olefins through oxidation with organic hydroperoxides in the presence of chromic acid as catalyst.

3,369,044

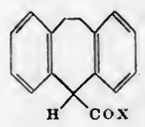
5-CARBOXYLIC ACID HALIDE DERIVATIVES OF 10,11-DIHYDRO-5H-DIBENZO[a,d]CYCLOHEPTENE

Frederick Leonard, Rockville, Md., and André Gagneux, Basel, Switzerland, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Original application July 23, 1962, Ser. No. 211,847, now Patent No. 3,287,409, dated Nov. 22, 1966. Divided and this application Apr. 18, 1966, Ser. No. 543,023

2 Claims. (Cl. 260—544)

1. A compound of the formula



wherein X represents chlorine or bromine.

3,369,045

3,3'-BIS(α,γ-DIHYDROXY-β,β-DIMETHYLBUTYRYLAMINO)-DIPROPYL ETHER

Gustav Erlemann, Riehen, and Otto Schnider, Basel, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 11, 1964, Ser. No. 395,921

Claims priority, application Switzerland, Oct. 9, 1963, 12,390/63

2 Claims. (Cl. 260—561)

There is described 3,3'-bis(α,γ-dihydroxy-β,β-dimethylbutyrylamino)-dipropyl ether, particularly, D(+)-3,3'-bis(α,γ-dihydroxy-β,β-dimethylbutyrylamino)-dipropyl ether and the production thereof.

The compounds are useful as an active component in cosmetic preparations.

3,369,046

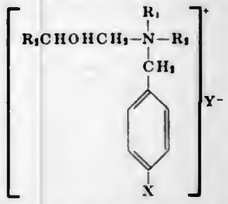
2-HYDROXY-ALKYL-BENZYL QUATERNARY AMMONIUM COMPOUNDS

Thaddeus John Kaniecki, Brooklyn, and Arno Cahn, Pearl River, N.Y., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Dec. 2, 1965, Ser. No. 511,247

10 Claims. (Cl. 260—567.6)

1. A quaternary ammonium halide having at least one 2-hydroxyalkyl substituent characterized by the formula



wherein R_1 and R_2 are selected from the group consisting of alkyl groups having from 1 to 3 carbon atoms and hydroxyalkyl groups having from 2 to 3 carbon atoms; R_3 is an alkyl radical having from 6 to 18 carbon atoms; X is selected from the group consisting of hydrogen and halogen; and Y is a halogen.

3,369,047

BIS (AMINO) ACETYLENE COMPOUNDS AND METHOD OF PREPARING AMINO ACETYLENE COMPOUNDS

Heinz G. Viehe, Linkebeek, Belgium, assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of applications Ser. No. 376,203 and Ser. No. 376,204, June 18, 1964. This application Oct. 27, 1964, Ser. No. 406,875

Claims priority, application Germany, Dec. 27, 1963, E 26,130

9 Claims. (Cl. 260—570.8)

Bis (amino) acetylene compounds useful as hydrogen halide acceptors and the process of preparing amino acetylene compounds by reacting a halogen-substituted ethane or ethylene with either a tertiary amine or an alkali metal amide in a non-protic liquid organic solvent.

3,369,048

ALDEHYDE SYNTHESIS

Lyle A. Hamilton, Pitman, and Phillip S. Landis, Woodbury, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Aug. 8, 1963, Ser. No. 300,904

12 Claims. (Cl. 260—599)

1. In a method of carrying out a reaction in which an aromatic of the formula RH is reacted with CO and HCl to convert said aromatic to its corresponding aldehyde, and wherein R is a carbocyclic aromatic radical, the improvement comprising carrying out said reaction with said aromatic in liquid phase in the presence of a dehydrated solid porous crystalline aluminosilicate catalyst, said crystalline aluminosilicate having pores of a size such that the reactants will pass into such pores and the reaction products will be removable therefrom, said pores being no larger than 13 A.

3,369,049

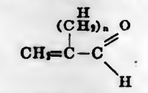
METHOD OF PREPARING UNSATURATED ALDEHYDES AND CATALYST THEREFOR

Jamal S. Eden, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 20, 1964, Ser. No. 338,571

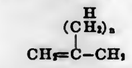
11 Claims. (Cl. 260—604)

1. A method of preparing a compound of the formula



where n is 0 to 1, comprising contacting a mixture of reactants with catalyst comprising, on a molar basis, 100 of of a copper phosphate, 10–30 TeO_2 and 1–10 $HReO_4$ on a refractory support, at a temperature of from about 300° to about 500° C. with a contact time of from about 5 to about 50 seconds, the said reactants on a molar basis comprising

(a) one mole of a hydrocarbon of the formula



(b) sufficient oxygen containing gas to provide 1–3 mols of oxygen per mol of said hydrocarbon, and

(c) 0–7 mols of water vapor per mol of said hydrocarbon.

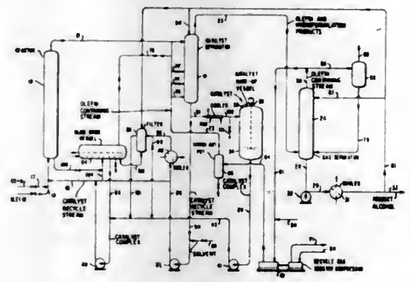
3,369,050

SEPARATION, RECOVERY AND RECYCLE OF THE CATALYST COMPLEX IN THE OXO PROCESS

Charles R. Greene, Berkeley, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Continuation-in-part of applications Ser. No. 143,447, Oct. 6, 1961, and Ser. No. 168,231, Jan. 23, 1962. This application Oct. 20, 1964, Ser. No. 405,049

5 Claims. (Cl. 260—632)



Recovering cobalt in complex combination with carbon monoxide and an organo-phosphine, suitable for recycling, from hydroformylation reactor effluent in the presence of an olefinic hydrocarbon.

3,369,051

1-METHYLCYCLOHEXENE PROCESS

Louis L. Ferstandig, El Cerrito, Calif., assignor to Chevron Research Company, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 358,087, Apr. 7, 1964. This application Aug. 1, 1966, Ser. No. 570,135

5 Claims. (Cl. 260—666)

1-methylcyclohexene is produced by heating cis-1,2-dimethylcyclohexane in the vapor phase at a temperature in the range 1000–1400° F. and at a moderate conversion level, e.g., less than about 25 percent per pass.

3,369,052
PRODUCTION OF CYCLIC ALKENE

Frederick Harold Howell, Maghull, and Wilfred Pickles, Hazel Grove, England, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 405,838, Oct. 22, 1964. This application Dec. 5, 1966, Ser. No. 598,924
Claims priority, application Great Britain, Oct. 29, 1963, 42,632/63
5 Claims. (Cl. 260—666)

Cyclododecene is produced from cyclododecatriene in at least 80% yield by heating cyclododecatriene to a temperature of 130–180° C. at atmospheric pressure without solvent, catalysing the reaction with a palladium hydrogen catalyst.

3,369,053
HYDROLYSIS OF FRIEDEL-CRAFTS CATALYST-COMPLEXES

Francis J. Scarcello, West Falls, and Francis E. Evans, Hamburg, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 16, 1965, Ser. No. 514,402
14 Claims. (Cl. 260—671)

1. In the process of hydrolyzing a Friedel-Crafts metal halide-hydrocarbon complex-containing tarry material obtained as a by-product from the alkylation of aromatic hydrocarbons with alkyl chlorides in the presence of a Friedel-Crafts catalyst, the improvement which comprises hydrolyzing said complex in the presence of a nonionic surfactant in an amount sufficient to prevent the formation of stable emulsions.

3,369,054
PREPARATION OF TERMINAL ACETYLENIC COMPOUNDS

Robert P. Zelinski and Ralph C. Farrar, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Sept. 2, 1965, Ser. No. 484,719
11 Claims. (Cl. 260—678)

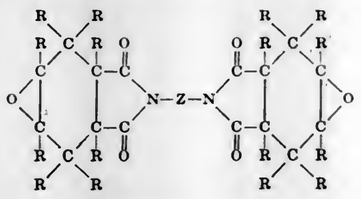
A process for the isomerization of allenes, 1,2-dienes, to terminally bonded acetylenic compounds. Allenes are contacted substantially in the liquid phase with organoalkali metal compounds. This produces a metalated terminally bonded acetylenic compound which when hydrolyzed produces the terminally bonded acetylenic compound.

3,369,055
NITROGENOUS COPOLYMERS

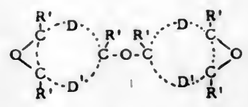
Ival O. Salyer, Dayton, and David Gerald Glasgow, Centerville, Ohio, assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 6, 1965, Ser. No. 512,024
9 Claims. (Cl. 260—830)

1. The solid polymeric product obtained by heating a mixture consisting essentially of (1) a bis-imide of the formula



in which Z is a hydrocarbon arylene or aryleneoxyarylene radical attached to the nitrogen atoms through nuclear carbon, free of olefinic and acetylenic unsaturation and containing from 6 to 12 carbon atoms in the arylene group, and wherein R is hydrogen or a hydrocarbon alkyl radical of from 1 to 5 carbon atoms, (II) an ether compound of the formula



wherein R′ is hydrogen or an alkyl radical of from 1 to 5 carbon atoms and D and D′ are alkylene radicals necessary to complete, with the carbon atoms to which they are attached, a cycloalkyl radical having from 5 to 6 carbon atoms in the ring and a total of from 5 to 8 carbon atoms, and wherein the epoxide oxygen atoms are attached to adjacent carbon atoms in the rings and (III) a diamine of the formula $H_2N—X—NH_2$ wherein X is an arylene or an aryleneoxyarylene radical attached to the two amino radicals through nuclear carbon, free of olefinic and acetylenic unsaturation, and containing from 6 to 12 carbon atoms in the arylene group at above the melting points of the bis-imide and of the diamine but below 300° C.

3,369,056
FLAME RETARDANT PHENOLIC RESIN COMPOSITIONS

Carl G. Schwarzer, Walnut Creek, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 9, 1965, Ser. No. 447,044
4 Claims. (Cl. 260—838)

Flame retardant phenolic resins are obtained by reacting a halobicycloheptenyl bisphenol with formaldehyde in the presence of alkaline catalyst. The new resins are particularly useful for preparing flame resistant laminated products.

3,369,057
POLYAMIDE-POLYESTER DISPERSIONS WHEREIN THE POLYAMIDE IS LESS THAN 40% AMINE TERMINATED

Ian C. Twilley, Petersburg, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed May 18, 1964, Ser. No. 368,028
9 Claims. (Cl. 260—857)

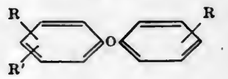
Filaments are prepared of nylon having dispersed therein microfibers of polyesters. The compositions contain 50–90 parts by weight of nylon and 50–10 parts by weight polyesters. The nylon used has less than 40% amine end groups which are reactive with the polyester. The filaments may be used in the preparation of tires.

3,369,058
POLYMERIZABLE ETHYLENICALLY UNSATURATED CARBOXYLIC ACID ESTERS OF DIPHENYL OXIDES AND POLYMERS CONTAINING THE SAME

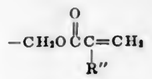
Patrick J. Keenan, Princeton, N.J., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 17, 1965, Ser. No. 514,717
6 Claims. (Cl. 260—872)

This invention relates to ethylenically unsaturated carboxylic acid esters having the formula



wherein R is



and R′ is either —H or R with R″ being either —H or $—CH_3$. The invention is also concerned with polymerizable compositions containing this material and with polymers and copolymers of the material.

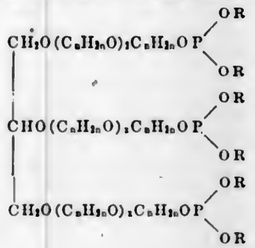
3,369,059
MONOMERIC POLYPHOSPHITES WITH ETHER LINKAGES

Alvin Guttag, Bethesda, Md., assignor to Weston Chemical Corporation, Newark, N.J., a corporation of New Jersey

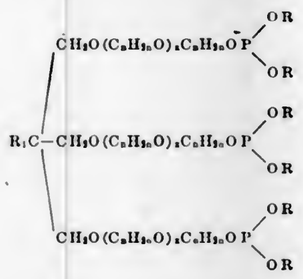
No Drawing. Filed July 27, 1965, Ser. No. 475,281
9 Claims. (Cl. 260—929)

Compounds are prepared having one of the formulae

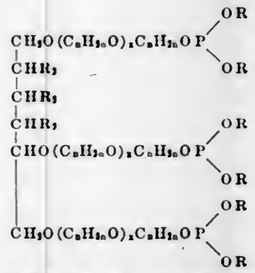
[I]



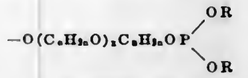
[II]



[III]



where each R is selected from the group consisting of hydrocarbyl and haloaryl, x is zero or a positive integer, n is a small integer of at least 2, R_1 is alkyl and all of the R_2 groups are selected from the group consisting of hydrogen and



3,369,060
ALKYLENE OXIDE-REACTION PRODUCT WITH POLYPHOSPHORIC ACIDS

Paul E. Pelletier, Bartlett, and Floy Pelletier, Lockport, Ill., assignors to Wyandotte Chemicals Corporation, a corporation of Michigan

No Drawing. Original application Aug. 28, 1959, Ser. No. 836,580. Divided and this application Aug. 4, 1966, Ser. No. 570,175
12 Claims. (Cl. 260—933)

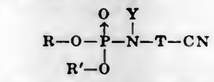
1. A composition of matter comprising the substantially neutral hydroxy reaction product of an oxide selected from the group consisting of ethylene oxide, propylene oxide, butylene oxide and styrene oxide with a phosphorus acid selected from the group consisting of phosphorus acids which correspond to a mixture of from 75–90% by weight of phosphorus pentoxide with from 10–25% by weight of water and partial alkyl ethers of said acids having a residue after esterification of at least one OH group per phosphorus atom, said hydroxy reaction product containing at least one reacted epoxy group per hydroxyl equivalent of said acid.

3,369,061
ESTERS OF N-CYANOALKYL-N-ALKYL-PHOSPHORAMIDIC ACIDS

Edward S. Blake, Ralph E. De Brunner, and James A. Webster, Dayton, Ohio, assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

Filed Oct. 9, 1964, Ser. No. 402,819
10 Claims. (Cl. 260—940)

Compounds of the formula



in which R and R′ are fluorine-substituted alkyl or alkaryl radicals (R′ may also be aryl), Y is alkyl and T is alkylene, said compounds being esters of N-cyanoalkyl-N-alkyl-phosphoramidic acids, and being useful as hydraulic fluids.

3,369,062
DIMETHYL 1-METHYL-2-CARBAMOYLVINYL PHOSPHATE

Loyal F. Ward, Jr., Modesto, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 6, 1964, Ser. No. 401,981
1 Claim. (Cl. 260—943)

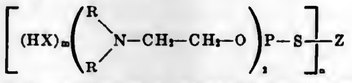
Dimethyl 1-methyl-2-carbamoylvinyl phosphate useful as an insecticide.

3,369,063
O,O-BIS[2-(DISUBSTITUTED-AMINO)ETHYL] DITHIOPHOSPHATES

John F. Olin, Ballwin, Mo., and Ivan C. Popoff, Ambler, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 27, 1964, Ser. No. 406,924
7 Claims. (Cl. 260—945)

O,O - bis[2 - (disubstituted - amino)ethyl]dithiophosphates having the structure



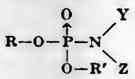
where R is lower alkyl, Z is selected from the group consisting of hydrogen, alkali metal and alkaline earth metal, X is halogen, n is a digit equal to the valence of n and m is a digit from 0 to 2.

3,369,064
FLUORINE-CONTAINING PHOSPHORAMIDATES

Edward S. Blake, Ralph E. De Brunner, and James A. Webster, Dayton, Ohio, assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

Filed Nov. 23, 1964, Ser. No. 412,990
8 Claims. (Cl. 260—955)

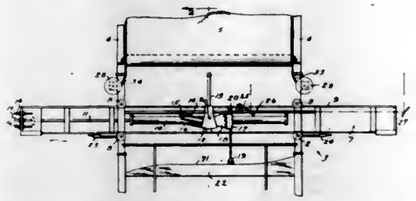
Fluorine-containing phosphoramidates of the formula



wherein R may be, e.g., trifluoromethylphenyl, R′ may be R or halophenyl, Y may be $—(CH_2)_x(CF_2)_yCF_3$ or $—(CH_2)_n$-arylene-CF_3 (x being 1–4, y being 0–5 and n

being 0–2) and Z may be Y or lower alkyl; said compounds being useful as hydraulic fluids.

3,369,065
METHOD AND APPARATUS FOR PRODUCING A LAMINATED BOARD
Donald George Keith, Mount Eliza, Victoria, Australia, assignor to Imperial Chemical Industries of Australia and New Zealand Limited, Melbourne, Victoria, Australia, a company of Australia
Filed Dec. 2, 1964, Ser. No. 415,257
5 Claims. (Cl. 264—47)

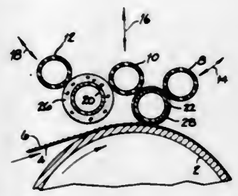


Apparatus for and a method of continuously producing rigid skinned foam (particularly polyurethane) sandwiches wherein a dispensing nozzle reciprocates between rigid sheets prearranged in the desired respective positions and the nozzle is deflected towards the interior of the sandwich board to avoid overspray at the point of reciprocation.

3,369,066
METHOD AND APPARATUS FOR MANUFACTURING OF ASBESTOS-CEMENT
Stephen M. Quint, Orange, and Robert H. Adams, Somerville, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Feb. 17, 1964, Ser. No. 345,165
9 Claims. (Cl. 264—160)

1. A method for manufacturing pipe comprising:
(a) feeding a substantially continuous sheet of asbestos-cement to an anvil roll,
(b) feeding a plurality of mandrels sequentially to a position wherein each of said mandrels is supported on said anvil roll,
(c) moving each of said mandrels to a pipe forming position on said anvil roll with said asbestos-cement sheet passing between said anvil roll and each of said mandrels when in pipe forming position on said anvil roll,
(d) rotating each of said mandrels to form a plurality of laminations of asbestos-cement thereon from said asbestos-cement sheet,
(e) moving each of said mandrels into initial contact with a portion of said anvil roll having no portion of said asbestos-cement sheet thereon,
(f) continuously rotating said anvil roll during the feeding of said plurality of mandrels,
(g) applying pipe forming pressure on the laminations of abestos-cement on each of said mandrels during the formation of every one of said laminations on each of said mandrels,
(h) sequentially removing each of said mandrels with a plurality of laminations formed thereon from the system, and
(i) breaking the web of asbestos-cement extending between the laminations on each of said mandrels and the asbestos-cement sheet.

7. Apparatus for manufacturing pipe comprising:
(a) an anvil roll,
(b) an endless conveyor carrying an asbestos-cement sheet thereon trained around said anvil roll,
(c) means for feeding a plurality of mandrels sequentially to a position wherein each of said mandrels is supported on said anvil roll with said endless conveyor passing between said anvil roll and each of said mandrels,

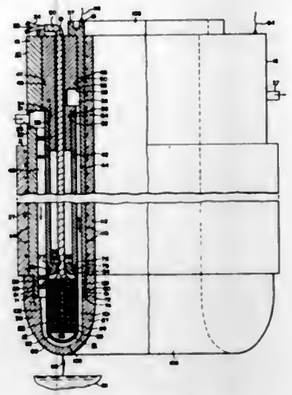


(d) means for moving said endless conveyor to move said asbestos-cement sheet thereon sequentially into contact with each of said mandrels,
(e) means for rotating each of said mandrels to wind said asbestos-cement sheet around said mandrel to form a plurality of laminations thereon,
(f) means for moving each of said mandrels through an arcuate distance in a direction opposite to the direction of movement of said endless conveyor while forming said laminations thereon,
(g) means for sequentially moving each of said mandrels out of contact with said endless conveyor,
(h) means for severing the web of asbestos-cement extending between the laminations on said mandrel and the asbestos-cement sheet on said conveyor,
(i) means for continuously moving said endless conveyor during the formation of said laminations of asbestos-cement on said mandrels, and
(j) means for applying pipe forming pressure on said laminations of asbestos-cement on each of said mandrels during the movement of each of said mandrels through said arcuate distance.

ELECTRICAL

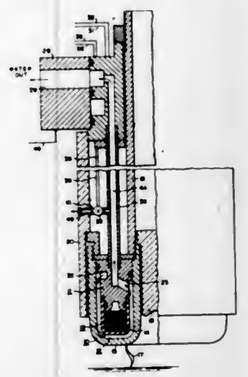
3,369,067
NONCONSUMABLE ANNULAR FLUID-COOLED ELECTRODE FOR ARC FURNACES
Serafino Mario De Corso, Wilkins Township, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 16, 1965, Ser. No. 479,965
14 Claims. (Cl. 13—18)

1. A nonconsumable arc electrode comprising, in combination, electrode face means composed of non-magnetic, conductive material and providing an arcing surface, magnetic field producing means disposed near the arcing surface of the electrode face means, the electrode face means including a generally annular cup-shaped member having inner and outer wall portions and a curved bottom portion and being hollow in the annular central portion thereof, the magnetic field producing means including a coil and annular cup-shaped coil housing means mounted in the electrode face means, the walls of the coil housing means being spaced from the walls of the electrode face means to provide inner and outer fluid passageways and a bottom fluid passageway whereby a cooling fluid may flow around the inner wall surface of the entire annular cup-shaped electrode face means, and a tubular structure including at least three concentric tubes each extending substantially the entire length of the electrode, the tubular structure being composed at least partially of conductive material and supporting the magnetic field producing means and the electrode face means and making electrical connection with the electrode face means, the tubular structure including means providing a plurality of passageways including at least one annular passageway for the flow of a cooling fluid to a passageway in the electrode face means and another annular passageway for conducting fluid from a passageway in the electrode face means, the tube of smallest diam-



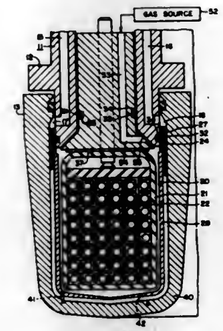
eter forming a central passageway through the electrode, the conductive portion of the tubular structure being adapted to have a source of electrical potential connected thereto for producing an arc from the arcing surface of the electrode face means, the magnetic field causing the arc to move substantially continuously over said arcing surface.

3,369,068
ELECTRODE FOR FURNACE APPLICATIONS PROVIDING STEAM BLEEDING TO PROTECT THE WALL OF THE FURNACE
Peter F. Kienast, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 2, 1967, Ser. No. 619,969
14 Claims. (Cl. 13—18)



An electrode of the type having a fluid cooled tip forming an arcing surface, and a body portion supporting the tip, has means forming two passageways through the body portion, one for conducting cool fluid to the tip, and the other for conducting relatively hot fluid from the tip where some of the heat flux in the metal of the tip has been transferred to the fluid. One or more conduits extending laterally through the electrode body communicate with the means forming the passageway for hot fluid, the laterally extending conduits opening into the space outside the electrode, where the fluid, usually water, is flash evaporated into steam. Electrically controlled valve means in the conduit(s) permits regulation of the fluid flow through the conduit(s).

3,369,069
PNEUMATIC DETECTION OF WEAR AND FAILURE OF AN ELECTRODE TIP
George A. Kemeny, Export, and Ronald R. Akers, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 2, 1967, Ser. No. 620,072
16 Claims. (Cl. 13—18)



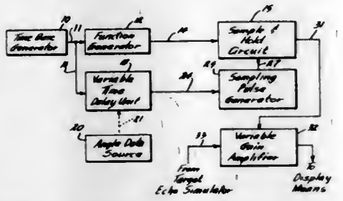
In an electrode having an electrode tip with a fluid cavity in the electrode tip with fluid flowing through conduits in the tip to conduct heat flux from the tip, means is provided to make the cavity pressure-tight and the cavity is then pressurized to at least a few pounds per square inch. A plurality of bores are made in the bottom of the cavity at spaced intervals around the periphery of the electrode, the bores not extending entirely through the means forming the arcing surface but extending a sufficient depth in accordance with the estimated permissible wear of the electrode so that when the material forming the arcing surface is consumed to the point where any bore has the lower or other end thereof forming a complete path to the outside of the tip, gas in the cavity will escape and the pressure in the cavity will be reduced. Several devices are disclosed for indicating when the pressure in the cavity has dropped. One of these is a pressure regulator feeding gas to the cavity through a flow indicating device. In normal operation, there is no flow indication. For higher flows such as would occur after burn-through of the tip metal, the flow detecting means senses increased gas flow and actuates suitable circuitry for giving an alarm and/or initiating shut-down. Another means of detecting when the gas flow increases as a result of one of the bores completing a passage through the tip is to use a flowrator which yields information of how many wear sensing holes are exposed.

Further, a pressure regulator feeds gas at pressure through a suitable tube to the electrode tip cavity. A pressure switch senses cavity pressure through a second suitable passage similar to the inlet passageway to the cavity. Pressure loss in the cavity causes the pressure switch to actuate circuitry for shutting down the arc. We also indicate tip wear or tip failure by partially evacuating the air in the cavity and connecting the cavity to a pressure increase indicator, wear or burnthrough resulting in a pressure increase in the cavity which is indicated by the pressure increase indicator.

3,369,070
FUNCTION MODULATOR FOR SIMULATION APPARATUS

Roland E. Nicht, Cockeysville, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Jan. 20, 1967, Ser. No. 610,695
7 Claims. (Cl. 35—10.4)

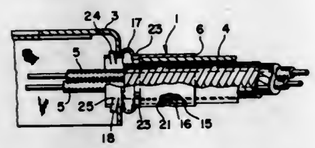


Apparatus for simulating operational radar or sonar equipment for training purposes including means for increasing realism by generating a first electrical function representative of an operating condition, deriving ordinate amplitude information from the first electrical function to provide an output modulation function which is applied to a second electrical function.

3,369,071
ELECTRICAL CONDUIT CONNECTOR

Lauri S. Tuisku, 1669 Columbia Road, Westlake, Ohio 44091

Filed Oct. 15, 1965, Ser. No. 496,317
10 Claims. (Cl. 174—65)



A connector including a tubular sleeve having a circumferentially extending projection adjacent one end which one end is inserted through an opening in a junction box or the like and held in place by prying out a deformable tongue axially inwardly spaced from the projection and disposed at an angle with respect thereto, the free end of the tongue being axially inwardly spaced from said projection by a distance slightly greater than the thickness of the wall of the opening, and the base of the tongue being axially inwardly spaced from the projection by a distance somewhat less than the wall thickness.

3,369,072
CABLE TERMINATION

Cecil Harris, Lexington, and Reed H. Johnston, Wellesley, Mass., assignors, by mesne assignments, to Simplex Wire and Cable Company, Cambridge, Mass., a corporation of Massachusetts

Filed Sept. 10, 1965, Ser. No. 486,475
7 Claims. (Cl. 174—75)



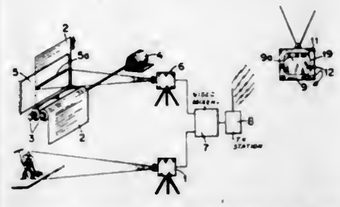
A conductor terminal is disclosed consisting of a plug adapted to be inserted into the end of a sheathed sodium conductor and being so dimensioned that it expands the conductor sheath with portions of the plug having a reduced diameter so that the resilient conductor sheath and plug become mechanically connected. The plug includes a central passage through which the sodium metal is extruded during insertion of the plug into the end of the conductor and the outer end of the plug includes a flange which butts against the end of the conductor sheath. A sleeve is provided to pass over the conductor sheath and the flange of the plug and this sleeve includes longitudinal ribs or splines. These splines pass through corresponding ridges in the plug flange to prevent relative rotation of the plug and sleeve and they also dig into the sheath of the conductor to prevent relative rotation of the sheath and sleeve. A conventional conductor is then connected to the end of the plug flange.

A method of inserting the plug into the end of the conductor is also disclosed using a gear puller and modified Kellem grip and a method for heating the plug to fuse the sheath into the grooves in the plug periphery by applying heat to a metallic cylinder connected to the central passage of the terminal plug is also disclosed.

3,369,073
SYSTEM FOR TRANSMITTING AND REPRODUCING PRINTED MATTER

Edgar F. Scholz, Burgallee 31, Bad Nauheim, Germany

Filed Sept. 18, 1964, Ser. No. 397,454
Claims priority, application Germany, Sept. 25, 1963, Sch 33,918
10 Claims. (Cl. 178—6.6)

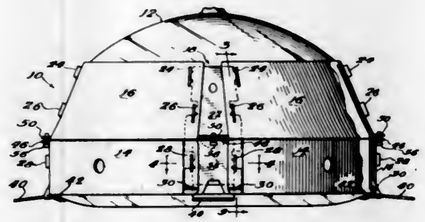


A communication system for transmitting printed matter via conventional scanning equipment, television stations and television receivers by means of repeatedly scanning the same raster and causing the resulting image to appear distorted on a few horizontal lines of the video screen adjacent to a border area. A device focuses, either electronically or optically, the distorted image and feeds this information to a photocopying machine for making a readable copy of the printed subject matter.

3,369,074
TELEVISION TUBE SHIELD AND MOUNTING STRUCTURE

Dominick A. Massa, Arlington Heights, Ill., assignor to Warwick Electronics Inc., a corporation of Delaware

Filed Apr. 2, 1965, Ser. No. 445,001
4 Claims. (Cl. 178—7.82)

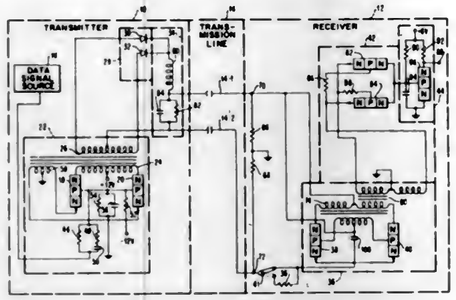


A shielding structure for cathode ray tubes comprising a ring of circular cylindrical segmental elements and a ring of frusto-conical segmental elements tied together by tie members with a hook and slot connection at the juncture of the several segments.

3,369,075
TRANSMISSION SYSTEM FOR DIRECT CURRENT LEVEL BINARY DATA

Hannon S. Yourke, Peekskill, and Edward J. Callahan, Mahopac, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 13, 1964, Ser. No. 410,857
5 Claims. (Cl. 178—68)

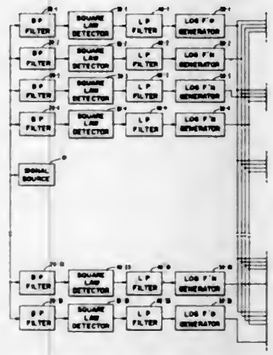


This disclosure is a direct current data transmission system for twisted pair type of transmission lines. Data is put on the line by an AC coupled rectifier system and is decoded from the line by use of blocked oscillator which is powered by the voltage difference across the pair of conductors of the line. An AC coupling from the blocked oscillator to a controlled output level setter completes the transmission without interference from common mode noise voltages on the line.

3,369,076
FORMANT LOCATING SYSTEM

Raimo Bakis, Ossining, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed May 18, 1964, Ser. No. 367,935
10 Claims. (Cl. 179—1)

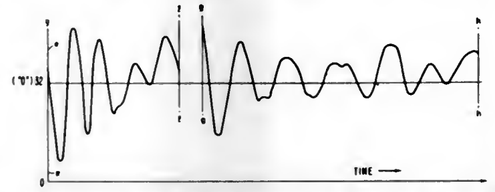


The power spectrum of the input speech signal is established and the slope of the logarithm of the power spectrum is determined. The weighted average of the slope of the logarithm of the power spectrum is obtained and the formant locations are determined from the steps therein.

3,369,077
PITCH MODIFICATION OF AUDIO WAVEFORMS

Walter K. French, Montrose, and Oliver W. Johnson, Jr., Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 9, 1964, Ser. No. 373,751
8 Claims. (Cl. 179—1)

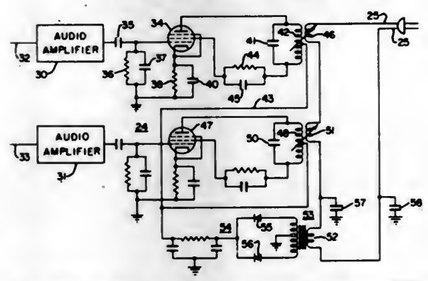


In a speech synthesizing system wherein pitch periods are adjusted according to a predetermined time base, the amplitudes of the beginnings and ends of successive adjusted periods are varied so as to eliminate discontinuities of amplitude in the composite wave form.

3,369,078
SYSTEM FOR TRANSMITTING STEREOPHONIC SIGNALS OVER ELECTRIC POWER LINES

Charles R. Stradley, 3021 E. Peakview Circle, Littleton, Colo. 80120

Filed June 28, 1965, Ser. No. 467,377
3 Claims. (Cl. 179—2.5)



1. A coupling and loading device for impressing stereophonic signals on electric power lines which comprises a power supply circuit, first and second audio signal channels, means for modulating the first channel on a first carrier wave and the second channel on a second carrier wave, a power transformer for supplying energy from said power circuit to said channels, output transformers for said channels each having a primary winding and a secondary winding, means connecting said secondary windings of said output transformers in series with one another and with the primary winding of said power transformer, and means for bypassing radio frequency energy to ground around said power transformer at both terminals of said power transformer primary winding.

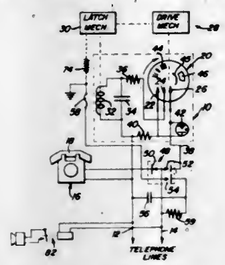
3,369,079
AUTOMATIC TELEPHONE ALARM REPORTING SYSTEM RESPONSIVE TO CHANGES IN VOLTAGE ACROSS SUBSCRIBER'S TELEPHONE LINES

Roger C. Glidden, Wenham, Mass., assignor to The Glidden Electric Corporation, a corporation of Massachusetts

Continuation-in-part of application Ser. No. 158,374, Dec. 11, 1961. This application Feb. 4, 1965, Ser. No. 430,431
12 Claims. (Cl. 179—5)

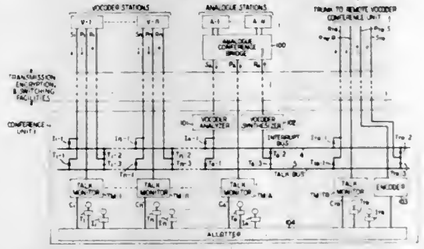
An automatic dialing and message transmitting device connected to the telephone lines at a subscriber's station

through which a sensor may switch the lines from the telephone instrument to the automatic device in order to report to an automatically dialed receiving station. Cylic operation of the automatic device is triggered by the sen-



sor and stops or recycles upon completion of an operational cycle which is controlled by changes in the voltage across the telephone lines at the subscriber's station depending on whether or not the report is received at the receiving station.

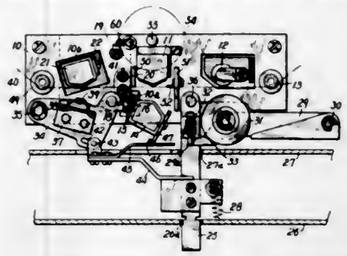
3,369,080
CONFERENCE CIRCUIT FOR CODED SIGNALS PERMITTING CONFERENCE CALLS BETWEEN VOCODER AND ANALOGUE STATIONS
Ralph L. Miller, Chatham, and William Rae Young, Jr., Middletown, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 16, 1964, Ser. No. 418,635
16 Claims. (Cl. 179—18)



Interference between coded signals generated by talkers speaking simultaneously is prevented by a circuit which recognizes only one station as a talker at any time and connects the talker station to the receiving apparatus of all other stations by a unidirectional path. At the same time all other stations have access to a second unidirectional path to the talker station and may thus interrupt. Provision is made for conference service among vocoder and nonvocoder stations and among groups of vocoder stations serviced by widely separated switching stations.

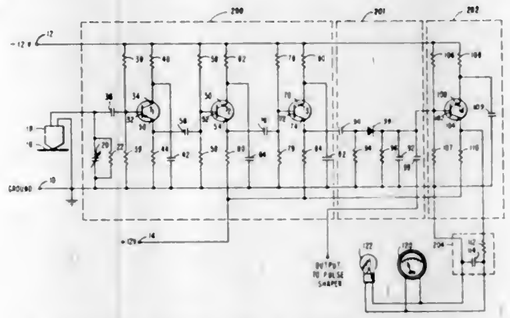
3,369,081
MECHANO-ELECTRIC ELIMINATION OF RESIDUAL MAGNETIZATION IN A MULTI-TRACK RECORDER UTILIZING A SEPARATE BIAS HEAD
Katsuya Atsumi, Tokyo, Japan, assignor to Akai Electric Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Mar. 11, 1964, Ser. No. 351,150
9 Claims. (Cl. 179—100.2)

The invention herein below described is basically a tape recorder head arrangement comprising an erase head, multi-track audio current head and bias head, the bias head being able to pivot with respect to the audio current head. Pivotal movement of the bias head is supplied by a mechanically operated slide bar with an extension attached thereto which permits relative slidable movement between the extension and a cooperating surface on the bias head, said slidable movement being converted into pivotal movement of the bias head. Part of the pivotal movement of the bias head is accomplished



while the bias head is still energized, thereby subjecting the audio current head to a diminishing intensity, high-frequency magnetic field which in effect erases residual magnetism from the core of the audio current head.

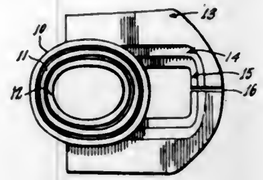
3,369,082
CONTROL TRACK-MONITOR SYSTEM
Earl R. Hibbard, Santa Clara, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed July 13, 1964, Ser. No. 382,178
3 Claims. (Cl. 179—100.2)



A system for reading out a scanned magnetic tape signal of a rotary head recorder to derive servo control and record monitor information therefrom. A stationary playback head is positioned to transduce the central portions of the recorded parallel tracks extending angularly across the width of the tape as the tape is moved in the direction of its length. The resulting signal may be translated into timing information for controlling the rotation of the rotary head drum of the recorder. The signal may also be employed to actuate a meter or the like for indicating the relative amplitudes of the signals recorded on adjacent parallel tracks by the successive heads of the rotary drum. The meter thus facilitates monitoring of the recorded signals during the record process and enables ready adjustment of the record currents of the respective heads, etc.

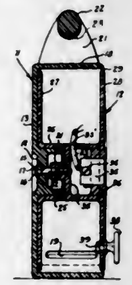
3,369,083
SCANNING TYPE MAGNETIC RECORDING HEAD
Allen B. Clapper, Chicago, Ill., and Robert Wallingford, Valparaiso, Ind., assignors to Universal Recording Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 8, 1964, Ser. No. 402,408
4 Claims. (Cl. 179—100.2)

A scanning device for a recording system wherein the magnetic recording gap of the device can be longitudinally scanned by magnetic or electrical means in such a manner that one portion of the gap shall respond to an informational magnetomotive force and that the respond-



ing portion shall move along at a rate and time duration determined by the parameters of the scanning mechanism.

3,369,084
EXTENSION CORD REEL
William Cook, 387 E. Northampton St., Wilkes-Barre, Pa. 18702
Filed Dec. 21, 1964, Ser. No. 419,812
3 Claims. (Cl. 191—12.4)

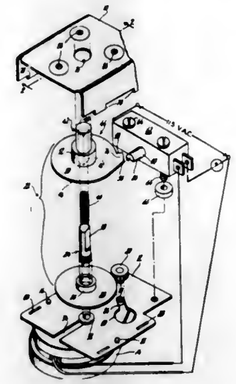


A manually portable reel for paying off or recovering an electric cord or cable wound thereon and including means fixedly mounted in the reel, for rotation therewith, for electrically and mechanically connecting the cord with a secondary electrical circuit.

3,369,085
CYCLE TIMER WITH LATCHING SWITCH PLUNGER
Donald I. Saginario, Waterbury, and Arthur P. Holler, Torrington, Conn., assignors to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 7, 1966, Ser. No. 525,545
5 Claims. (Cl. 200—35)

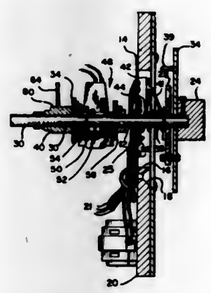
1. In a cycle time, the combination comprising:
a switch means for instituting and terminating a timed cycle, said switch means having a plunger which is moveable between a first position and a second position and biased to said first position;
a control member for determining said positions of said plunger, said control member being mounted for movement between first and second levels and for rotational movement at both of said levels, biasing means for urging, said control member to said first level,
means including a home position of said control member for transferring said plunger to said second position when said control member is at said first level and at a home angular position,
means for latchingly engaging said control member when the latter is moved to said second level for preventing said control member from returning to said first level while permitting said plunger to return to said first position,

an electrically operated timing mechanism, connected to said switch means, said timing mechanism having means for rotating said control member from said home angular position to effect said transferring movement of said switch plunger; and



means on said control member for automatically releasing said latching means in response to rotation of said member from said home angular position whereby said control member is delayedly restored by said biasing means to said first level during said cycle to effect termination of said cycle when said member is returned to said home angular position.

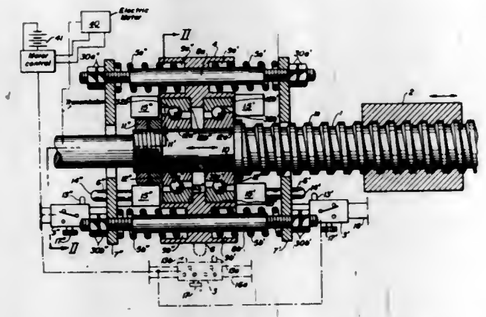
3,369,086
SELECTING SYSTEM
Arnold E. Ristau and Alfred G. Ristau, Kaukauna, Wis., assignors to Melodie-Vendor Corporation, Appleton, Wis.
Filed Feb. 17, 1966, Ser. No. 538,513
6 Claims. (Cl. 200—35)



1. A selector mechanism for coordinating the actuation of one of a number of product dispensers with a coin dispensing mechanism comprising a panel, a shaft and means mounting said shaft for rotary and axial motion in said panel,
a plurality of holes in said panel located in a concentric circle with respect to such shaft,
an electrical circuit termination for each of said holes located on a radial line passing through the corresponding hole, each of said holes indicating the location of the electrical circuit on the panel,
electrical contact means mounted on the shaft for completing the selected circuit, locating means mounted on the shaft for engaging a selected hole in the panel when the shaft is moved axially into the panel,

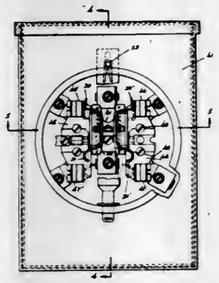
and holding means responsive to the energization of the coin dispensing mechanism to hold the shaft axially inward when a selection is made and releasing the shaft for axial motion outward after a selection has been made.

3,369,087
BEARING ASSEMBLY FOR SHAFTS AND THE LIKE
Fritz Eller, Kevelohstrasse 29, Essen (Ruhr), Germany
Filed Feb. 15, 1965, Ser. No. 432,668
Claims priority, application Germany, Feb. 22, 1964, E 26,472
6 Claims. (Cl. 200—47)



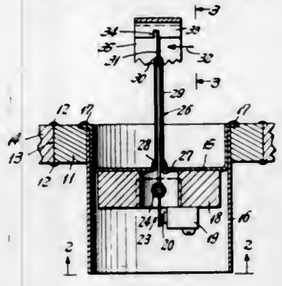
A torque-responsive bearing assembly having an annular bearing plate axially fixed on a shaft and provided with a pair of axially-spaced oppositely effective radial-thrust ball bearings locked between abutments, a pair of plates flanking the bearing plate and spanned by at least two guide bars axially slidable relatively to the bearing plate, and coil springs surrounding the guide bars and resisting axial displacement of the bearing plate while reacting against the plate flanking them, the bearing plate having switch-actuating members.

3,369,088
ELECTRIC METER BY-PASS ARRANGEMENT
George W. Knecht, Brooklyn, N.Y., assignor to Murray Manufacturing Corporation, Brooklyn, N.Y., a corporation of New York
Filed July 27, 1966, Ser. No. 568,199
6 Claims. (Cl. 200—51.11)



1. In combination, a by-pass slide and an electrical meter mount having spaced parallel insulating bases with a line clip spaced from a load clip on each base, said slide comprising a body of insulating material with spaced shoes for guided support on the upper faces of said bases and a central downward projection extending below the plane of said shoes and having side walls for sliding location between said bases, integral bridge means above the plane of said shoes and rigidly interconnecting said shoes and said projection and defining an outwardly facing generally U-shaped space between each shoe and said projection, a first generally U-shaped relatively rigid conductor bar loosely received in one U-shaped space with spaced contact-engaging legs projecting laterally outwardly of the adjacent shoe, a second generally U-shaped relatively rigid conductor bar loosely received in the other U-shaped space with spaced contact-engaging legs projecting laterally outwardly of the adjacent shoe, and spring means retained by said body and constantly urging said conductor bars in opposite outward directions, whereby said slide may be selectively engaged in and disengaged from line-load by-passing relation with the poles of said bases, depending upon the selected slidably guided positioning of said slide on said bases, and with relatively uniform efficacy regardless of minor variations in spacing between line contacts and between load contacts of said meter mount.

3,369,089
DISPLACEMENT TRANSMITTING DEVICE
Robert R. Hellman, Bridgeport, Conn., assignor to Westport Development & Manufacturing Company, Inc., Milford, Conn., a corporation of Connecticut
Filed Jan. 6, 1966, Ser. No. 519,134
7 Claims. (Cl. 200—81.9)

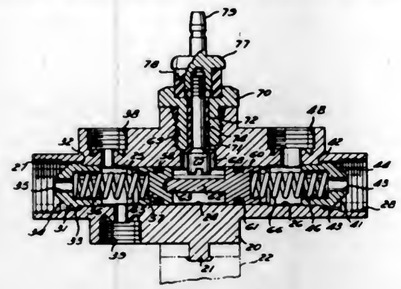


1. A device for transmitting condition causing displacement on one side of a wall to provide an actuating displacement on the other side of the wall with the wall being maintained hermetically impervious comprising pivot means mounted on the other side of the wall, a lever pivoted on said pivot means and having an actuating portion and a rigid sensing portion, an aperture formed in said wall, an elongate tube having an end portion positioned substantially concentrically at the aperture and being sealingly secured to the wall to extend outwardly from the one side of the wall, said tube being relatively rigid transverse to its length and relatively resilient to cantilever bending, displacement causing means secured on the other end portion of the tube, means sealing the other end portion of the tube, said sensing portion extending through said aperture and into said tube for a substantial length thereof and having a smaller cross-sectional periphery than said inner periphery of the tube and means actuated by the actuating portion after a predetermined pivotal movement of the lever, said lever being pivoted in response to the tube being cantileveringly curved by a force on the displacement causing means.

3,369,090
DUAL BRAKING SYSTEM SAFETY DEVICE
John A. Turchan, East Detroit, Mich., assignor to The Weatherhead Company, Cleveland, Ohio, a corporation of Ohio
Filed June 28, 1966, Ser. No. 561,128
6 Claims. (Cl. 200—82)

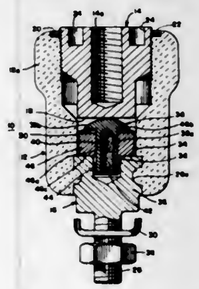
A dual brake system including a switch operable to produce a signal responsive to a pressure unbalance between the two fluid lines. The switch includes a bore

containing a piston exposed to the two pressures at opposite ends. The piston has two sealing portions spaced apart by a portion of reduced diameter. The piston constitutes one switch element and is centered by means of



springs so that upon a pressure inbalance the piston moves from a centered position causing one of the sealing portions to engage a second switch contact in the form of a stud projecting into the bore to complete the electric circuit and produce the signal.

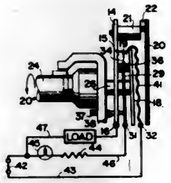
3,369,091
EXPLOSIVE DISCONNECTOR WITH BELLEVILLE WASHER INTERPOSED BETWEEN A CLOSURE WALL AND AN ANNULAR RESISTANCE MEANS
Donald O. Misare, Riverside, Ill., assignor to Joslyn Mfg. and Supply Co., Chicago, Ill., a corporation of Illinois
Filed June 20, 1966, Ser. No. 558,675
2 Claims. (Cl. 200—115)



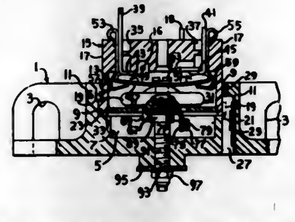
An explosive disconnector of the type wherein an explosive member forms one point of a spark gap and is provided with a bleeder resistance across the spark gap. A Belleville type washer spring loads the confronting surfaces of the explosive member and resistance in order to maintain good electrical contact and to eliminate internal corona discharge or other disturbing effects.

3,369,092
THERMAL STACK SWITCH WITH A PAIR OF ADJUSTMENT MEANS
Dale H. Callihan, Huron, Ohio, assignor to Norwalk Thermostat Company, Norwalk, Ohio, a corporation of Ohio
Filed Jan. 12, 1966, Ser. No. 520,168
12 Claims. (Cl. 200—122)

A thermostatic switch which can be manually set for a manual switch which is closed at a preselected setting of the control for the thermostatic switch. The manual control means common to the thermostat and switch displaces a control blade having contacting regions for the thermostat and switch on the same face. The setting for the manual switch is adjustable to enable that switch to be closed at any of a range of positions of the manual control means encompassing the thermostat operating temperature whereby a thermostatically controlled circuit can be completed either before, after or simultaneously with the closure of the manually controlled switch circuit.



3,369,093
SNAP ACTING THERMALLY RESPONSIVE ELEMENT WITH CONTACTS AT THE PERIPHERY THEREOF IN ROCKING AND SLIDING ENGAGEMENT WITH CORRESPONDING FIXED CONTACTS DURING SNAP ACTION
Walter Reeve Harper, Jr., Barrington, R.I., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Aug. 16, 1966, Ser. No. 572,702
3 Claims. (Cl. 200—122)

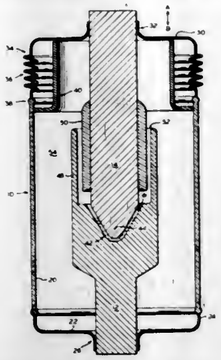


A bimetallic snap-acting plate marginally carries on one side two opposite curved-face contacts between which the plate centrally supports a movable insulated third contact. The curved faces of the marginal contacts with sliding action rockingly engage one of two fixed conductive line terminals in a main circuit. From each line terminal extends a conductive finger. These fingers engage the other side of the plate, one opposite each of the two contacts at the plate margin so as to bias them into free rocking engagement with the two conductive line terminals. When the plate snaps said two contacts move freely without restricting movements of the plate margins and without breaking the electrical connection in the main circuit. Thus the third contact is moved by the plate with efficient snap-action to and from an adjustable part of a third line terminal which is in a control circuit. The assembly of said two line terminals, fingers, plate and third contact is carried in one housing. The third line terminal and its adjustable part are carried in a second housing. These housings are provided with a rotary bayonet type coupling means for convenient assembly prior to sealing, so as coaxially to relate the movable third contact to the adjustable part of the third line terminal.

3,369,094
GALLIUM METAL CONTACT SWITCH
Edwin Langberg, Lexington, and Louis W. Roberts, Wakefield, Mass., assignors to Metcom, Inc., Salem, Mass., a corporation of Delaware
Filed July 15, 1966, Ser. No. 565,449
10 Claims. (Cl. 200—140)

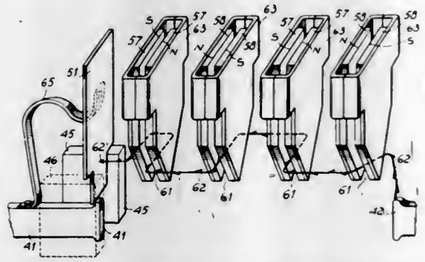
A high voltage of large current capacity having a first electrode spaced from a second electrode with a liquid

metal disposed therebetween. An electrical connection is made when the electrodes contact the liquid metal and



the electrical connection is broken when one electrode is moved out of contact with the liquid metal.

3,369,095
ARC-EXTINGUISHING CHAMBERS FOR ALTERNATING CURRENT UTILIZING PERMANENT MAGNETS
Ernesto Maggi, Viale Vittorio Veneto 69, Bergamo, Italy
Filed May 12, 1964, Ser. No. 366,703
Claims priority, application Italy, Jan. 29, 1964, 1,756/64; Apr. 9, 1964, 7,720/64
5 Claims. (Cl. 200—147)



The disclosure comprises an arc-extinguishing chamber for A.C. arcs comprising at least two sections each including at least one couple of permanent magnets, the couples of the two sections defining, between facing surfaces thereof, a path of travel for the moving contact, separating from a stationary contact, and generating an arc, the couples of each section extending to only one respective side of the path of travel. Each couple includes permanent magnet means providing at least a pair of opposite polarity poles in facing spaced relation to define therebetween an air gap in a permanent magnet circuit, and each section defines, between the poles of its couples, a narrow and tortuous path, for the arc, which is of increasing length so as to displace the arc rapidly away from the path of travel of the movable contact.

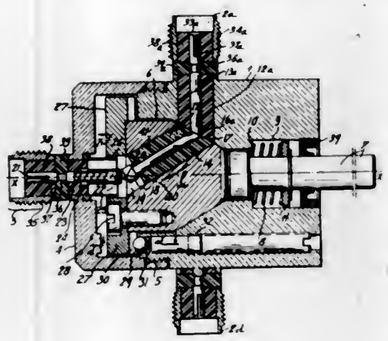
3,369,096
COAXIAL-CIRCUIT CHANGE-OVER SWITCH FOR HIGH FREQUENCY
Yvon Gattaz, Paris, France, assignor to Radiall, Paris, France, a joint-stock company of France
Filed Nov. 22, 1966, Ser No. 596,264
Claims priority, application France, Jan. 5, 1966, 44,952
9 Claims. (Cl. 200—153)

1. A coaxial-circuit change-over switch for high frequency, of the type comprising a central control shaft for the rotational control of the switching position between a coaxial input and a plurality of coaxial outputs distributed uniformly around the periphery of the main body of the switch, said change-over switch comprising:

a conical core rigidly fixed to said central control shaft and being fitted into the interior of the said switch body;

an intermediate coaxial line passing through said conical core, the two extremities of said line coming into contact respectively with the corresponding extremities of said coaxial input and of the switched output;

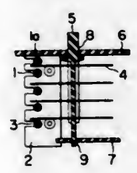
means for ensuring pressure contact between the extremity of the central conductor of the coaxial input



in the interior of the switch and one of the extremities of the central conductor of said intermediate line, and between the inner extremity of the central conductor of the output switched and the other extremity of the central conductor of the intermediate line;

means for ensuring the passage from one switching position to another position by rotation of said control shaft of the switch so that the said rotation causes simultaneously a displacement of said conical core along its axis, thus causing a break without friction of the contact between said central conductor of the output previously switched-over to the input and the central conductor of said intermediate line.

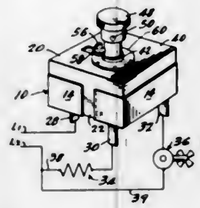
3,369,097
CONTACT DEVICE FOR ELECTRIC SWITCHES
Shinichi Murakami, Hamamatsu-shi, Japan, assignor to Nippon Gakki Seizo Kabushiki Kaisha, Hamamatsu-shi, Japan
Filed Mar. 14, 1967, Ser. No. 622,973
Claims priority, application Japan, Apr. 30, 1966 (utility model), 41/40,189
4 Claims. (Cl. 200—166)



Electroconductive elastic contacts are held in position by a plurality of spaced open slots provided along one edge of a mounting board of electric insulating material.

Each of the open slots comprises a linear portion and a circular enlarged portion at the inner end of the linear portion, the diameter of the enlarged portion being larger than the width of the linear portion but slightly smaller than the diameter of the elastic contact, thus firmly securing it in position.

3,369,098
SWITCH HOUSING INCLUDING RESILIENT COMPENSATING SNAP-ON MEANS
John W. Huffman, Mansfield, Ohio, assignor, by mesne assignments, to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Original application May 8, 1963, Ser. No. 278,959, now Patent No. 3,240,906, dated Mar. 15, 1966. Divided and this application Oct. 14, 1965, Ser. No. 496,055
6 Claims. (Cl. 200—168)

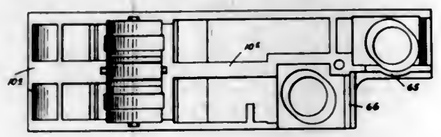




This invention pertains to switch mechanism and particularly to a switch housing of nonmetallic material and a metal cover therefor, the housing having recesses accommodating tab portions of convex shape on the metal cover and the end regions of the tab portions having lateral projections extending into the recesses and snapped over ridges to secure the cover to the housing.

This application is a division of my copending application, Ser. No. 278,959, now Patent No. 3,240,906.

3,369,099
CIRCUIT BREAKER HAVING BREAK-AWAY WALLS
Alexander R. Norden, New York, and Herman H. Kobryner, Forest Hills, N.Y., assignors to Murray Manufacturing Corporation, Brooklyn, N.Y., a corporation of New York
Original application Sept. 30, 1965, Ser. No. 491,611, now Patent No. 3,339,052, dated Aug. 29, 1967. Divided and this application Apr. 14, 1967, Ser. No. 647,264
3 Claims. (Cl. 200—168)



A two-pole circuit breaker is provided with specifically located break-away walls in order to afford alternative access means for cable entry and attachment to the breaker line connectors.

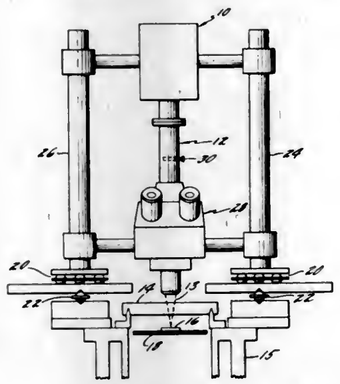
3,369,100
MECHANISM FOR SELECTIVELY OPERATING ONE OF TWO DEVICES
Frank W. Kussy, Birmingham, and Bernard Di Marco, Lincoln Park, Mich., assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 30, 1965, Ser. No. 483,638
11 Claims. (Cl. 200—172)

A selector mechanism for activating only one of two devices at one time including a slide member captively holding a pair of keys, only one of which will be moved



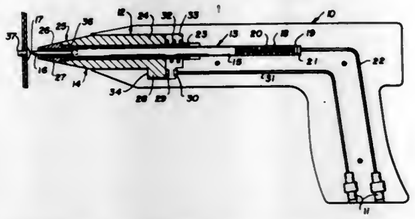
to actuate the associated device when the slide member is moved in a given direction.

3,369,101
LASER MICRO-PROCESSER
Robert A. Di Curcio, Windsor, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 30, 1964, Ser. No. 363,700
5 Claims. (Cl. 219—121)



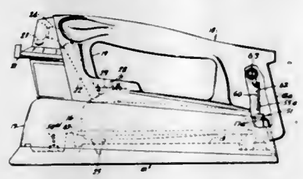
Apparatus for working a workpiece with a laser beam comprising a frame mounted movably with respect to the workpiece for varying the point of impingement on the workpiece of the laser beam, means mounted on the frame for generating said laser beam, said generating means comprising an optical cavity containing a laser element and defining an optical path for the feedback of optical energy thereto, pumping means mounted on the frame for causing oscillation of atoms between energy levels in said laser element, a source of focused light mounted on the frame and displaced along said optical path adjacent said optical cavity and aligned to pass light therethrough along said entire feedback path and through said laser element, means for observing the impingement of light from said source upon a workpiece after transmission through said laser element and emanation from said optical cavity, said observing means comprising means for inhibiting and disabling said pumping means and coherent light lasing action during observation of the workpiece.

3,369,102
EXPLOSIVE RIVET DETONATING TOOL
Theodore M. Jacobs, 520 22nd Ave. NW., Calgary, Alberta, Canada
Filed May 13, 1965, Ser. No. 455,530
2 Claims. (Cl. 219—234)



A hand-held electrically operated resistance-and-arc heating rivet detonating tool, having a centrally positioned spring-loaded electrode for initially seating the rivet, and a concentrically positioned tubular electrode, also spring-loaded, for final seating of the rivet, and a pressure-activated contact switch for energizing the tool. The tool makes possible the sequential steps of seating, retaining and detonating of explosive rivets by means of graduated increased pressure of the tool against the rivet, permitting the operation to be aborted at any desired point until the final pressure is applied against the rivet by means of the rivet detonating tool.

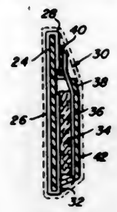
3,369,103
ELECTRIC IRON
Charles Roger Turner, Philadelphia, Pa., assignor to The Proctor-Silex Corporation, Philadelphia, Pa., a corporation of Connecticut
Filed May 14, 1965, Ser. No. 455,902
4 Claims. (Cl. 219—252)



In an electric iron a pair of heater elements, each having a resistor contained within a metal sheath and separated therefrom by a material which is at the same time an electrical insulator and thermal conductor, embedded in the soleplate are made to extend above the soleplate at the pointed end of the iron at which is located a thermostat, preferably vertically oriented and connected to a part of the soleplate selected for accurate heat sensing, and the terminals of the resistor of the heater elements are made sufficiently rigid that when connected to the terminals of the thermostat, preferably at widely spaced points laterally of the iron, they serve to add rigidity to the thermostat and at the same time avoid the necessity of bus bar conductors above the soleplate to the thermostat.

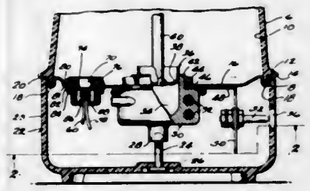
3,369,104
HEAT PRODUCING DEVICE
Lawrence R. Lovercheck, 928 Symonds Place, Utica, N.Y. 13502
Filed Apr. 8, 1965, Ser. No. 446,543
5 Claims. (Cl. 219—268)

A compact single-service disposable electrically operated heat producing device including a battery having a generally circular flattened configuration wherein one of the battery terminals is integral with an electrical resistance heating element which heating element is provided with one integral contact member of a switch means, the other terminal of the battery being provided with an integral switch contact member and wherein the contact members



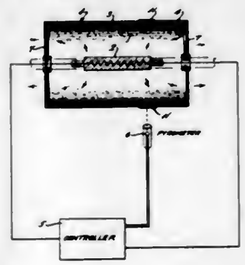
are normally maintained out of electrical contact by means of a removable strip of electrically nonconductive material interposed therebetween.

3,369,105
THERMOSTATIC SWITCH MOUNTING FOR ELECTRICAL PERCOLATORS AND THE LIKE
Sylvester L. Wheeler, Wauwatosa, Wis., assignor to Regal Ware, Inc., Kewaskum, Wis., a corporation of Wisconsin
Filed Feb. 8, 1965, Ser. No. 431,089
7 Claims. (Cl. 219—441)



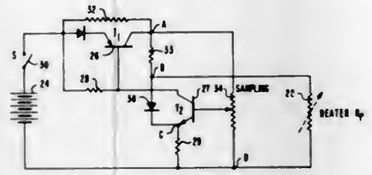
A percolator bottom wall supports a cup-shaped boiler and heating element near its center and has an aperture between such element and the side wall in which is mounted a thermostatic switch with means for controlling the heating element and having insulation which protects it from direct contact with the bottom wall while exposing a thermally responsive portion to the contents of the pot. A resistor in shunt with the normally closed switch passes a limited amount of current to the heating element when the switch opens due to the rising of temperature of the pot contents.

3,369,106
PROCESS-HEATING CONTROL SYSTEM
John H. Troll, Bronx, N.Y., assignor to Pyrotel Corp., Mamaroneck, N.Y., a corporation of New York
Filed July 27, 1965, Ser. No. 475,206
6 Claims. (Cl. 219—471)



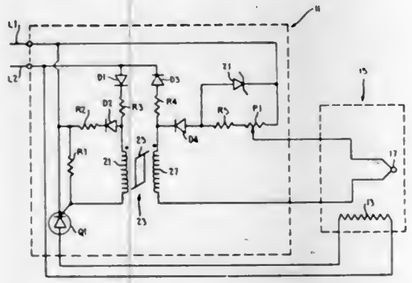
A process roll heating and control system in which a thin-wall hollow rotary process roll is radiantly heated by an infrared emitter positioned inside the roll. An infrared detector sighted on the outside surface of the roll senses roll temperature and a control means associated with the detector controls the infrared emitter heating element in accord with the sensed temperature to maintain the desired roll temperature. The system exhibits a rapid response to temperature transients, and maintains desired roll temperature with a high degree of accuracy.

3,369,107
TEMPERATURE REGULATING CIRCUIT FOR AN INK RESERVOIR
Newton E. Ball, Claremont, Calif., assignor to Neff Instrument Corporation, Duarte, Calif.
Filed Apr. 7, 1965, Ser. No. 446,324
10 Claims. (Cl. 219—499)



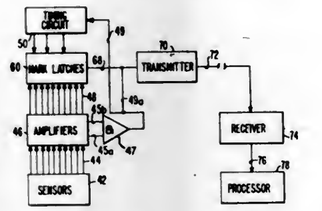
A circuit for regulating the temperature of a wax ink reservoir is provided in which an electrical resistance heating element in thermal communication with the ink supply functions also as the temperature sensor. The heater resistor has a large positive temperature coefficient and is connected in series with a regulating transistor and the power supply. A sampling voltage, representing the desired ink temperature, is compared by a second control transistor with the voltage across the heater resistor, the output of the second transistor being connected to control the conductance of the regulating transistor.

3,369,108
TEMPERATURE CONTROLLER
Richard W. Strachan, Providence, R.I., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed May 11, 1965, Ser. No. 454,776
10 Claims. (Cl. 219—501)



A temperature controller is disclosed in which the energization of an electric heater is varied by varying the phase angle of triggering of an SCR which applies power to the heater. The SCR is triggered by a saturable reactor having a magnetic core which is periodically magnetized in one direction by a first winding to an extent which varies as a function of the resistance of a thermistor sensing the temperature in the zone affected by the heater. The core is alternatively magnetized in the opposite direction by a second winding to an extent which is a function of time. The second winding is interconnected with the gate of the SCR to trigger the SCR into conduction after the core saturates and thus the time at which the SCR is triggered varies as a function of the previous magnetization of the core by the first winding.

3,369,109
COMMUNICATIONS CONTROL SYSTEM
Ralph A. Gregory, Endwell, N.Y., and Norman S. Stockdale, Rochester, Minn., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 16, 1963, Ser. No. 280,824
3 Claims. (Cl. 235—61.11)



A control record having prerecorded thereon groups of sensible code indicia. Also present are character designating positions, one for each group of sensible indicia. Sensing means generate electrical signals from the sensible indicia and further means select for transmission, and transmit, only those signals derived from sensible code groups whose corresponding character designating position is made sensible.

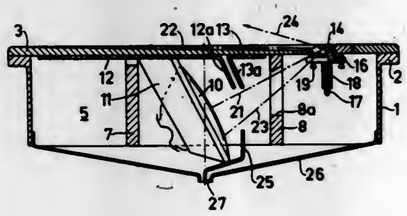
3,369,110
ARITHMETIC CIRCUIT FOR SIMULTANEOUS GENERATION OF SUM AND CARRY SIGNALS
Herman Jacob Heijn, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 7, 1964, Ser. No. 358,010
Claims priority, application Netherlands, Apr. 19, 1963, 291,754
4 Claims. (Cl. 235—175)

$$c_{i,i+1} = x_i\, y_i \vee c_{i-1,i} \vee (x_i \vee y_i)\, c_{i-1,i} \equiv p_i \vee c_{i-1,i} \vee q_i \vee c_{i-1,i}$$
$$s_i = (x_i \vee y_i \vee \bar{x}_i\, y_i) \vee c_{i-1,i} \vee (x_i\, y_i \vee \bar{x}_i\, \bar{y}_i)\, c_{i-1,i} \equiv r_i \vee c_{i-1,i} \vee \bar{r}_i \vee c_{i-1,i}$$
$$p_i = x_i \vee y_i \qquad q_i = \bar{x}_i \vee \bar{y}_i \qquad r_i = x_i \vee \bar{y}_i \vee \bar{x}_i \vee y_i = \bar{p}_i \vee q_i$$
$$\bar{p}_i = \bar{x}_i \vee \bar{y}_i \qquad \bar{q}_i = x_i \vee y_i \qquad \bar{r}_i = x_i \vee y_i \vee \bar{x}_i \vee \bar{y}_i = p_i \vee q_i$$

1. An arrangement for forming digital summations from sum and carry component signals and comprising a multidigit storage matrix having a plurality of rows of storage elements for the retention of a plurality of digits arranged in a sequentially ordered multidigit array, and a plurality of information transfer control means, each associated with one digit order of said multi-order sequence and connected to said matrix, each said control means comprising a temporary bistable storage means, a multi-input logic circuit for forming an intermediate signal representative of said sum and carry component signals, first switching means connecting said matrix to the input of said bistable storage means for forming said sum component signal, second switching means connecting the output of said logic circuit to said matrix, means connecting one input of said logic circuit to the output of said bistable storage means for receiving said sum component signal, means connecting another input of said logic circuit to the output of the preceding logic circuit associated with the last digit order position in descending order of significance for receiving said carry component signal,

third switching means connecting the output of said logic circuit to an input of the succeeding logic circuit associated with the next digit order position in ascending order of significance for supplying thereto the next digit order carry component signal, means successively applying control signals to said first, second and third switching means respectively to initiate and maintain information transfer to and from said matrix through each said control means in a predetermined sequence to form said sum component signal for one order digit and said carry component signal for the next order digit in ascending order of significance.

3,369,111
TAKE-OFF AND LANDING LIGHT UNITS FOR AIRFIELD RUNWAYS
Erik Patrik Viktor Svensson and Uno Nyberg, Stockholm, Sweden, assignors to Kgl Luftfartsstyrelsen, Stockholm, Sweden, a Swedish joint-stock company
Filed Sept. 1, 1965, Ser. No. 484,256
9 Claims. (Cl. 240—1.2)

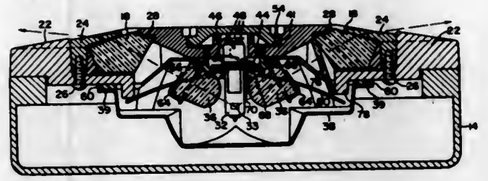


This disclosure relates to a landing light for aircraft runways which is constructed so that the cover or roof thereof is level with the runway surface, the only part which extends upwardly being a reflector or a group of reflectors which serve to direct light from a source within the housing along paths at a slight elevation to the horizontal. The reflectors are resiliently mounted and thus automatically retract when struck by aircraft wheels or maintenance equipment, without damage to the structure.

Additionally, heat-conductive means are placed in the path of some of the light rays within the housing, these heat-conductive means being fixed to the cover and thus serving to melt snow thereon and prevent the accumulation of snow and ice. A drain hole is provided at the base of the housing and additional heat-conductive means extend from position in the path of light rays into the drainage opening, thus assuring that snow or ice melted by the heated cover or roof and passing through the aperture through which the reflectors normally extend is maintained in the liquid state and discharged through the drain opening.

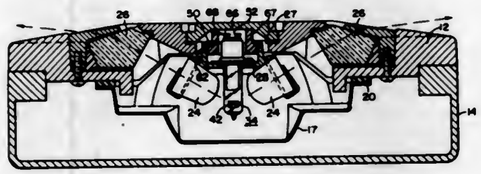
3,369,112
RUNWAY CENTERLINE LIGHT
Charles H. Loch, Berea, Ohio, assignor to Westinghouse Electric Corporation Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 12, 1966, Ser. No. 586,111
10 Claims. (Cl. 240—1.2)

1. An airport runway light for projecting a substantially horizontal light beam bidirectionally along a runway comprising:
(a) a cover plate having an upper face and a cavity formed in the underside thereof;
(b) first and second light refracting means sealed into oppositely disposed passages connecting said cavity with said upper face;
(c) an access aperture centrally located in said upper face and extending into said cavity;
(d) a support plate secured to the underside of said cover plate and bridging said access aperture at its juncture with said cavity;
(e) a light source mounted on said support plate and extending into said cavity, said light source having a light producing filament therein;
(f) means removably secured within said access aperture effectively sealing off said aperture and electrically connecting said light source, and



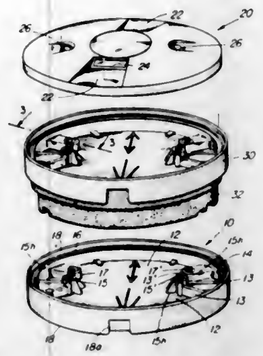
(g) a reflector secured to the underside of said cover plate substantially coextensive with said cavity to define with said cavity an optical enclosure, said reflector having a plurality of parabolic surfaces arranged in predetermined positions with respect to said light source to thereby reflect a substantial portion of the light from said source at and through said light refracting means.

3,369,113
RUNWAY CENTERLINE LIGHT
Charles H. Loch, Berea, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 12, 1966, Ser. No. 586,130
10 Claims. (Cl. 240—1.2)



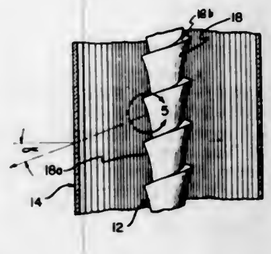
1. A self-contained airport runway light comprising:
(a) a metal casting having a top face and a bottom face, said bottom face having a cavity therein;
(b) a port communicating between said top face and said cavity;
(c) a support plate mounted within said cavity across said port, said support plate including lamp positioning means thereon;
(d) a reflector secured with respect to said support plate and extending about the periphery of said cavity; said reflector and said cavity defining an enclosure;
(e) a pair of oppositely disposed prisms sealed within apertures in said casting communicating with said enclosure, said prisms refracting light from said enclosure to transmit beams of light exteriorly of said casting;
(f) an inverted lamp including a base portion and a bulb portion having a filament therein and locating means therearound positioned within said port, said locating means coacting with said positioning means on said support plate to determine the elevation and azimuth of said filament within said enclosure;
(g) resilient conductor means within said port for conducting electrical power to said lamp; and
(h) access means sealing of the top of said port and forcing said resilient conductor means to establish electrical contact with said lamp.

3,369,114
AIRFIELD RUNWAY LIGHT FIXTURE EXTENSION
Ben C. Carter, Rte. 3, Box 130, New Bern, N.C. 28560
Filed Oct. 25, 1966, Ser. No. 589,446
12 Claims. (Cl. 240—1.2)



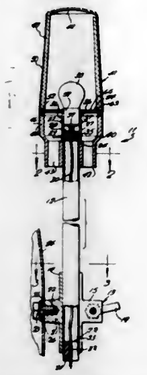
1. For elevating the upper or flush surface of an existing flush-mounted lighting fixture of the type having base and cover members, an extension comprising a body having a lower surface configured as substantially the mating image of the upper surface of the base member of an existing lighting fixture, said body having an upper surface configured as substantially the mating image of the lower surface of the base member of a second lighting fixture to be mounted thereon, said body including a pair of apertures extending therethrough, at least one of each of said apertures being aligned with an electrical wire terminal provided on said existing first lighting fixture, said lower and upper surfaces of said body being spaced apart a distance equal to the desired elevation of the flush surface of said first existing fixture.

3,369,115
ELONGATED LUMINAIRE WITH DIRECTIONAL CONTROL OF LIGHT DISTRIBUTION
Edward H. Yonkers, Glencoe, Ill., assignor to Joslyn Mfg. and Supply Co., Chicago, Ill., a corporation of Illinois
Continuation of application Ser. No. 418,741, Dec. 16, 1964. This application Apr. 3, 1967, Ser. No. 628,155
3 Claims. (Cl. 240—3)



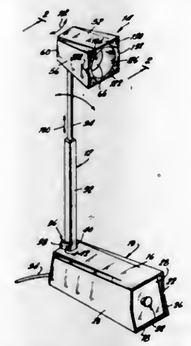
An electric lamp includes an envelope having an outer wall shaped with spiraling concave wall surfaces generally inclined inwardly and downwardly to provide for vertical light control by the shaped surface of the lamp envelope. Such an envelope is particularly advantageous when used with a low pressure discharge lamp such as a fluorescent lamp having its light producing medium on the inner surface of the envelope.

3,369,116
TRACTOR LIGHT
Francis L. Klingle, Sr., % Modern Manufacturing Co., Box 42, Cresco, Iowa 52136
Filed Oct. 19, 1965, Ser. No. 497,916
5 Claims. (Cl. 240—8.1)



A tractor safety warning light assembly consisting of a hollow post provided at its lower end with a bracket for adjustable pivotal attachment to the side of a tractor fender. A lamp socket is provided at the top end of the post. A lamp is mounted in the socket. The ventilated bottom portion of a translucent lamp globe is slidably-mounted on the post below the socket. Said bottom portion carries a band of reflective material. A colored translucent dome element is threadedly-engaged with the top rim of said bottom portion. An apertured protective disc surrounds the base of the lamp, being supported on the rim of the lamp socket, and fits slidably in the lower rim of the dome element, being engaged by a downwardly-facing shoulder provided in said lower rim.

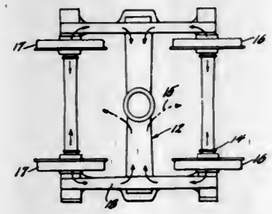
3,369,117
MINIATURE HIGH INTENSITY LAMP
Robert V. Nicolosi, Valley Stream, N.Y., assignor to Eagle Electric Mfg., Co., Long Island City, N.Y., a corporation of New York
Filed Jan. 18, 1966, Ser. No. 521,301
4 Claims. (Cl. 240—81)



1. A miniature high intensity lamp comprising a base, an arm having one end pivotally mounted on said base, said arm comprising telescoping sections whereby the total length of said arm may be varied, a head pivotally connected to the other end of said arm, a light socket in said head adapted to receive a high intensity light therein, hollow reflecting means having inclined side

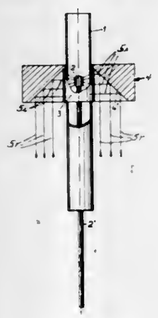
walls defining a conically-shaped reflector having a tapering bore, mounting means for releasably mounting said reflecting means on said head in a first position wherein the smaller end of said tapering bore is nearest said light socket and a second position wherein the enlarged end of said tapering bore is nearest said light socket, and circuit means for selectively connecting said light socket with a source of potential to illuminate a light received in said socket.

3,369,118
HOT BOX DETECTION MEANS AND METHOD
Roland A. Howell, 3814 Woodbrook Drive, Chattanooga, Tenn. 37406
Filed Mar. 29, 1965, Ser. No. 443,228
5 Claims. (Cl. 246—169)



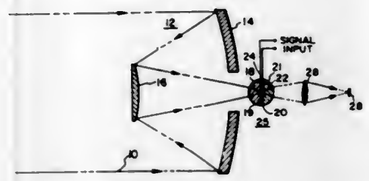
The presence of overheated bearings in railway cars is detected by measurement of thermoelectric currents that are induced at the junction between the hot brass bearing materials and the like and the cooler steel frames and which will pass through the rails. Detection of current flow, induced currents or potentials in the rails will provide a signal which increases disproportionately as the bearing temperature increases.

3,369,119
APPARATUS FOR EXAMINING TUBES COMPRISING AN X-RAY SOURCE AND FLUORESCENT SCREEN
Heinz Brachvogel, Vaduz, Liechtenstein, assignor to Contina Bureaux- und Rechenmaschinenfabrik Aktiengesellschaft, Mauren, Liechtenstein
Filed Mar. 19, 1964, Ser. No. 353,199
Claims priority, application Germany, Mar. 21, 1963, B 71,223
6 Claims. (Cl. 250—71)



2. Apparatus for examining tubes comprising a radiation source, a cylindrical fluorescent screen surrounding the radiation source, said source being located on the axis of said cylindrical screen, means for positioning a tube coaxially with said screen so that its wall lies between the source and the screen whereby to produce a fluorescent image of said wall upon the screen, and optical means surrounding the screen and arranged to produce a panoramic view of the fluorescent image.

3,369,120
CONVERGENT RADIATION MODULATION SYSTEM
Gerald Falbel, Stamford, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware
Filed Feb. 14, 1964, Ser. No. 344,999
12 Claims. (Cl. 250—83.3)



1. A convergent radiation modulation system comprising

(a) optical means for converging radiation to a focal plane,

(b) a frustrated internal reflection optical radiation modulating means in optical alignment with and positioned in proximity to the focal plane of said optical means having first and second refracting elements separated by an interface formed by parallel optically flat surfaces from each of said first and second refracting elements with the amount of radiation transmitted through said interface being dependent upon the separation between said parallel optically flat surfaces,

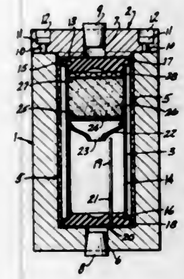
(c) said first refracting element forming a part of said optical means and being a convergent element of a geometric configuration for passing and applying at least a portion of the radiation of said optical means to said interface at greater than the critical angle so that total internal reflection may take place at said interface when said parallel optically flat surfaces are sufficiently separated, and

(d) electrical means responsive to electrical signals for controlling the separation between said parallel optically flat surfaces and therefore said interface for controlling by frustrated internal reflection at said interface the radiation passing through said frustrated internal reflection optical radiation modulating means.

6. The system set forth in claim 1 wherein said first and second refracting elements comprise an immersion lens which is divided into two pieces, with said interface being formed by the two pieces, and a detector mounted on at least one of said pieces.

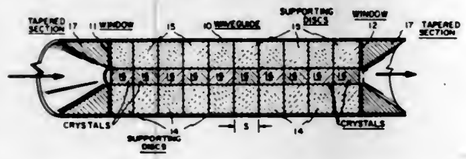
3,369,121
RADIOACTIVE PACKAGE AND CONTAINER THEREFOR
Gerald A. Bruno, Shrewsbury, Thomas A. Haney, East Brunswick, Paul Numerof, Highland Park, and Karl Reinhardt, Milltown, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 6, 1966, Ser. No. 540,689
10 Claims. (Cl. 250—106)

This invention relates to a new device for containing a column of elutable radioactive material. The device comprises a hollow body, in which the column of radioactive material is contained, closed at its two ends by pierceable closures, preferably made from resilient material. In this manner a closed system is achieved which can be sterilized and remains sterile in use. The device is preferably shipped in a shielding container having a removable closure. The removable closure and the bottom of the container are both apertured so that access can be had to the interior of the container without removing the closure. By use of a closed system consisting of a hypodermic syringe containing the eluting solution, a hypodermic needle therefor that is used to pass through the aperture in the closure and pierce the top of the device so that the solution can be introduced into the top of the column, a tube containing hypodermic needles at both ends, one needle of which is inserted through the aperture in the



bottom of the column into the bottom of the device and the other needle through the closure of an empty sealed vial which is also pierced by another hypodermic needle open to the atmosphere through a sterile plug of cotton, a sterile system for eluting the column and recovering the eluate containing the desired radioactive material is achieved. The preferred radioactive material contains the element Mo^{99} yielding radioactive technetium as the eluted radioactive material.

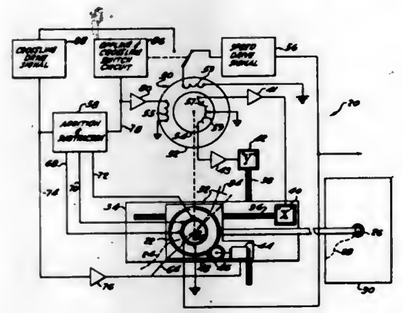
3,369,122
ASYNCHRONOUS TRAVELING WAVE ELECTRO-OPTIC LIGHT MODULATOR
Carl F. Buhrer, Oyster Bay, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware
Filed Sept. 3, 1965, Ser. No. 484,912
14 Claims. (Cl. 250—199)



An asynchronous traveling wave light modulator is described wherein the phase velocity of a rotating modulating field differs from the light group velocity. The asynchronous condition is compensated for by utilizing a plurality of electro-optic crystals aligned to have a common 3-fold rotation axis. Each of the crystals is rotated about the common axis relative to adjacent crystals by an amount equal to one-third the rotation of the modulating field therein with respect to the rotation of the axis of polarization of the light beam.

3,369,123
PATTERN TRACING APPARATUS WITH CROSSLINE DETECTION CIRCUIT
Francis G. Bardwell, Chicago, and Robert A. Payne, Des Plaines, Ill., assignors to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Jan. 13, 1965, Ser. No. 425,234
17 Claims. (Cl. 250—202)

8. A system for tracing along a pattern line to a crossline comprising a rotatable sensing head having a front-to-back axis, said sensing head comprising photosensitive means having a pair of elongated sensitive areas aligned parallel to one another transverse to the front-to-back axis of said sensing head and arranged to have an image of a different segment of the pattern line cast upon each sensitive area, said sensitive areas spaced from one another a distance less than the width of said crossline, each of said sensitive areas adapted to cause a fluctuation of an electric signal proportionate to variations in light intensity, means for modulating said images oscillating at a predetermined frequency and phase with equal amplitude across a plane containing the front-to-back axis of said sensing head, electric motor means for rotating said sensing head with respect to said pattern line, coordinate drive means for translating said sensing head with respect to said pattern line, a resolver for energizing said coordinate drive means, means providing a first drive signal of said predetermined frequency and phase connectable to said resolver for energizing said coordinate drive means to drive said sensing head in a forward direction at a constant speed, means for producing a signal proportional to the sum of said electric signals, means for producing a signal proportional to the difference of said electric signals whereby the predetermined frequency components of said sum and difference signals are indicative of the transverse and angular displacements, respectively, of the front-to-back axis of the sensing head from the pattern line, means responsive to said predetermined frequency components of said difference signal for energizing said electric motor means to angularly align

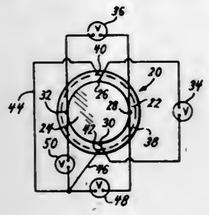


said front-to-back axis with the segments of the line being sensed, means responsive to the predetermined frequency components of said sum signal for providing a positional signal to said resolver to positionally align said front-to-back axis with respect to the segments of the line being sensed, means for splitting the phase of said difference signal, a diode demodulator in receipt of a reference signal of said predetermined frequency and phase and in receipt of the output of said phase splitting means for producing a second drive signal of said predetermined frequency, whereby the amplitude and phase thereof are indicative of the amount and direction respectively of the deviation between the image of said crossline and a line midway between said sensitive areas, first switch means for alternatively connecting one of said drive signals to said resolver, means including second and third switch means for activating said first switch means to connect said first drive signal to said resolver only upon the presence of a second harmonic component in said sum signal, said last mentioned means also being responsive to a reduced amplitude of said second harmonic component in said sum signal caused by at least one of said sensitive areas encountering said crossline for de-energizing only said second switch means to deactivate said first switch means whereby said second drive signal is connected to said resolver and said coordinate drive means drives said sensing head to center said sensitive areas with respect to said crossline.

3,369,124
PHOTOVOLTAIC DEVICE FOR INDICATING POSITION AND INTENSITY INCLUDING PERIPHERAL ELECTRODE

James E. Dueker, St. Louis County, Mo., assignor to McDonnell Aircraft Corporation, St. Louis County, Mo., a corporation of Maryland

Filed May 29, 1963, Ser. No. 284,092
12 Claims. (Cl. 250—211)

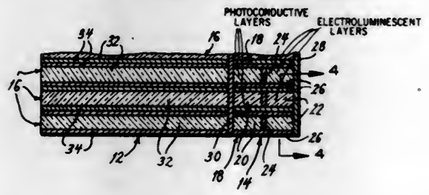


1. A light sensitive device comprising a wafer-like element formed of two layers of material each having a different conductivity characteristic, a plurality of spaced electrodes connected to one of said layers, another electrode attached to the other layer and extending around the periphery thereof, said peripheral electrode being located outwardly on the element relative to the aforementioned electrodes, means for focusing a spot of light on one of said layers in the region defined within the peripheral electrode, and voltage sensitive means connected between preselected ones of said plurality of electrodes and between said peripheral electrode and at least one of said plurality of electrodes, said voltage sensitive means responding to voltage differences between the associated electrodes connected thereto in response to impingment of said light spot on said layer, movement of said light spot on said one layer resulting in changes in the voltages sensed between said electrodes.

3,369,125
OPTICAL FIBER ELECTROLUMINESCENT-PHOTOCONDUCTIVE IMAGE INTENSIFIER

James E. Dueker, St. Louis County, Mo., assignor to McDonnell Aircraft Corporation, St. Louis County, Mo., a corporation of Maryland

Filed Sept. 9, 1963, Ser. No. 307,695
17 Claims. (Cl. 250—213)

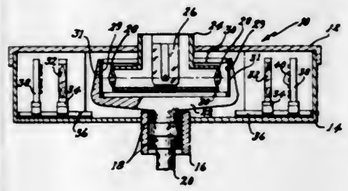


1. An image intensifier device comprising an elongated optical fiber capable of conducting light therealong, said optical fiber having spaced end surfaces and a side surface extending therebetween, means forming a layer on the side surface of the fiber to opticaliy isolate said fiber from the surrounding light, and an image intensifier cell attached to one end surface of the fiber, said cell including a first layer of material having photoconducting properties, a second layer of material having electroluminescent properties, and a third layer of material having predetermined optical absorbing properties positioned therebetween to allow a predetermined optical feedback between the first and second layers, a coating of opaque material around the periphery of said cell optically isolating said first, second and third cell layers from the surrounding light, a first layer of transparent electrical conducting material positioned between said first cell layer and said one end surface of the fiber, and a second layer of transparent electrical conducting material attached to the opposite side of the cell from the first transparent layer.

3,369,126
NOMOGRAPHIC COMPUTER SCANNING MEANS INCLUDING CANTILEVER MEANS TO SUPPORT THE FILM MEMORY

Douglas P. Adams, Cambridge, Mass., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Mar. 4, 1964, Ser. No. 349,513
5 Claims. (Cl. 250—219)

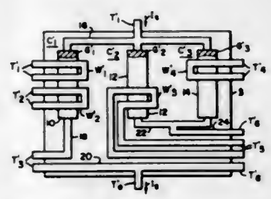


4. A nomographic computer scanning means for presentation of a light picture of a film memory containing countable bits thereon comprising, a housing, means mounted within said housing for supporting a film memory, said support being in the form of a cylinder, shaft means attached cantilever fashion to said film memory support for rotation thereof, bearing means mounted on said housing for journaling said shaft, optical means mounted within said housing and on the central axis of said cylinder for projecting light normal to the axis of said cylinder such that light is impinged upon said film and is projected therethrough where countable bits of information are recorded, and optical means mounted within said housing for reception of light which is passed through said film, said last-mentioned optical means focusing the image of said bits upon a means for conversion of said light images into electrical potentials.

3,369,127
CRYOGENIC UNIVERSAL LOGIC ELEMENT

William M. Kaufman, Westfield, N.J., and Terry A. Jeeves, Penn Hills Township, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 26, 1964, Ser. No. 370,268
7 Claims. (Cl. 307—212)

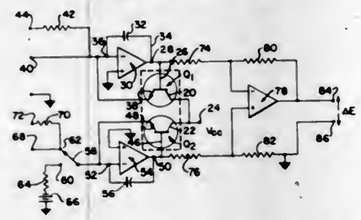


1. A cryogenic universal logic element operative with input signals and energized by a current source including, a first cryotron logic device including a plurality of control windings associated therewith to receive input signals, a second and a third cryotron logic device operatively connected in parallel, each of said pair of devices having a control winding disposed thereon, each of said devices being operative to pass current therethrough from the current source if a first type of input signal is applied to any of its associated control windings and to block passage of current therethrough if a second type of input signal is applied to any of its associated control windings, first output terminals operatively connected to said first device to provide first output signals indicative of predetermined logic functions of the input signals, and second output terminals operatively connected to said second and third devices to provide second output signals indicative of a predetermined logic function of the input signals.

3,369,128
LOGARITHMIC FUNCTION GENERATOR

Alan R. Pearlman, Newton Highlands, Mass., assignor to Nexus Research Laboratory Inc., Canton, Mass., a corporation of Massachusetts

Filed Feb. 10, 1964, Ser. No. 343,541
12 Claims. (Cl. 307—229)

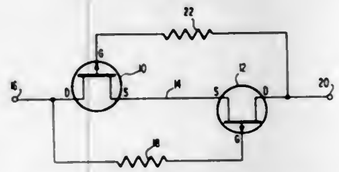


A device for determining the logarithm of the ratio of two signals, each signal being applied to the input of a respective operational amplifier in which the feedback loop is through the base emitter junction of a transistor. The two transistors are matched for temperature characteristics and maintained at the same temperature. The amplifier outputs can then be summed to obtain the desired signal.

3,369,129
CURRENT LIMITER EMPLOYING FIELD EFFECT DEVICES

Arden J. Wolterman, Apalachin, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Mar. 29, 1966, Ser. No. 538,262
2 Claims. (Cl. 307—237)



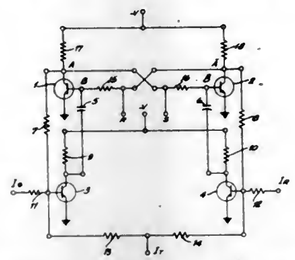
A current limiter comprising two field effect transistors having their drain-source paths connected in series and the remaining terminal of each transistor resistively connected to the gate terminal of the other transistor. The voltage drop across one transistor reverse biases a gate diode of the other transistor to produce a current saturation at a certain input voltage level.

3,369,130
GATING CIRCUIT FOR SETTING, RESETTING, AND CHANGING THE STATE OF A TRANSISTOR FLIP-FLOP FOR VOLTAGE LEVEL INPUT CHANGES

Barry J. Stern, % Indiana Instruments, Inc., P.O. Box 2112, Hammond, Ind. 46323

Filed Aug. 31, 1966, Ser. No. 576,317
1 Claim. (Cl. 307—247)

The present invention discloses the art of interconnecting two monostable multivibrators to form a bistable multivibrator. Controlling the state of the resulting bistable multivibrator for sequential circuitry applications such as counters and shift registers is determined by applied voltage levels and their changes to the inputs of the monostable multivibrators. No diodes are used and

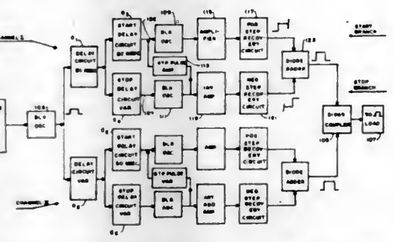


the entire circuitry can consist of four interchangeable transistors, four interchangeable collector load resistors, eight interchangeable base resistors, and two interchangeable timing capacitors. Voltage switching at high speeds is attainable.

3,369,131
PULSE SHAPING GENERATOR EMPLOYING PLURAL STEP-RECOVERY DIODES

Edgar Stromer, Mannedorf, Switzerland, assignor to SCM Corporation, New York, N.Y., a corporation of New York

Filed Mar. 15, 1965, Ser. No. 439,872
7 Claims. (Cl. 307—281)



Circuits employing step-recovery diodes in cascade provide improved pulse rise and fall times of the order of less than one nanosecond. Respective sets of such cascaded diodes are used together with appropriate delay circuits and analog adders to define pulse width. Paralleling two such circuits provides a simple realization of a double pulse generator.

3,369,132
OPTO-ELECTRONIC SEMICONDUCTOR DEVICES

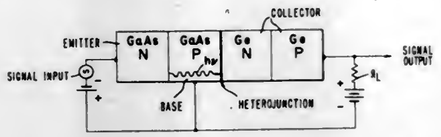
Frank F. Fang, Yorktown Heights, Tsu-Hsing Yeh, Poughkeepsie, and Hwa Nien Yu, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 14, 1962, Ser. No. 237,501
8 Claims. (Cl. 307—299)

1. An opto-electronic device including two spaced junctions in a body of monocrystalline semiconductor material which are coupled by electromagnetic recombination radiation rather than by minority carrier diffusion, said device comprising:

(a) a single body of monocrystalline semiconductor material having first and second spaced junctions;
(b) means forward biasing said first junction;
(c) means reverse biasing said second junction;
(d) doping means in said body at said first junction providing an excess of charge carriers of one conductivity type on one side of said first junction and an excess of charge carriers of opposite conductivity type on the opposite side of said first junction;

(e) said charge carriers of one conductivity type responding to said forward bias by being injected in a direction across said first junction toward the other side of said first junction;
(f) said doping means on the other side of said first junction providing sufficient charge carriers of opposite conductivity type that said injected carriers have a short lifetime and the majority of said injected carriers recombine with the charge carriers of opposite conductivity type to produce electromagnetic recombination radiation rather than diffusing to said second junction;

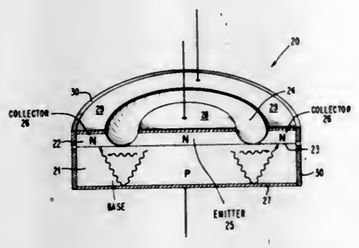


(g) at least a portion of the semiconductor material in the vicinity of said second junction which is reverse biased having a narrower band gap than the band gap of the connecting portion of the semiconductor body extending between said first and second junctions;
(h) and said connecting portion of said body conducting said recombination radiation from said first junction to said narrower band gap material at said second reverse biased junction which absorbs said radiation and produces charge carriers which are collected at said second junction;
(i) whereby said first and second junctions are coupled primarily by said electromagnetic recombination radiation.

3,369,133
FAST RESPONDING SEMICONDUCTOR DEVICE USING LIGHT AS THE TRANSPORTING MEDIUM

Richard F. Rutz, Cold Spring, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 23, 1962, Ser. No. 239,434
8 Claims. (Cl. 307—299)

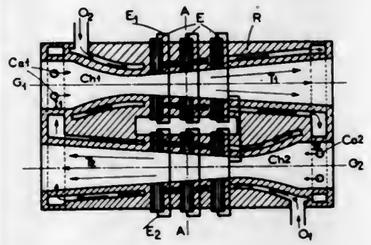


1. An optically coupled transistor comprising:
(a) a crystalline body of one semiconductor material selected from the group consisting of III–V compounds;
(b) doping means in said body providing first and second spaced rectifying junctions in the body;
(c) said doping means in said body providing on one side of said first junction as excess of electrons and on the other side of said first junction an excess of holes;
(d) means applying a forward bias voltage across said first junction having an amplitude sufficient to inject electrons at said first junction;
(e) said excess electrons on said one side of said first junction responding to said forward bias by being injected in a direction across said junction toward the other side of said junction;
(f) said doping means on the other side of said junction providing a sufficient number of excess holes to recombine radiatively with a majority of the said injected electrons and produce recombination electromagnetic radiation at a frequency corresponding to an energy less than the band gap energy of said one semiconductor material;
(g) the portion of said one semiconductor material between said first and second junctions conducting the recombination radiation from said first to said second junction;
(h) the distance between said first and second junctions being greater than the average diffusion length for minority carriers in the semiconductor material between said junctions;
(i) means applying a bias to said second junction;
(j) said second junction responsive to said bias applied at said second junction to absorb said recombination radiation, generate charge carriers when the radiation is absorbed, and collect said charge carriers.

3,369,134
HEAT RECOVERY IN GENERATORS

Georges Klein, Paris, and André Dubois, Orsay, France, assignors to Compagnie Generale d'Electricite, Paris, France

Filed Feb. 13, 1964, Ser. No. 344,756
Claims priority, application France, Feb. 13, 1963, 924,650
13 Claims. (Cl. 310—11)

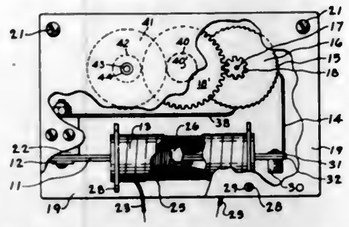


1. A power plant, comprising: a first housing defining a first combustion chamber portion and a fluid communicating first exhaust portion; a second housing defining a second combustion chamber portion and a fluid communicating second exhaust portion; said first and second housings being mounted closely adjacent to and substantially parallel to each other; said first combustion chamber portion being closely adjacent to and transversely aligned with said second exhaust portion; said second combustion chamber portion being closely adjacent to and transversely aligned with said first exhaust portion; first conduit means for conducting a coolant fluid from said first combustion chamber portion to said first exhaust portion in closely adjacent heat exchange relationship, and for discharging the thus heated coolant into said second combustion chamber portion; second conduit means for conducting a separate coolant fluid from said second combustion chamber portion to said second exhaust portion in closely adjacent heat exchange relationship, and for discharging the thus heated coolant into said first combustion chamber portion.

3,369,135
MAGNETOSTRICTIVE VIBRATORY ELECTRIC MOTOR

William Hotine, Star Rte., Box 98, Idyllwild, Calif. 92349

Filed Jan. 4, 1965, Ser. No. 423,172
6 Claims. (Cl 310—21)

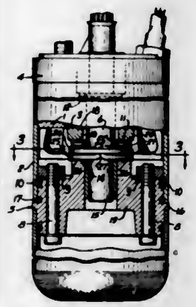


6. A vibratory electric motor assembly comprising: a pair of molded pivot plates retaining motor coil means, a bimetal vibrating reed, and an output shaft; said coil means surrounding at least a portion of and magnetostrictively driving said reed; said reed being operatively connected with a pawl operatively coacting with a toothed wheel on said output shaft for rotating said wheel and said output shaft in one direction; means mounted intermediate said pivot plates for preventing rotation of said wheel and output shaft in the opposite direction, said output shaft rotating in bearings molded into the inner sides of said pivot plates, said bearings being provided with a funnel shaped entrance portion, a cylindrically shaped central radial bearing portion, and a thrust pin portion at the center of the bottom of said bearings; said reed being provided with means which causes said reed to resonate at a frequency lower than the natural resonant frequency thereof.

3,369,136
SUBMERSIBLE MOTOR

Robert A. Sanger, Troy, Ohio, assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed Aug. 6, 1965, Ser. No. 477,743
6 Claims. (Cl. 310—87)

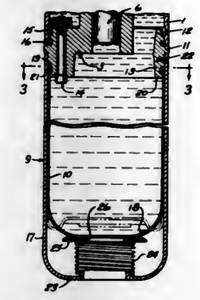


1. In a submersible electric motor having a rotor rotatably mounted within a housing having a lower end frame, the improvement in a thrust bearing unit for transmitting axial thrust forces from the rotor to the end frame comprising
a rocker plate mounted on the end frame and including upper pivotal support means and angularly displaced lower pivotal support means to permit rocking movement of the plate,
a washer mounted on the upper pivotal support means of said rocker plate,
means arranged to prevent rotation of the rocker plate and washer about the axis of the shaft, and
a rolling thrust bearing unit having a lower race resting upon said washer and an upper race arranged to have the end of the rotor resting thereon to transmit axial thrust forces thereto.

3,369,137
EXPANSION BAG UNIT FOR LIQUID FILLED SUBMERSIBLE MOTORS

Robert A. Sanger, Troy, Ohio, assignor to A. O. Smith Corporation, Milwaukee, Wis, a corporation of New York

Filed Aug. 6, 1965, Ser. No. 477,744
6 Claims. (Cl. 310—87)

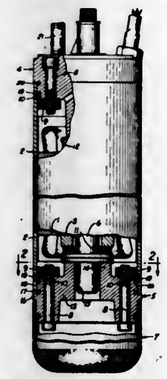


1. In a submersible motor having a lower end frame permitting communication with the inside of the motor, the improvement comprising
an extension of the lower end frame having a circumferential recess on the exterior surface and spaced slightly from the lower end,
a flexible bag telescoped over the end of the extension and having an integral enlarged portion mating with the recess, and
a protective tubular member encircling the bag and projecting axially over the extension to compress said enlarged portion and provide a liquid tight pressure attachment of the bag to the motor.

3,369,138
MOTOR END FRAME FASTENING APPARATUS

Robert A. Sanger, Troy, Ohio, assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed Aug. 6, 1965, Ser. No. 477,745
12 Claims. (Cl. 310—89)



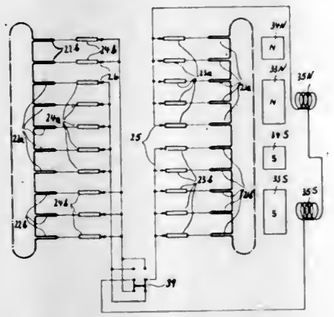
1. A motor having a tubular main frame and an end frame secured to the end of the main frame, the improvement in the attachment means therefor comprising,

an end frame subassembly including the end frame and a plurality of bolt means having a first clamping wall means adjustably secured to the inner end thereof and axially movable in response to rotation of the bolt means, and

second clamping wall means forming a part of the tubular main frame and positioned axially outwardly of the first clamping wall means of the end frame subassembly,

said first clamping wall means of the end frame subassembly and the second clamping wall means of the main frame being transversely aligned in one position of the subassembly and being transversely misaligned in a second position of the subassembly whereby said end frame subassembly may be assembled with the main frame and the first clamping wall means of the subassembly subsequently transversely aligned from the second clamping wall means of the main frame.

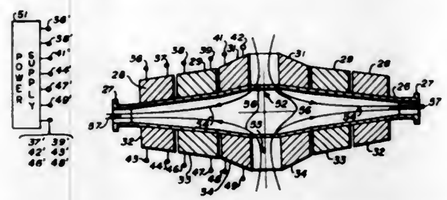
3,369,139
ELECTRODYNAMIC TORQUE CONVERTER
Egon Neumann, Vrhovac 64, Zagreb II, Yugoslavia
Filed July 1, 1964, Ser. No. 379,699
5 Claims. (Cl. 310—102)



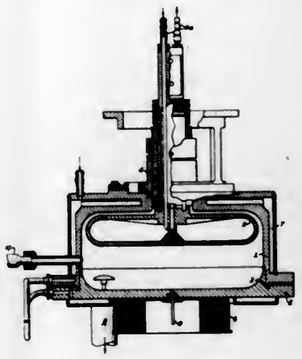
1. An electrodynamic torque converter comprising an input shaft connectable to a source of driving torque, an output shaft connectable to a load, an outer rotor coupled with said input shaft, an inner rotor coaxial with said outer rotor and coupled with said output shaft, a stator having pole means for establishing a steady magnetic field in a plane transverse to the axis of said rotors, first winding means carried on said outer rotor for haivng a voltage induced therein by said magnetic field upon rotation of said outer rotor by said source, second winding means connected in series with said first winding means and carried on said inner rotor for interaction with said magnetic field, rectifier means so connected in circuit with said first and second winding means as to produce in said second winding means a unidirectional current due to said induced voltage whereby a torque is exerted upon said inner rotor for driving said load, and short-circuited third winding means on said outer rotor for substantially suppressing nonradial flux components due to the passage of current through said first winding means.

3,369,140
ANNULAR CONFINEMENT OF HIGH TEMPERATURE PLASMAS
Harold P. Furth, Berkeley, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 1, 1963, Ser. No. 313,134
4 Claims. (Cl. 313—153)

Plasma containment device wherein an annular containment zone of relatively low magnetic field intensity is defined between annular relatively high magnetic field intensity magnetic mirror regions. At one limit is an embodiment in which the annular magnetic mirrors, with an intervening containment zone, are in concentric relation between planar solenoids and others in which the annular terminal magnetic mirror and intervening containment zone are provided generally in the annular space between at least partially overlapping concentric solenoids.



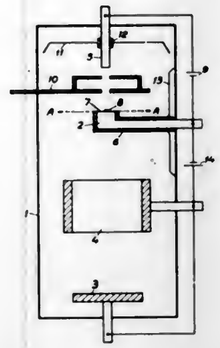
3,369,141
HIGH-VOLTAGE RECTIFIER FOR SUPPLYING HEAVY CURRENTS AND BEING STARTED BY A MAGNETIC FIELD
Alexandr Ivanovich Nastjukha, 4th Ul. Oktjabrjskogo polja 11, Apt. 15; Evgeny Alexandrovich Koltypin, 1st Shchukinsky pr. 6, Apt. 88; and Pavel Alexandrovich Smirnov, Tikhvinsky per. 9, Apt. 9, all of Moscow, U.S.S.R.
Filed Oct. 29, 1964, Ser. No. 407,469
9 Claims. (Cl. 313—161)



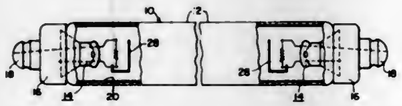
A high-voltage rectifier for the supply of heavy currents including an arrangement of an anode within a hollow cathode and a source of a magnetic field having lines of force which intersect the cathode twice without intersecting the anode.

3,369,142
DEVICE FOR GENERATING A STRONG ELECTRONIC BEAM FROM A PLASMA EMITTING CATHODE
Clas Jacobsen and Bo Breitholtz, Vasteras, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Apr. 11, 1966, Ser. No. 541,678
Claims priority, application Sweden, Apr. 12, 1965, 4,719/65
2 Claims. (Cl. 313—170)

A device for generating a strong electronic beam has a vacuum vessel; a cathode is arranged in the vessel. An anode means comprises an annular acceleration anode and a collector anode. The anode means may be arranged either inside or outside the vessel. The cathode is surrounded by insulating material except for that surface turned away from the anode means. An auxiliary anode is arranged in the vicinity of the cathode to start a plasma-emitting cathode spot on the uninsulated cathode surface. The cathode and the auxiliary anode are provided with condensation screens of insulating material.



3,369,143
INSTANT-START FLUORESCENT LAMP HAVING MIXED FILL GAS AND IMPROVED ELECTRODE STRUCTURE
John F. Gilmore, Verona, and Frederick W. Hoeh, Livingston, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 303,262, Aug. 20, 1963. This application Feb. 28, 1967, Ser. No. 619,482
7 Claims. (Cl. 313—206)



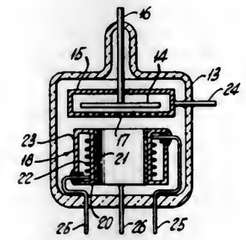
An instant-start type fluorescent lamp having an argon-neon fill gas and a single anode at each end that is connected in series with the cathode and single-contact components located at the respective ends of the lamp.

3,369,144
CAPLESS LAMPS
Jacobus Engelen, Weybridge, Surrey, England, assignor to Rival Lamps Limited, a British company
Filed Mar. 22, 1965, Ser. No. 441,764
3 Claims. (Cl. 313—318)



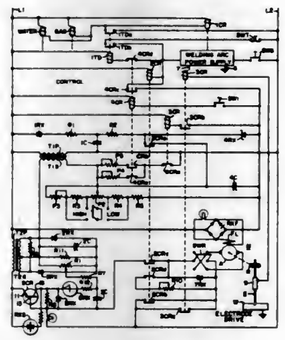
A low voltage capless electric lamp having an envelope comprising a globe portion and a neck formed with circumferentially extending ribs, a filament within the envelope and lead-in wires extending from the filament through the neck below the ribs, and bent back over the ribs.

3,369,145
THERMIONIC EMISSIVE CATHODE
Lorant Domotor, Newark, N.J., assignor to Wagner Electric Corporation, a corporation of Delaware
Filed Apr. 9, 1965, Ser. No. 446,895
5 Claims. (Cl. 313—346)



A thermionic emissive cathode for use in electron discharge devices employs the oxides of barium, strontium, and lithium, resulting in a cathode which starts electron emission at a lower temperature than barium oxide or strontium oxide.

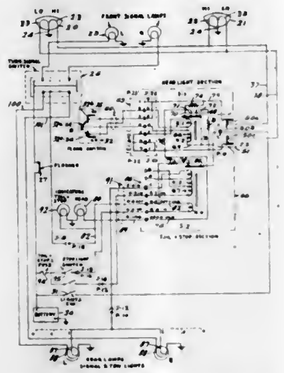
3,369,146
CONSTANT-FEED CONSUMABLE-ELECTRODE ARC-WELDING APPARATUS
Floyd E. Adamson, Eggertsville, Buffalo, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 16, 1964, Ser. No. 404,325
3 Claims. (Cl 314—74)



1. Apparatus for arc welding work with a consumable electrode comprising a motor connected to said electrode for advancing said electrode into arc welding relationship with the work, a silicon-controlled rectifier having an anode, a cathode and a gate, power-supply conductors for supplying alternating current, means connecting said conductors, and said anode and cathode in power supply relationship with said motor, means responsive to the loading imposed by said electrode on said motor for deriving a direct-current potential dependent on the magnitude of said loading, a capacitor, a source of controlling alternating potential, means connecting said source, said deriving means and said motor in charging relationship with said capacitor with the back electromotive force of said motor opposing said loading-dependent potential supplied by said deriving means, a discharge circuit for said capacitor including a four-layer diode, said capacitor discharging through said four-layer diode when its potential reaches a predetermined magnitude and when so

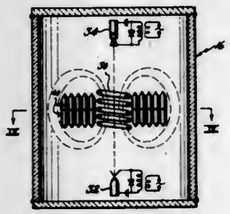
discharging producing potential pulses, and means connected to said gate for impressing said pulses thereon to render said rectifier conducting at instants in the periods of the alternating potential impressed by said power-supply conductors dependent on said loading.

3,369,147
SAFETY CONTROL FOR AUTOMOBILE LIGHTING CIRCUITS
James Blake Ramsey, 4619 Orange Knoll Ave., La Canada, Calif. 91011
Filed Jan. 18, 1966, Ser. No. 521,281
8 Claims. (Cl. 315—83)



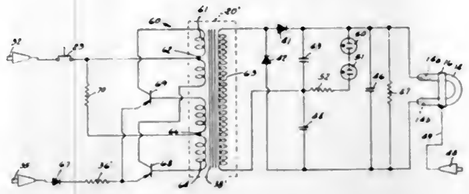
A safety device for a vehicle lighting circuit that will substitute a low beam head lamp at full intensity for an adjacent burned out high beam filament, a high beam head lamp at reduced intensity for an adjacent burned out low beam filament, and/or a stoplight filament at reduced intensity for a burned out tail lamp. The lamps for which no substitution is made burn at their original, intended intensity. The foregoing is accomplished without isolation diodes or similar devices and with only two relays. The same device is equally applicable to quadri-beam and to two-lamp headlight systems, and connection to the headlight circuits is made by a simple plug connnection to the existing foot operated dimmer switch.

3,369,148
SYSTEM FOR MIXING OPPOSITE POLARITY IONS ON MAGNETIC FIELD AXIS
William J. Hitchcock, 164 Main St., Kingston, Mass. 02360
Filed July 5, 1961, Ser. No. 122,040
11 Claims. (Cl. 315—111)



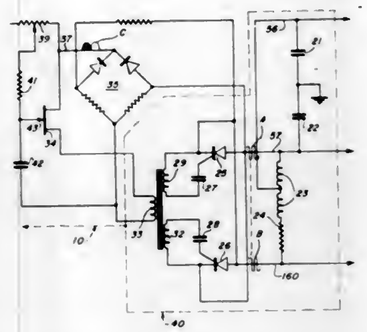
6. An apparatus for adding ions from a number of ion sources to produce a volume of high density ions comprising a source of electrical energy, a coil connected with said source to cause a magnetic field, a series of ion sources arranged in a back-to-back relationship within the field of said coil to emit ions in opposite directions along an axis parallel to the longitudinal axis of said coil.

3,369,149
IGNITION TIMING LIGHT WITH A SATURATED CORE TRANSFORMER FOR PLURAL VOLTAGE INPUTS
James W. Grant, Evanston, Ill., assignor to Peerless Instrument Company, Chicago, Ill., a corporation of Illinois
Filed Nov. 10, 1966, Ser. No. 593,431
5 Claims. (Cl. 315—168)



An ignition timing light for operation from either twelve or six volt automobile batteries. A DC to AC converter has the input thereof arranged for connection to the automobile battery and the output thereof connected to a step-up transformer which includes a core of magnetically saturable material. The transformer is designed to be fully saturated when the timing light is connected to a six volt battery, and therefore the transformer would also be saturated when connected to a twelve volt battery. The saturable core transformer produces a substantially constant output voltage when the timing light is connected to either a six volt or twelve volt battery. The output of the transformer is connected to a rectifier circuit which, in turn, is connected to a flash tube which includes synchronizing means to initiate ionization of the flash tube.

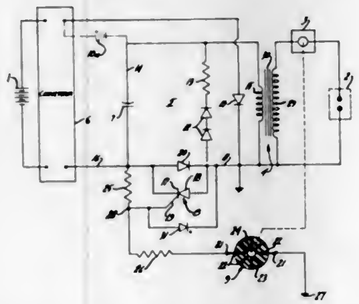
3,369,150
DIMMING CONTROL FOR PLURAL DISCHARGE DEVICES
Harold N. Malmin, Chicago, Ill., assignor to Advance Transformer Co., Chicago, Ill., a corporation of Illinois
Filed May 13, 1965, Ser. No. 455,462
9 Claims. (Cl. 315—194)



A dimming control apparatus for controlling the energization level of a plurality of fluorescent lamp ballasts from an alternating current source in which a master dimming control selects a portion of an alternating current wave and transmits it to the ballast circuit by means of an auxiliary circuit. The master dimming control circuit has a selectively variable charging circuit, a two resistor two diode rectifying bridge, and a unijunction transistor for initiating a pulse to a pulse transformer of an auxiliary circuit. The auxiliary circuit has a pair of

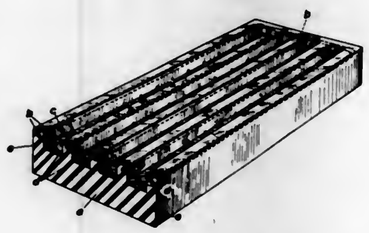
silicon controlled rectifiers coupled respectively to a pair of secondary windings of the pulse transformer; the primary winding of the pulse transformer being coupled to the output of the rectifying bridge. A ballast energizing control lead is coupled between the controlled rectifiers and ballast circuit; the controlled rectifiers being connected in series circuit with one of the two power leads and the ballast energizing lead to repetitively conduct at controlled intervals.

3,369,151
CAPACITOR IGNITION SYSTEM HAVING A PULSE TRANSFORMER WITH RESET MEANS AND AUXILIARY DISCHARGE MEANS
Floyd M. Minks, Port Washington, Wis., assignor to Kiekhaefer Corporation, Fond du Lac, Wis., a corporation of Delaware
Filed Mar. 1, 1965, Ser. No. 436,118
19 Claims. (Cl. 315—209)



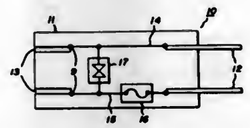
The present disclosure is particularly directed to an improved capacitive storage circuit and means for switching of a silicon controlled rectifier or the like therefrom. In particular, a capacitor is charged by energy derived from a suitable source such as an alternator or a battery of the ignition system. It is connected in series circuit with a suitable electronic switching device such as a silicon controlled rectifier or similar device which is connected to igniting means.

3,369,152
DEVICE FOR COLLECTING ELECTROSTATIC CHARGES FROM POOR CONDUCTORS BY MEANS OF A CORONA DISCHARGE
Walter Spengler, Lange Gasse 24, Basel, Switzerland
Filed Apr. 19, 1965, Ser. No. 449,249
Claims priority, application Switzerland, July 21, 1964, 9,505/64
2 Claims. (Cl. 317—2)



A device for collecting electrostatic charges wherein a grounded electrode is located in a slot of a body of insulating material having an outwardly projecting electrode tip located entirely in such slot. An electric conductor directly connected to a high voltage source forming a counterelectrode is completely encased within such body so that when a voltage is directly applied to such conductor a corona discharge arises distributed over an entire side of said body thereby positively preventing a short circuiting and being absolutely shock proof.

3,369,153
DEVICE FOR PROTECTING ELECTRICAL APPARATUS
Charles E. Arnold and Leonard G. Sayer, Lynchburg, Va., assignors to General Electric Company, a corporation of New York
Filed Jan. 28, 1966, Ser. No. 523,611
2 Claims. (Cl. 317—16)

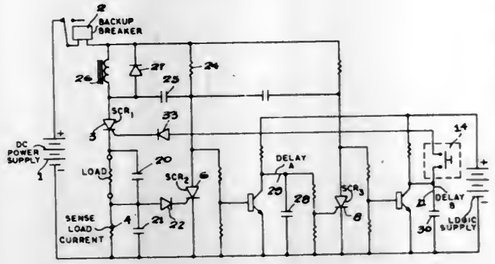


1. A device for protecting electrical apparatus including in combination, housing means and a rectifier and contact assembly contained within said housing; said housing comprising a box-like structure provided with at least a pair of male terminal apertures for egress of device terminals and at least a pair of female terminal apertures for ingress of male terminals from an electrical plug; said rectifier and contact assembly including a first and a second series of rectifier plates with apertures therethrough, each series stacked together in conducting relationship with individual plates in each series having the same forward conducting direction, a conducting supporting lead through, insulating means surrounding said lead through said lead through and insulating means extending through the apertures in said first and second series of rectifier plates and supporting them in face-to-face relation with opposite polarity, a pair of metal spring contact receiving terminals each having a tab with an aperture therethrough and an extending spring portion, said metal spring contact receiving terminals located with said tabs on said lead through and on opposite sides of said first and second series of plates with said tabs each in conductive contact with an opposite end plate of a respective one of said first and second series of plates and said metal spring contact receiving terminals extending from said lead through and forming spring members opposing the adjacent end plate each for receiving and frictionally engaging a male terminal, and a pair of essentially L-shaped male terminals each having an aperture through the foot of the L, said pair of essentially L-shaped male terminals each located with the aperture in said feet around said lead through and extending outwardly to form a pair of essentially parallel device male terminals, said feet being insulated from each other, said lead through being electrically connected to one of said L-shaped male terminals and the end plate of one of said series and the other L-shaped terminal electrically connected to the other end plate whereby each of said L-shaped male terminals is electrically connected to a respective one of said spring contact receiving terminals and both said series of rectifier plates are connected in series opposed relation between said terminals, said rectifier and contact assembly contained within said housing with said female receptacles in alignment with the apertures in said housing for ingress of male terminals from an electrical plug and said male terminals of said assembly protruding through said housing apertures for egress of male terminals.

3,369,154
OVERLOAD PROTECTOR FOR ELECTRICAL CURRENT SUPPLY INCLUDING A SOLID STATE BREAKER WITH IMPROVED SEQUENCING LOGIC COMBINED WITH OR WITHOUT A COMBINED ELECTROMECHANICAL BREAKER

William H. Swain, 4662 Gleason Ave., Sarasota, Fla. 33581

Filed Aug. 3, 1965, Ser. No. 476,861
5 Claims. (Cl. 317—22)



Previously described overcurrent protectors using silicon controlled rectifiers (SCR) are improved by the structure of the present application in the following ways:

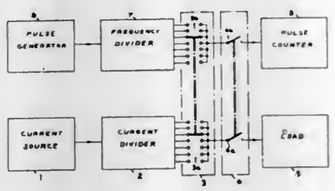
(1) Normal faults are interrupted by the SCR's, but unexpectedly severe faults are momentarily interrupted by an electromechanical breaker. This permits the use of lower cost SCR's and commutating capacitors and improves overall reliability under severe service conditions.

(2) Provision is made for fully energizing the load turn-off commutating capacitor before the load is re-energized automatically after a circuit interruption. A second timing network and a Reset SCR are used.

3,369,155
APPARATUS FOR THE DIGITAL MEASUREMENT OF AN ELECTRIC CHARGE

Robert Wahli, Unterengstringen, Zurich, Switzerland, assignor to Ciba Limited, Basel Switzerland, a company of Switzerland

Filed Mar. 9, 1966, Ser. No. 533,084
Claims priority, application Switzerland, Mar. 24, 1965, 4,118/65; Sept. 3, 1965, 12,352/65
14 Claims. (Cl. 317—27)

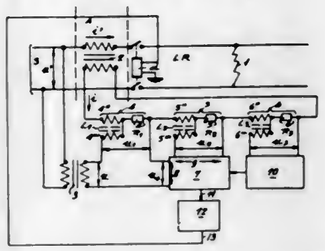


10. Apparatus for the digital measurement of an electric charge fed to a load comprising a unidirectional current source adjustable to provide different values of current, an oscillator for generating a signal of constant frequency, a frequency divider coupled to said oscillator and having an adjustable division ratio to provide an output signal whose frequency is a sub-multiple of the oscillator frequency, means for simultaneously adjusting said source and said divider to provide for each different value of current a different division ratio so that the product of the current and the period of the divided frequency remains constant, a pulse counter for counting the number of periods in said output signal during the time the current source is connected to a load to provide a digital indication of the charge fed to the load, a switch for simultaneously connecting the frequency divider to the pulse counter and the current source to the load and a protection circuit for comparing the voltage across said load with an adjustable reference voltage so that upon the former exceeding the latter said switch is caused to disconnect the load from said source.

3,369,156
LINE DISTANCE PROTECTIVE DEVICE UTILISING ULTRA-RAPID STATIC RELAYS

Michel Henry Pierre Souillard, Paris, France, assignor to Compagnie Des Compteurs, Paris, France, a company of France

Filed Jan. 19, 1966, Ser. No. 521,680
Claims priority, application France, Jan. 22, 1965, 2,908
6 Claims. (Cl. 317—36)



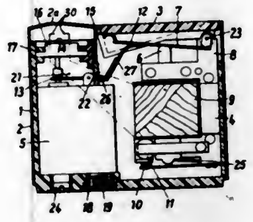
1. A distance protective device for A.C. fed lines comprising at least a current transformer and at least a voltage transformer respectively electrically connected to the line to be protected at the origin thereof, at least an instantaneous polarity comparator device having two inlets respectively electrically connected to said voltage transformer and to said current transformer by means of at least one reference impedance whereby said polarity comparator device is fed on one inlet with a current which is proportional to the fault current and on the other inlet with a voltage which is function of the voltage at the origin of said line, at least a generating pulse device electrically connected to said current transformer and to said polarity comparator device whereby said generating pulse device is supplied with a voltage which is proportional to the fault current and emits pulses or signals transmitted to said polarity comparator device when said voltage it receives becomes zero, a monostable amplifier electrically connected to said polarity comparator which emits a pulse for one only of the two signs that may have the algebraic product of the two voltages it receives and transmitting said pulse to said monostable amplifier device supplying in response an electric power and a shut off device for said line associated with said line and controlled by said electric power supplied by said monostable amplifier.

3,369,157
GAS LIGHTER WITH ELECTRIC SPARK IGNITION

Hermann Remy, Dietzenbach-Steinberg, Germany, assignor to Rowenta Metallwarenfabrik G.m.b.H., Offenbach am Main, Germany, a firm of Germany

Filed Mar. 18, 1966, Ser. No. 535,523
Claims priority, application Germany, Apr. 3, 1965, R 40,322
7 Claims. (Cl. 317—85)

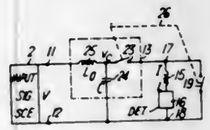
A gas fueled lighter with electric spark ignition system in which movement of an armature for causing the discharge and movement of the valve lever for effecting opening of the fuel valve are controlled by a pair of co-acting springs first moving the valve lever into the valve opening position and then the armature into the spark discharge causing position when the operating member of the lighter is operated.



3,369,158
CURRENT-HOLDING DEVICE

Hisashi Kaneko, Minato-ku, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Minato-ku, Tokyo, Japan, a corporation of Japan

Filed Aug. 3, 1964, Ser. No. 387,134
Claims priority, application Japan, Aug. 20, 1963, 38/44,442
8 Claims. (Cl. 317—154)



1. In a current holding circuit, the combination which comprises: an information signal input source; means connected to receive the signals from said source for transforming said signals into currents representative of said signals, a holding coil connected to receive said currents; and first switch means connected in parallel with said coil for selectively short-circuiting said coil whereby the holding coil holds the current flowing therethrough for a predetermined interval after said first switch means is closed; and means for sensing the thus held current.

3,369,159
PRINTED TRANSISTORS AND METHODS OF MAKING SAME

Yro T. Sihvonen, Richardson, and Sidney G. Parker, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 21, 1964, Ser. No. 419,923
4 Claims. (Cl. 317—235)

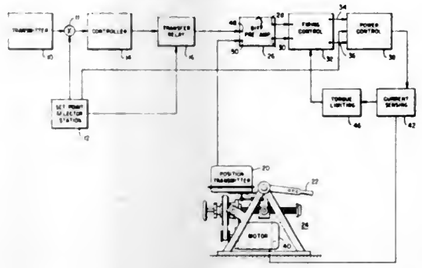


1. A field effect transistor comprising a printed polycrystalline semiconductor layer, a printed source contact overlying and intimately engaging said semiconductor layer, a printed drain contact overlying and intimately engaging said semiconductor layer and spaced apart from said contact, a printed dielectric overlying said semiconductor layer and portions of said contacts, said dielectric having a dielectric constant no less than on the order of about 10^3 at the operating frequency of said transistor and comprised of a major proportion of a sodium silicate compound, and a printed gate electrode overlying said dielectric and located between said source and drain contacts.

3,369,160
CONTROL DEVICE EMPLOYING MANUAL-AUTOMATIC SYSTEMS

Harold H. Koppel, Cleveland, John C. Martin, Wickliffe, and Anton J. Stilin, Willoughby, Ohio, assignors to Bailey Meter Company, a corporation of Delaware

Filed Jan. 2, 1964, Ser. No. 335,065
10 Claims. (Cl. 318—18)

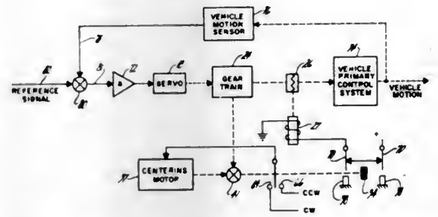


A control circuit for a motor-operated control drive incorporating an amplifier producing an error signal proportional to the difference between a control signal and a signal corresponding to drive position which controls the forward and reverse rotation of the motor and including manually operable means for transferring control of the motor from the error signal to manually operated means.

3,369,161
HARD-OVER ATTENUATION DEVICE FOR SERVO SYSTEM

Lawrence A. Kaufman, West Hartford, Conn., assignor to Kaman Aircraft Corporation, Bloomfield, Conn., a corporation of Connecticut

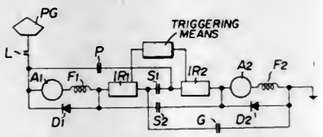
Filed May 7, 1964, Ser. No. 365,725
13 Claims. (Cl. 318—18)



In a servo motor for positioning a control surface of an airplane, operation at a sustained high rate of speed is prevented, to prevent an accompanying hard-over maneuver of the airplane, by an accompanying means including a pair of spaced stops for mechanically limiting the range of movement of the servo motor. An arm drivingly connected with the output of the servo motor is located between the two stops and is engageable with the stops to perform the motion limiting function. A centering motor is also drivingly connected with the arm through a mechanical differential to adjust the permitted range of movement relative to a given position of the servo motor output member and accordingly to a given position of the control surface. Two switches define an-

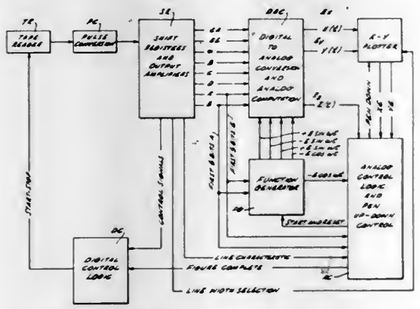
other zone of arm movement located between the two stops and actuate the centering motor whenever the arm moves beyond such zone, the centering motor acting to adjust the permitted range of movement toward the arm at a relatively slow rate. As a result, rapid operation of the servo motor for a short period of time is permitted, as well as slow operation for long periods of time, but sustained rapid operation is prevented by engagement of the arm with one or the other of the stops As an alternative the two mechanical stops may be omitted or accompanied by a second set of switches for deactivating the servo motor when the arm reaches one limit of its permitted range of movement.

3,369,162
CONTROL SYSTEM FOR DRIVING MOTORS OF ELECTRIC CARS
Yasunosuke Torii, Musashino-shi, Tokyo, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Jan. 14, 1965, Ser. No. 425,521
Claims priority, application Japan, Jan. 17, 1964, 39/1,949
1 Claim. (Cl. 318—111)



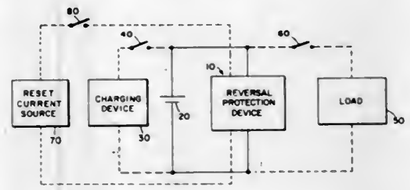
A system for controlling motor current of an electric car wherein current regulators can be connected in series with corresponding motors at the time of transition of said motors from series to parallel connections.

3,369,163
STRAIGHT LINE MOTOR CONTROL FOR AN X-Y PLOTTER
Robert W. Peterson, Sepulveda, and William J. Muldoon, Palos Verdes Estates, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Dec. 29, 1961, Ser. No. 163,340
8 Claims. (Cl. 318—162)



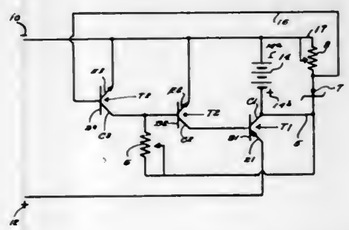
1. A line generating system, comprising:
a pair of servos having respective input circuits and having respective output motors;
a device having a pair of input members connected to and driven by said motors, respectively, and having a movable line generating output member connected to and driven by both of said input members in substantially mutually perpendicular directions;
means, including an oscillator for producing a cosine voltage, having a line generating cosine voltage output circuit;
means connecting said line generating cosine voltage output circuit to one of said servo input circuits;
and means connecting said line generating cosine voltage output circuit to the other of said servo input circuits.

3,369,164
SECONDARY CELL REVERSAL PROTECTION DEVICE
James V. Ball, Lowell, Mass., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
Filed Mar. 16, 1966, Ser. No. 534,832
10 Claims. (Cl. 320—6)



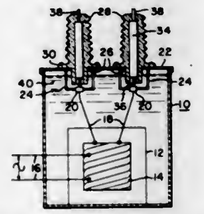
1. Reversal protection means connected across each of the serially connected secondary cells of a battery comprising: a sealed envelope having reed members fixed in opposed extremities of said envelope and connected across said secondary cell, said reed members having normally disengaged free ends; a reset coil substantially surrounding said envelope and connected to a reset current source, said reset coil developing a magnetic flux for retaining said reed members disengaged during charging of said secondary cell; a holding coil substantially surrounding said reset coil and connected to said secondary cell, said holding coil developing a magnetic flux for retaining said reed members open during open circuit stand and discharge of said secondary cell; and a permanent magnet positioned adjacent said holding coil for developing a magnetic flux for closing said reed members when said secondary cell voltage drops below a predetermined value to thereby provide a shunt path for discharge current of said other serially coupled secondary cells of said battery.

3,369,165
METHOD AND MEANS FOR CHARGING ELECTRICAL STORAGE BATTERY
Homer A. Lozeau, Worcester, Mass., assignor to Koehler Manufacturing Company, Marlboro, Mass., a corporation of Massachusetts
Filed Mar. 29, 1965, Ser. No. 443,315
7 Claims. (Cl. 320—24)



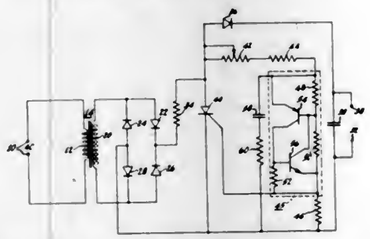
A charging circuit including a voltage source, a power transistor and a second transistor connected to the power transistor has a battery on charge arranged to power the transistors whereby the circuit is rendered inoperative when the battery member is disconnected. A variable resistor connected between the battery and the second transistor controls current flow. A diode member connected to the battery cooperates with a third transistor and the said power and second transistor to regulate rate of flow of current through the said battery.

3,369,166
COMBINATION TRANSFORMER-RECTIFIER APPARATUS
Glen W. Lake, Brookfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 22, 1965, Ser. No. 501,179
6 Claims. (Cl. 321—8)



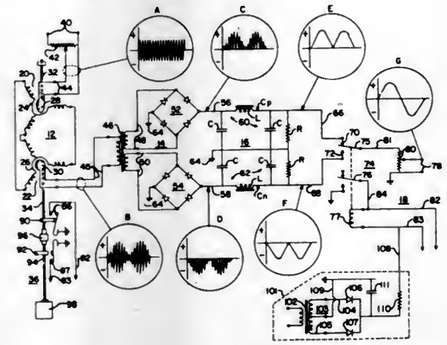
1. In combination, a tank, a transformer comprising a core and coil assembly in said tank, fluid dielectric surrounding said core and coil assembly, circuit means for connecting an alternating current power source to said coil, circuit means for connecting a load to said coil, a bushing attached to and extending into said tank, rectifying means mounted in said bushing, said rectifying means connected in circuit relationship with said circuit means for connecting a load to said coil for converting the current delivered to a load from alternating to direct current.

3,369,167
SELF-REGULATED POWER SUPPLY
George D. Hanchett, Summit, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Feb. 28, 1966, Ser. No. 530,535
9 Claims. (Cl. 321—18)



6. A regulated power supply comprising,
a controlled switching means including an anode, a cathode and a control electrode, said controlled switching means being rendered conductive by the application of a sufficient voltage between its control electrode and cathode and remaining conductive as long as the voltage applied between its anode and cathode exceeds a predetermined threshold value,
a rectifier providing at its output terminals a direct current output that varies between a value above and below said threshold value periodically,
means including a current limiting resistor for connecting said output terminals between the anode and cathode of said controlled switching means,
a variable time constant circuit comprising a resistor and a storage capacitor connected between said anode and said cathode,
a voltage responsive switching means connected between a terminal of said storage capacitor and the control electrode of said controlled switching means,
a pair of output terminals,
a smoothing capacitor connected across said output terminals, and
a rectifier poled to be conductive to said direct current connected in series with said smoothing capacitor across said anode and said cathode,
said storage capacitor charging and arriving at a potential in each cycle of said varying direct current at a time depending on the adjustment of said time constant circuit and also depending on the voltage appearing across said load at which potential said voltage responsive switching means becomes conductive whereby said storage capacitor discharges through said voltage responsive switching means and thru the control electrode to cathode path of said controlled switching means to cause it to become conductive earlier or later in each cycle of said varying direct current depending on the adjustment of said variable time constant circuit.

3,369,168
FREQUENCY CONVERSION SYSTEM UTILIZING MODULATION
Edwin E. Maust, Jr., Hyattsville, and Garrett R. Hyde, Greenbelt, Md., assignors to the United States of America as represented by the Secretary of the Interior
Filed Aug. 5, 1966, Ser. No. 570,673
9 Claims. (Cl. 321—60)

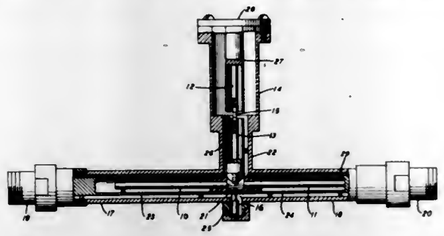


Frequency conversion accomplished by an arrangement of synchronous transformers rotated by a motor drive to modulate the frequency of a standard frequency A-C carrier-current supplied thereto, wherefrom the modulate carrier is supplied to rectifier and filter circuitry separating this current into positive and negative components from which the carrier is filtered out. The remaining frequency components are combined by switch devices operatively driven in coordination with the transformers, to produce a sine wave output at the modulated frequency.

3,369,169
MICROWAVE FREQUENCY MULTIPLIER WITH A PLURALITY OF HARMONIC INHIBITING MEANS
Edward G. Jaasma, Paterson, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 14, 1964, Ser. No. 367,347
9 Claims. (Cl. 321—69)

2. A microwave multiplier circuit comprising, in combination, input and output means; a coaxial T circuit interconnecting said input and output means including means for inhibiting the propagation of a signal of specified frequency into said output means, said T circuit

including means for inhibiting the propagation of a signal whose frequency is the second harmonic of said specified frequency into said input means, said T circuit including means for inhibiting the propagation of a signal whose frequency is the fourth harmonic of said specified frequency; variable reactance means electrically coupled to said coaxial T circuit for generating signals of harmonic frequencies related to an applied signal of said specified

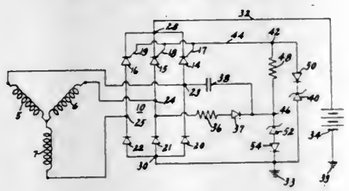


frequency; coaxial means coupled to said reactance means including means for inhibiting a signal whose frequency is the third harmonic of said specified frequency and of a length inversely proportional to said specified frequency and characteristic impedance proportional to the difference of the characteristic impedance of said third or fourth harmonic inhibiting means and the reactance of said variable reactance means at said specified frequency for simultaneously countervailing the reactance of said reactance means at said specified frequency and the second harmonic thereof.

3,369,170
POTENTIAL REGULATOR CIRCUIT FOR PERMANENT MAGNET TYPE ALTERNATORS

Robert E. Custer, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 19, 1965, Ser. No. 472,880
10 Claims. (Cl. 322—28)



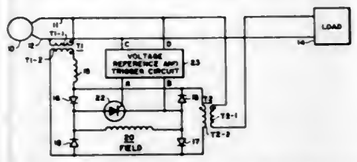
A potential regulator circuit for permanent magnet type alternators wherein the associated rectifier circuit includes at least one silicon controlled rectifier. A control voltage is taken across one of the output windings of the alternator through the series combination of a capacitor, a diode and a resistor and is established at a value substantially equal to the desired regulator potential magnitude. This control voltage is applied to the control electrode of each of the silicon controlled rectifiers contained in the rectifier circuitry.

3,369,171
CONTROL CIRCUITS

Lawrence J. Lane, Stuarts Draft, Va., assignor to General Electric Company, a corporation of New York

Continuation of application Ser. No. 223,016, Sept. 12, 1962. This application Mar. 30, 1966, Ser. No. 538,866
18 Claims. (Cl. 322—68)

1. A generator field excitation system comprising, means for continuously applying exciting current to said field, means connected to the output of said generator and operative to produce a control pulse during each cycle of normal generator operation, each control pulse being positioned in time in accordance with the deviation of the output power from a preselected value, and means operative in response to said control pulses to short cir-

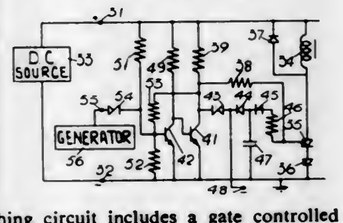


cuit the exciting current applied to said field for a portion of each cycle of normal generator operation.

3,369,172
SWITCHING CIRCUITS

Maurice James Wright, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England

Filed May 14, 1964, Ser. No. 367,375
Claims priority, application Great Britain, May 29, 1963, 21,399/63
6 Claims. (Cl. 323—22)

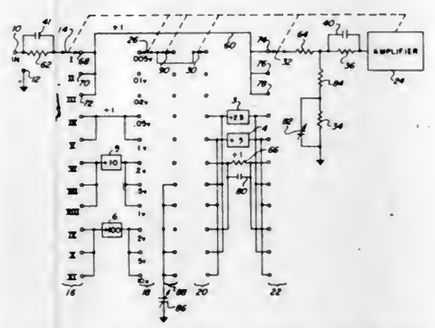


A switching circuit includes a gate controlled switch with a load in its anode-cathode circuit, which circuit is connected in use to a D.C. source. An oscillator applies negative pulses to the gate of the switch to turn it off, and the circuit is provided through which positive pulses can be applied to the gate of the switch to turn it on, means being further provided for stopping operation of the oscillator when a pulse is applied to the switch to turn it on.

3,369,173
ATTENUATOR APPARATUS

Roland E. Andrews, Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon

Filed Nov. 19, 1965, Ser. No. 508,784
8 Claims. (Cl. 323—80)



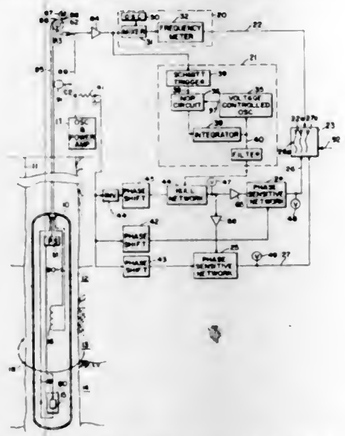
A plurality of multiposition switches are ganged and are operable together for selecting multiple attenuation values. Plural attenuating sections are included between first and second switches, and other attenuating sections are included between third and fourth switches, while

the second and third switches are normally coupled together. However, in at least one switching position wherein attenuation is not desired a shunt connection is provided from the first switch to a simultaneously selected contact of the fourth switch, for bypassing the various attenuator sections as well as the second and third switches so that circuit input capacitance is reduced.

3,369,174
LOGGING OF PRODUCED MAGNETIC FIELDS AND NATURAL FORMATION FIELDS WITH SINGLE DETECTOR

Goethe M. Groenendyke, Gustave L. Hoehn, Jr., and John R. Zimmerman, Jr., Dallas, Tex., assignors to Mobil Oil Corporation, a corporation of New York

Filed Apr. 22, 1965, Ser. No. 450,117
11 Claims. (Cl. 324—8)

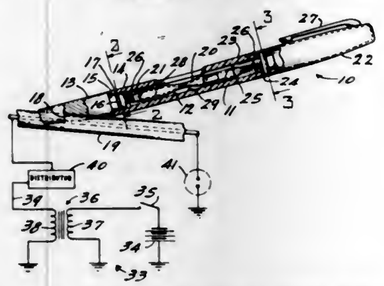


The specification discloses a borehole logging system including a source for generating a varying magnetic field at a relatively high frequency for application to the formations and a single detector spaced from the source for detecting simultaneously the high frequency field and the natural formation fields appearing at the detector. The output of the detector is separated into separate signals to obtain separate measurements indicative of susceptibility, resistivity, and remanent magnetism.

3,369,175
IGNITION SYSTEM FIRING INDICATOR INCLUDING A SWIVEL MOUNTED PICKUP HEAD

Robert G. Morris, Sylvania Township, Lucas County, Ohio, assignor to Champion Spark Plug Company, Toledo, Ohio, a corporation of Delaware

Continuation of application Ser. No. 416,416, Dec. 7, 1964. This application May 26, 1967, Ser. No. 641,708
1 Claim. (Cl. 324—17)



An ignition system tester having a tubular non-conductive body with a metallic rotatable pickup head mounted on one end. A high resistance glow lamp having means for limiting the amount of electrical current passing therethrough is positioned in the bore of the body. A metallic cap is secured to the other end of the body and a spring is positioned within the bore for urging the pickup head, the glow lamp, and the cap into electrical communication and for cushioning the glow lamp. An elongated opening is provided in the body adjacent the glow lamp. The glow lamp provides the sole electrically conductive path between the pickup head and the cap.

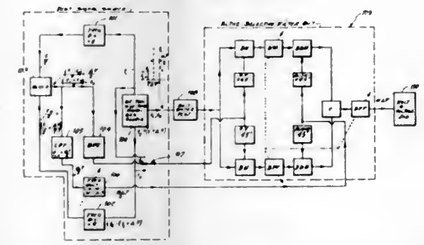
ERRATUM

For Class 324—20 see:
Patent No. 3,369,201

3,369,176
INTERMODULATION TEST SYSTEM WHOSE FREQUENCY IS GOVERNED BY AN R.F. TWO TONE SIGNAL

Anthony C. Palatinus, 68—17 60th Road, Maspeth, N.Y. 11378

Filed Apr. 8, 1964, Ser. No. 358,383
6 Claims. (Cl. 324—57)



An RF linearity test system which employs for the output analysis an RF frequency determining and audio tunable control of an actuated selective filter. An RF two tone test signal source further generates and separately supplies an RF carrier signal of a mean frequency value that governs a first poly-modulation quadrature operation and an audio carrier signal of selectable frequency value equal to, or an odd multiple of, one-half the frequency difference between the main tones and also provides the audio tuning of the second poly-modulation quadrature process. This action sequentially selects the main tone, third and fifth odd order difference frequency intermodulation components in the test response output spectrum in three steps. The subsequent voltage indications of the filtered output indicates the linearity characteristics of the unit under test.

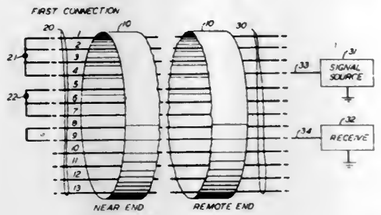
3,369,177
METHOD OF IDENTIFYING CONDUCTORS IN A CABLE BY ESTABLISHING CONDUCTOR CONNECTION GROUPINGS AT BOTH ENDS OF THE CABLE

Ronald L. Graham, Madison, and Kenneth C. Knowlton, Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 15, 1965, Ser. No. 496,423
8 Claims. (Cl. 324—66)

1. The method of identifying conductors in a multiconductor cable which comprises the steps of establishing unique conductor connection groupings at one end of the cable, identifying these unique conductor connections at the other end of the cable, establishing conductor connection groupings at said other end which are complementary to said unique conductor connection groupings,

identifying the complementary connections at said one end of said cable, and comparing the two conductor con-



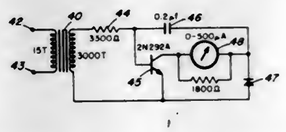
nection groupings at the two ends of the cable whereby each individual conductor is uniquely identified.

3,369,178

AUTOMOTIVE TACHOMETER ENERGIZED BY THE IGNITION PRIMARY CIRCUIT

George A. Wilson, Baltimore, Md., assignor to The Bendix Corporation, Towson, Md., a corporation of Delaware

Filed Aug. 26, 1965, Ser. No. 482,786
6 Claims. (Cl. 324—70)



1. A tachometer circuit for internal combustion engines with electrical spark ignition systems having an induction coil and breaker points driven synchronously by the engine for interrupting primary current to the coil, comprising,

an input transformer with stepup turns ratio between the primary and secondary windings thereof, the primary winding of said transformer being connected in series with the primary circuit of the ignition system coil;

a load resistor connected to the secondary winding of said transformer;

a transistor having base, emitter and collector electrodes, sand base and emitter electrodes being in series circuit with said load resistor across said transformer secondary winding;

a diode having one electrode thereof connected to the emitter of said transistor;

a meter connected to the other electrode of said diode and to the collector of said transistor; and

a capacitor connected between the base of said transistor and said other electrode of said diode.

3,369,179

CATHODE RAY TUBE READOUT HAVING A TWO PHOSPHOR SCREEN FOR SIMULTANEOUS VISUAL AND PHOTOGRAPHIC READOUT

Toshio Tanaka, Fushimi-ku, Kyoto, Japan, assignor to Tateise Denki Kabushikikaisha, Kyoto, Japan, a corporation of Japan

Filed Mar. 1, 1963, Ser. No. 262,040
Claims priority, application Japan, Mar. 8, 1962, 9,070/37
2 Claims. (Cl. 324—121)

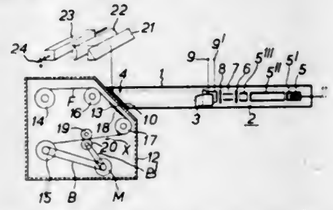
1. An electrical measuring instrument comprising an electron emission tube having:

(a) electron gun means for directing a beam of electrons longitudinally of said tube and including means responsive to an input signal to be measured for deflecting said beam laterally in accordance with said signal;

(b) a first pair of side walls which diverge from the longitudinal axis of said tube substantially in the directions, respectively, of maximum beam deflections;

(c) a second pair of side walls connected to the first pair, said second pair being parallel and substantially flat and closely spaced in a direction perpendicular to the direction of lateral beam deflection; and

(d) a laterally elongated photoluminescent screen positioned at the forward end of said tube in the path of said electrons whereby the point of electron beam impingement thereon indicates the value of said signal, said screen



(i) being inclined at an angle toward one of said second pair of side walls to enable the side of said screen impinged upon by the electron beam to be observed through said one side wall while also permitting observation of the other side of said screen from the forward end of said tube, and

(ii) having first and second sections extending in the direction of deflection of said beam, the first section consisting of material having a high persistence characteristic for visual observation, the second section consisting of relatively nonpersistent material for photographic observation;

(e) said electron gun means including means shaping said electron beam to impinge upon both of said screen sections simultaneously; and

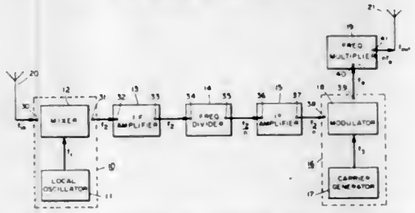
(f) said one of the second pair of side walls being adapted to permit observation of said screen therethrough.

3,369,180

CONSTANT FREQUENCY DEVIATION NON-DEMODULATING MICROWAVE REPEATER

Donald Renkowitz, Whitestone, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware

Filed Jan. 25, 1966, Ser. No. 522,941
3 Claims. (Cl. 325—11)



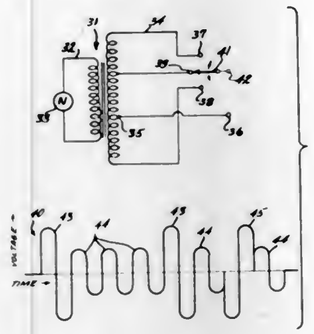
A non-demodulating microwave repeater wherein the frequency deviation of the received signal is maintained constant is described. The repeater heterodynes the received signal to an intermediate frequency signal which is then divided by N, converted up by heterodyning and multiplied by N to the transmitted signal frequency. The multiplication of the up-converted signal enables the carrier signal source to operate at a frequency substantially lower than the transmitted signal frequency.

3,369,181

SYSTEM FOR TRANSMITTING DIGITAL DATA VIA PULSE DOUBLETS

Noel B. Braymer, 966 Magellan, Costa Mesa, Calif. 92626

Filed Mar. 18, 1964, Ser. No. 352,879
7 Claims. (Cl. 325—44)



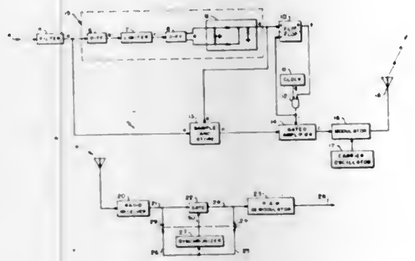
A system of digital communication wherein all digital representations (including "zero") are converted into doublet signals including excursions in opposite senses to amplitudes representative of each digital representation. Thus, there is no direct-current component in the signal and phase reversals are employed to accomplish another dimension of information as for control signals and the like.

3,369,182

TRANSMISSION OF ANALOG SIGNALS BY SAMPLING AT AMPLITUDE EXTREMES AND SYNCHRONIZING SAMPLES TO A CLOCK

Adolf Reindl, Long Branch, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed July 2, 1964, Ser. No. 380,107
4 Claims. (Cl. 325—44)



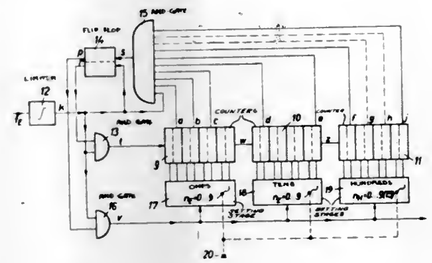
The apparatus includes a means for sampling the amplitudes of the extreme points of an analog signal. These extreme point amplitudes are then temporarily stored and transmitted in synchronism with the next succeeding pulse emitted by a clock. At the receiver, the signal path is periodically opened by means of a clock synchronized with the clock of the transmitter, thus reducing received noise while transmitting a given analog signal at a reduced average sampling rate.

3,369,183

BINARY FREQUENCY DIVIDER CIRCUIT HAVING EXTERNALLY ADJUSTABLE FREQUENCY SELECTION MEANS AND RESET MEANS

Ulrich Mester, Burlafingen, Germany, assignor to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany

Filed July 12, 1965, Ser. No. 471,231
Claims priority, application Germany, July 11, 1964, T 26,567
7 Claims. (Cl. 328—48)



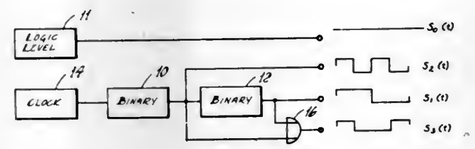
A binary frequency divider including a plurality of series-connected frequency counting stages, each of the counting stages being assigned to one decade of an adjustable division factor, wherein the counting stages always count from a number *n*, which can be externally set, up to a final position or number K—2 which is the same for all division factors, where K is the largest number that can be registered in the counter. Switching means is provided for blocking the input of the counting stage when the counter reaches its final position, and gate means is provided for resetting the counter to its starting position *n* on the subsequent input pulse.

3,369,184

ORTHOGONAL SEQUENCE GENERATOR

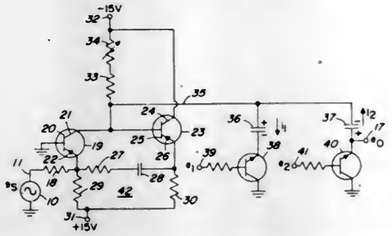
Frank I. Zonis, Trenton, N.J., assignor, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed June 19, 1964, Ser. No. 376,601
7 Claims. (Cl. 328—62)



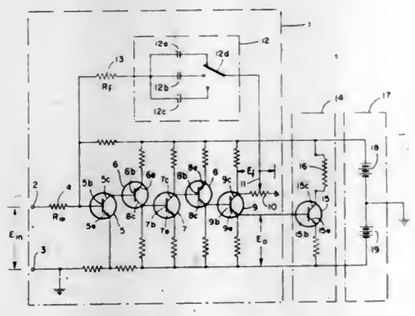
An orthogonal sequence generator capable of generating signals which are mutually orthogonal over an interval T. Each of the signals has constant magnitude, but the polarity of each signal varies with the period T. The basic elements are a set of square wave generators with periods T_1 where $T/T_1=2^{X_1}$ and the X_1 are different non-negative integers for each *i*. The square waves need not be in phase nor have the same magnitude. These square waves are mutually orthogonal over any interval T. Another orthogonal sequence is the constant polarity signal. The signals described above form an orthogonal set. Other orthogonal sets may be formed by multiplying each of the basic signals by any constant magnitude signal.

3,369,185
RC CORRELATOR CIRCUIT FOR SYNCHRONOUS SIGNAL DETECTION
Robert C. Carter, Richardson, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed May 24, 1965, Ser. No. 458,157
17 Claims. (Cl. 329—50)



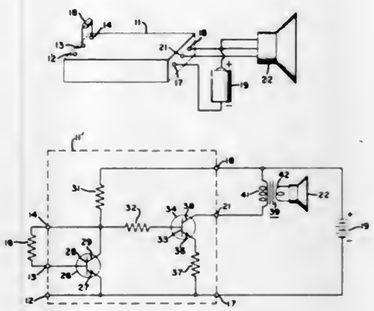
1. A circuit for mixing a first signal of the frequency $\omega_1 t$ and phase θ with a second signal of frequency $\omega_1 t$ and θ_R and developing therefrom an output proportional to the integral of the D.C. component of the product of said first and second signals over a predetermined interval of time T where $\omega_1 T$ is much greater than unity; comprising amplifier means having essentially infinite output impedance to which said first signal is applied as an input, the output of said amplifier means being connected serially through a first capacitor and a first switching means to common ground, the output of said amplifier being additionally connected serially through a second capacitor and a second switching means to common ground, means for alternately closing each of said first and second switching means for predetermined time intervals corresponding to half cycle periods of time at the frequency $\omega_1 t$, an output taken across said second switching means, said output being equal to the charge across said first and second capacitors at a period of the time when said second switching means is open and said first switching means is closed, and being proportional to the integral of the D.C. component of the products of said first and second input signals at the end of said period of time T.

3,369,186
DUAL OUTPUT AMPLIFIER
Jean C. Lejon, Paris, France, assignor to Societe dite: Controle Bailey, a company of France
Filed Feb. 12, 1964, Ser. No. 344,486
Claims priority, application France, Apr. 30, 1963, 933,339
2 Claims. (Cl. 330—10)



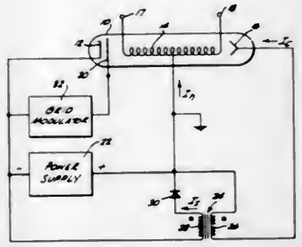
An amplifier circuit, responding to direct voltage input signals and providing two independent output signals; one a low impedance output for supplying a control signal which is proportional to the input signal and the second a high impedance output for supplying a feedback signal to the circuit input terminal which is related to the first output signal by a ratio of the high impedance to the low impedance.

3,369,187
INTEGRATED ELECTRONIC CIRCUIT CONSTRUCTION INCLUDING EXTERNAL BIAS RESISTOR
Antal Csicsatka, Utica, N.Y., assignor to General Electric Company, a corporation of New York
Filed Apr. 16, 1965, Ser. No. 448,727
1 Claim. (Cl. 330—38)



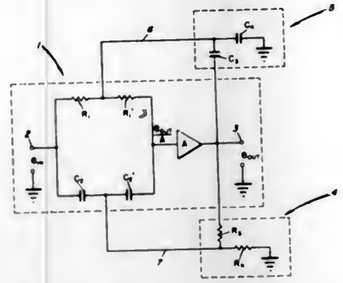
An integrated electronic circuit construction including first and second transistors, an output electrode of the first transistor being DC coupled to an input electrode of the second transistor and the bias for the circuit being controlled by a discrete resistor positioned externally of the integrated circuit and directly connected between the collector and base electrodes of the first transistor.

3,369,188
BIAS ARRANGEMENT FOR DEPRESSED COLLECTOR MICROWAVE AMPLIFIER TUBE
Joe V. Stover and Thomas L. Griffin, Anaheim, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Feb. 25, 1965, Ser. No. 435,306
12 Claims. (Cl. 330—43)



1. A bias arrangement for a linear electron beam microwave amplifier having a cathode, an interaction structure and a collector electrode comprising: a power supply coupled between said cathode and said interaction structure, a transformer having a primary winding and a secondary winding, said primary winding being coupled between said interaction structure and said collector electrode, and a unidirectionally conductive device, said unidirectionally conductive device and said secondary winding being coupled in series across said power supply.

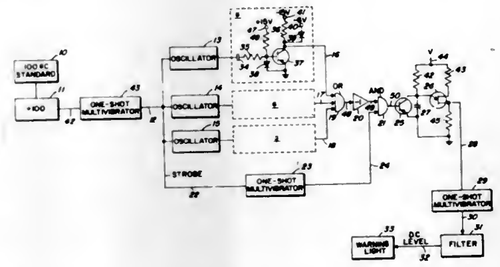
3,369,189
VARIABLE FEEDBACK NOTCH FILTER
Benjamin F. Hoffman, Hyattsville, and Robert L. Konigsberg, Baltimore, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed July 24, 1964, Ser. No. 385,559
3 Claims. (Cl. 330—109)



1. The combination, in a variable feedback notch filter, comprising
a first resistor,
a second resistor connected in series with said first resistor,
a first capacitor,
a second capacitor connected in series with said first capacitor, said first and second capacitors being connected in electrical parallelism with said first and second resistors,
a ground line,
a unity gain amplifier connected to said second resistor and said second capacitor, and
feedback means including a pair of series connected feedback capacitors connected between the output of said amplifier and said ground line in electrical parallelism with a pair of series connected feedback resistors and the output of said amplifier for feeding back a predetermined portion β_1 of the output signal from said amplifier to the junction of said first and second resistors and a predetermined portion β_2 of said amplifier output signal to the junction of said first and second capacitors.

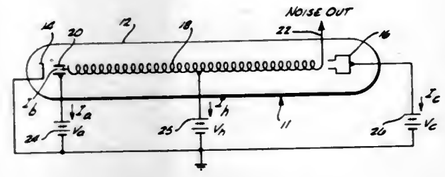
3,369,190
PHASE LOCKED INDICATOR FOR PLURALITY OF OSCILLATORS PHASE LOCKED TO COMMON REFERENCE
Woodrow W. Pope, Garland, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Feb. 15, 1967, Ser. No. 616,347
6 Claims. (Cl. 331—44)

1. In a system comprising a plurality of oscillators each of which generate a harmonic of a reference frequency and is frequency and phase locked to said reference frequency, each of said oscillators developing a substantially square wave output signal defined by first and second voltage levels and each said oscillator output changing from one of said voltage levels to the other in time correspondence with the duration of a first reference frequency strobing pulse, said first reference frequency strobing pulse being generated in time correspondence with each successive cycle of said reference frequency source, means for monitoring the phase-locked relationship between said reference frequency source and each of said oscillator outputs comprising; an OR gate receiving the output waveform from each of said oscillators, an AND gate receiving the output from said OR gate as a first input thereto, means for initiating a second reference strobing pulse in time correspondence with the trailing edge of said first reference strobing pulse and with duration being less than that defined by one half cycle of the highest operating frequency of said plurality of oscillators, the voltage level of said second reference strobing pulse being like that of the equal voltage levels to which the outputs of said plurality of oscillators as applied to said AND gate change during the time duration of said first reference frequency strobing pulse, said AND gate receiving said second reference strobing pulse as a second input thereto, said AND gate developing an output pulse train at a rate defined by said reference frequency with pulse durations defined as the



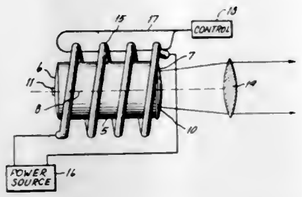
time between the initiation of successive ones of said second strobing pulses and the next subsequent change in voltage level of any one of said inputs to said AND gate, said AND gate output pulse train being generated only if said reference strobing pulses are present in the system, each of said plurality of oscillators is operative and each of said plurality of oscillators is phase locked to said reference frequency source, said phase locked relationship being defined as a like change in voltage levels of said oscillator outputs occurring within the time defined by said first reference strobing pulse.

3,369,191
HIGH POWER MICROWAVE NOISE GENERATOR EMPLOYING TRAVELING-WAVE TUBE TYPE DEVICE WITH REFLECTED ELECTRON BEAM
Andrew C. Schram, Torrance, and Kenneth P. Grabowski, La Mirada, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Jan. 15, 1965, Ser. No. 425,833
11 Claims. (Cl. 331—78)



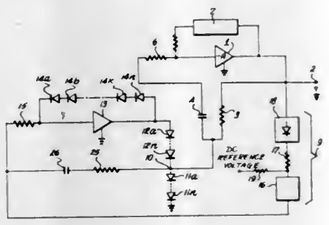
In the disclosed noise generator an electron beam is projected along a slow-wave structure toward a cup-like collector having an inwardly projecting lip portion facing the slow-wave structure. The collector voltage is depressed sufficiently to establish a virtual cathode in the collector region which reflects a substantial portion of the beam electrons back toward the electron gun. Electrons in both the forwardly and backwardly traveling beams interact with noise energy propagating along the slow-wave structure, thereby amplifying the noise to the desired level.

3,369,192
LASER CONFIGURATION
Charles J. Koester, South Woodstock, Conn., assignor, by mesne assignments, to American Optical Company, Southbridge, Mass., a corporation of Delaware
Filed July 27, 1962, Ser. No. 212,818
2 Claims. (Cl. 331—94.5)



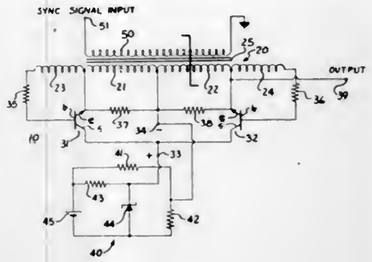
1. A body formed of laser material, said body having side walls disposed in concentric relation to a longitudinal axis extending therethrough, a pair of convexly curved spherical surfaces defining opposite ends of said body, said convexly curved end surfaces being arranged in facing relation to each other and in predetermined spaced relation along the axis of said body, the center of curvature of each convexly curved end surface being located at the intersection of said axis with the other of said convexly curved end surfaces, one of said convexly curved end surfaces being of relatively high reflectivity over all parts thereof and the other end surface being of relatively low reflectivity over all parts thereof except for a relatively small area immediately surrounding and disposed in concentric relation wtih said axis, and said relatively small surface area having a relatively high reflectivity, at least one of said end surface areas of high reflectivity being slightly transmissive to optical energy at the emission wavelength of said laser material, whereby an optical resonant cavity for lower order mode propagation only and at increased efficiency will be formed between said areas of relatively high reflectivity.

3,369,193
OSCILLATOR WITH CONTROLLED LINEAR FEEDBACK CIRCUIT
John G. Nordahl, Lexington, Mass., assignor to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware
Filed Aug. 1, 1966, Ser. No. 569,222
8 Claims. (Cl. 331—109)



An oscillator including an amplifier and a frequency determining circuit is provided with a feedback circuit having a variable impedance diode circuit to vary the magnitude of the feedback signal for control of the amplitude of the oscillations. A rectifier-integrator circuit develops a DC signal proportional to oscillation amplitude and a control circuit drives the diode circuit with a current proportional to the DC voltage thereby controlling the diode circuit impedance to ground.

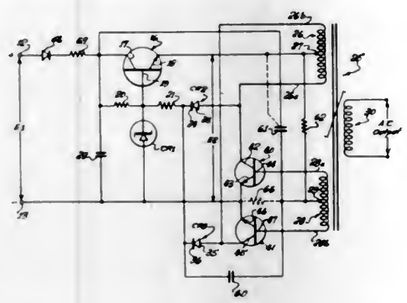
3,369,194
FREQUENCY DIVIDING SYNCHRONOUS SATURABLE CORE OSCILLATOR HAVING HIGH FREQUENCY SIGNAL EFFECTIVE ONLY AT SATURATION
Wilmer C. Anderson, Greenwich, Conn., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware
Continuation of application Ser. No. 205,618, June 27, 1962. This application Sept. 26, 1966, Ser. No. 584,631
12 Claims. (Cl. 331—113)



A frequency dividing synchronous oscillator including a transformer having a core of readily saturated magnetic material with a generally rectangular hysteresis loop, and a winding on the core, a source of supply voltage, and a pair of transistors supplied by the voltage source and having input and output circuits connected to the transformer winding symmetrically in opposed phase relation so that the transistors conduct alternately, passing a square wave of current at a constant magnitude over a longer interval prior to saturation followed by a sharp peak of current over a short time interval in the region of saturation. Precise frequency division is achieved at ratios as high as 1000:1 by providing a high frequency synchronizing signal having a period of oscillation which is only a small fraction of the period of the square wave, and control means which render the synchronizing signal ineffective during the major portion of the oscillatory cycle of the transformer prior to saturation, and which renders the synchronizing signal effective only during the short interval in the region of saturation to correctively adjust the frequency of oscillation of the transformer so that it is held at a precise sub-multiple of the frequency of the synchronizing signal. In the embodiment of FIGURE 1, the synchronizing signal is applied to the transformer via an auxiliary winding which produces an auxiliary flux signal in the core effective only in the region of saturation to correctively accelerate or delay saturation, so that the synchronizing signal is ineffective at all other times. In the embodiment of FIGURE 3, a phase detector is associated with the oscillator with a negative biasing means associated therewith so that the phase detector responds to the high frequency synchronizing signal only during the sharp current peaks, when the voltage biases sufficiently to neutralize the opposing bias.

3,369,195
STABILIZATION OF VOLTAGE-REGULATED ELECTRONIC CONVERTERS
Richard J. Zollinger, Sierra Madre, and Robert F. Easton, Pasadena, Calif., assignors to Electro-Optical Systems, Inc., Pasadena, Calif., a corporation of California
Filed Oct. 20, 1966, Ser. No. 588,072
10 Claims. (Cl. 331—113)

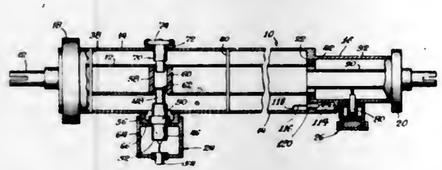
1. In an electronic converter system powered from a source of D.C. potential applied between a high potential terminal and a reference potential terminal and including a square core transformer with a center-tapped primary winding and a center-tapped feedback winding and an output winding, a pair of switching transistors having their collectors connected to opposite ends of said primary winding and their bases connected to opposite ends of said feedback winding and their emitters directly connected to said reference potential terminal, a series regulating transistor having its collector connected to said high potential terminal and its emitter connected to the center-tap of said primary winding, a Zener diode voltage reference device connected between the base of said series regulating transistor and said reference potential terminal, and full-wave rectifier means having its input connected



to the collectors of said switching transistors and its output connected to the base of said series regulating transistor, the improvement comprising:

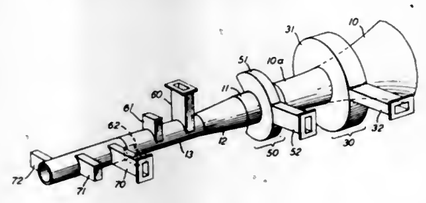
means for reducing the amplitude of a transient voltage spike generated upon the switching of said switching transistors, said means consisting of first capacitance means connected between the output of said full wave rectifier means and the center tap of said feedback winding, resistance means connected between the center tap of said primary winding and the center tap of said feedback winding, and second capacitance means connected between the center tap of said feedback winding and the collector of said series regulating transistor.

3,369,196
GASEOUS-SOLID STATE POWER LIMITER
David C. Broderick, Beverly, Mass., assignor to Metcom, Inc., Salem, Mass., a corporation of Delaware
Continuation-in-part of application Ser. No. 214,546, Aug. 3, 1962. This application May 3, 1966, Ser. No. 547,248
2 Claims. (Cl. 333—13)



1. A device for limiting the power of high frequency electrical signals comprising in combination a section of coaxial wave guide having an inner conductor and an outer conductor, means within the wave guide which give rise to a discontinuity in impedance, a gaseous electron discharge tube mounted at a spaced electrical distance from the discontinuity in shunt between the inner and outer conductors, nonlinear solid state means mounted in shunt between the inner and outer conductors at a spaced electrical distance from the tube; the solid state means being essentially reactive at low power incidence and essentially conductive at high power incidence; whereby electrical signals of limited power only are passed by the device, the power of such electrical signals being limited when the gaseous electron discharge tube fires, such power being further limited when the nonlinear means conducts between the inner conductor and the outer conductor, and bias means mounted within the wave guide to couple energy from the wave guide, said bias means being connected to said solid state means whereby said solid state means may be biased into a conductive condition when the high frequency energy is coupled into the bias means.

3,369,197
WAVEGUIDE MODE COUPLER
Adolf J. Giger, Murray Hill, and John J. Schottle, Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 5, 1965, Ser. No. 423,453
14 Claims. (Cl. 333—21)

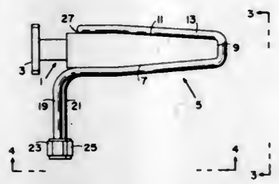


2. In combination, a waveguide system for supporting a plurality of different modes of wave propagation, first means including a tuned cavity coupled to said system for extracting a first selected mode of wave energy propagating in said system, a first band reflection filter in circuit relation with said first means for returning to said first means any energy of said first mode which fails to exit said system via said first means, second means including a tuned cavity coupled to said system for extracting a second selected mode of wave energy propagating in said system, a second band reflection filter in circuit relation with said second means for returning to said second means any energy of said second mode which fails to exit said system via said second means, third means including a tuned cavity coupled to said system for extracting a third selected mode of wave energy propagating in said system, a third band reflection filter in circuit relation with said third means for returning to said third means any energy of said third mode which fails to exit said system via said third means, fourth means including a tuned cavity coupled to said system for extracting a fourth selected mode of wave energy propagating in said system, and a fourth band reflection filter in circuit relation with said fourth means for returning to said fourth means any energy of said fourth mode which fails to exit said system via said fourth means.

3,369,198
WATER COOLED WAVEGUIDE LOAD
Richard A. Campbell, West Concord, and Charles W. Carruthers, Burlington, Mass., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Oct. 21, 1965, Ser. No. 500,451
1 Claim. (Cl. 333—22)

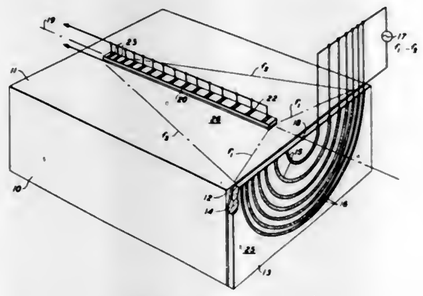
1. A water cooled waveguide including: a waveguide body with tubing wound about three outer surfaces, two of which are flat and opposite each other and the other of which is an end surface which intersects said two sur-

faces, said tubing being wound about said surfaces in the form of two U-shaped portions with each U-shaped portion defining a base and two legs and an intermediate tube portion interconnecting a leg of each of the U-shaped portions; means permanently securing said tubing to said



outer surfaces for heat exchange relationship; and means at opposite ends of the tubing for connecting one end of the tubing to a water supply and for connecting the other end of the tubing to means for receiving exhaust water.

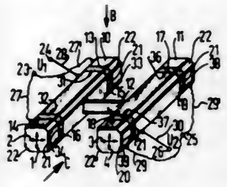
3,369,199
DISPERSIVE DELAY LINE
Erhard K. Sittig, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 18, 1964, Ser. No. 419,505
4 Claims. (Cl. 333—30)



A diffraction delay line in which the input transducer is formed as an array of concentric circular line sources and the output transducer array as a straight line array extending axially with respect to the concentric array. Since this input array focuses its radiation upon the output array which is in turn selective aganst unfocused radation, a high degree of spurious signal suppression is possible.

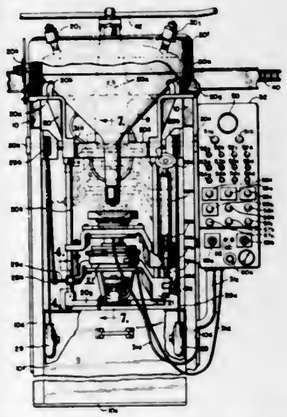
3,369,200
BENDING BANDPASS ELECTROMECHANICAL FILTER WITH ASYMMETRY FOR IMPROVED SELECTIVITY
Friedrich Künemund, Hans Albsmeier, and Karl Traub, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed Jan. 26, 1965, Ser. No. 428,174
Claims priority, application Germany, Jan. 30, 1964, S 89,284
14 Claims. (Cl. 333—71)

A bender bandpass electromagnetic filter having a pair of resonators, a coupling bridge joining the resonators to transmit vibrations from one resonator to the other, electrostrictive transducers in each of the resonators for the transition from electrical to mechanical vibrations and mechanical to electrical vibrations, and at least one asym-



metry on each resonator, for coupling two perpendicular bending vibrations of the same frequency on each resonator.

3,369,201
COLOR CATHODE RAY TUBE CONVERGENCE AND DEFLECTION TESTING ASSEMBLY AND FIXTURE THEREFOR
Joseph P. Fiore, Wheeling, and Raymond J. Pekosh, Chicago, Ill., assignors to The Rauland Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 27, 1964, Ser. No. 392,511
11 Claims. (Cl. 324—20)



A test arrangement for color picture tubes comprises a conveyor for moving test carts from loading to testing and to unloading stations. Each cart has a workholder which receives a tube with its axis disposed vertically but the workholder pivots to present the tube in a horizontal position at the testing station. The tube is tested in an environment simulating its operation in a receiver. A degaussing coil degausses the tube. A carriage slidably supported on a workholder accommodates a deflection yoke, a convergence assembly and an electrical socket which are moved into the appropriate functional positions with respect to the tube installed in the workholder. Signal generators carried by the cart energize the yoke and convergence assemblies for testing purposes.

3,369,202
CIRCUIT BREAKER STACK INCLUDING AUXILIARY FEATURES
Carl E. Gryctko, Haddon Heights, N.J., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 13, 1965, Ser. No. 487,016
12 Claims. (Cl. 335—9)

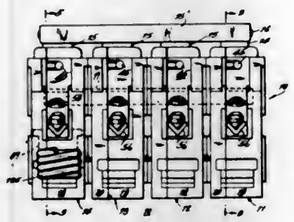
1. The combination comprising a plurality of individual switching devices of a first and second type, stacked side by side;

and a common element extending between said plurality of switching devices, whereby the movement of any one of said plurality of switching devices from a first to a second condition causes the remaining ones of said switching devices to move to said second condition;

each of said switching devices including an operating mechanism having a latchable means;

latch means for maintaining said latchable means in its latched condition, whereby its respective switching device is maintained in said first condition;

said latch means movable to a tripped condition, whereby said latchable means is unlatched and its respective switching device is moved to said second condition;



a trip member operatively connected between said latch means and said common element, such that movement of the latch means of one of said switching devices to its tripped condition moves its trip member in a direction moving said common element in a tripping direction, and moving the trip members of all of the remaining switching devices in said direction, such that all of said remaining trip members moving in unison to trip their respective switching devices;

said first type of switching devices being a circuit breaker including a pair of cooperating contacts;

said contacts being engaged in said first condition and disengaged in said second condition;

an overload sensing trip means operatively connected to the circuit breaker latch means for movement thereof to its tripped condition responsive to a predetermined overload condition;

said second type of switching device including an undervoltage trip means operatively connected to its respective latch means for movement thereof to its tripped condition responsive to a sensed voltage below a predetermined level;

such that the movement of said second type of switching device to its tripped condition responsive to an undervoltage condition automatically moves said common elements in said tripping direction to move said first type of switching device to its second condition.

3,369,203
CROSS BAR SWITCHING APPARATUS HAVING MECHANICAL LOCKING MEANS
William J. Rea, Ralston, Nebr., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 19, 1966, Ser. No. 580,362
10 Claims. (Cl. 335—112)

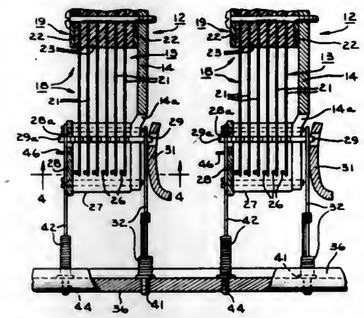
1. Crossbar type switching apparatus, which comprises:

first and second adjacent sets of contacts;

contact selecting means movable selectively into either of two operative conditions each associated with a respective one of said sets of contacts;

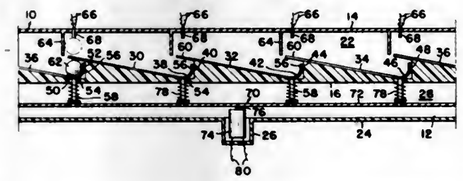
releasable means cooperable with said contact selecting means when said contact selecting means is in either of its two operative conditions, for operating the one of said sets of contacts which is associated with that condition; and

separate mechanical locking means for each of said sets



of contacts, for maintaining said set of contacts operative so that said contact selecting means and said releasable means can be utilized to operate the other of said sets of contacts, each of said locking means being mounted at least in part on said contact selecting means for movement therewith into a respective one of its operative conditions.

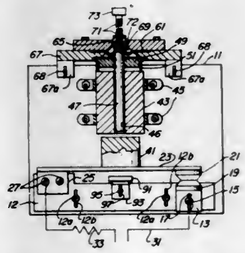
3,369,204
SEQUENCING DEVICE
Harry S. Davis, Fort Lauderdale, Fla., assignor to Davis Flow Valve, Inc., Fort Lauderdale, Fla., a corporation of Florida
Filed Feb. 17, 1966, Ser. No. 528,176
10 Claims. (Cl. 335—138)



1. A sequencing device, comprising: a housing having a bottom wall, a top wall, and side walls defining an endless passage; said bottom wall having a series of ramps sloping in the same direction; a vertically movable elevator in the bottom wall between the foot of each ramp and the high point of the adjacent ramp; a flow conductor connected to one of the other walls directly above each elevator; ball means, at least one less than the number of flow conductors, freely movable in said endless passage, said ball means cooperable with said flow conductors to control flow therethrough; operating means to simultaneously raise and lower said elevators; said ramps providing a track whereby the ball means may roll, under the force of gravity, from the high point of a ramp onto an elevator at the foot thereof; and a resiliently mounted track extension projecting from the high point of each ramp above the adjacent elevator in a position to be moved aside by the passage of the ball means as the latter is raised and to be resiliently returned to a position below the ball means after said ball means has passed above said extension, whereby, when said elevators are simultaneously raised, the ball means thereon forces the track

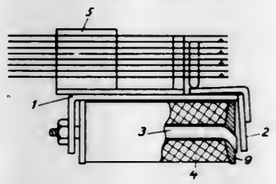
extension aside permitting the elevators to bring the ball means into cooperating register with a flow conductor above the elevator to control flow through said conductor, and when said elevators are simultaneously lowered, said ball means are engaged by said track extension and roll down the connecting ramp onto an elevator at the foot thereof.

3,369,205
MAGNETIC ACTUATOR FOR SWITCHES, VALVES AND THE LIKE
Donald J. Hamrick, Vancouver, Wash.
(884 Flaxberry, San Rafael, Calif. 94903)
Continuation-in-part of application Ser. No. 367,100 May 13, 1964. This application Apr. 13, 1966, Ser. No. 549,097
14 Claims. (Cl. 335—177)



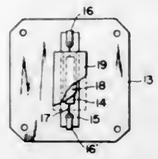
1. In a magnetic device for producing motion,
a master magnet structure having a passage therethrough,
a slave magnet arranged in adjacent relation to one end of said passage, and repelled by the master magnet structure,
said master magnet structure and slave magnet being mounted for motion relative to one another,
and ferromagnetic means mounted for motion through said passage in said master magnet structure to cause the slave magnet to be magnetically attracted in the direction of the master magnet structure.

3,369,206
ELECTROMAGNETIC TELEPHONE RELAY
Karl Axel Lundkvist, Stockholm, Sweden, assignor to Telefonaktiebolaget L. M. Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Jan. 6, 1966, Ser. No. 519,058
Claims priority, application Sweden, Mar. 10, 1965, 3,151/65
5 Claims. (Cl. 335—273)



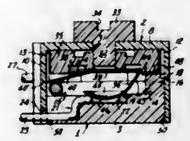
An electromagnetic relay the core of which is rotatable in the coil of the relay and has at its end facing a pivotal armature of the relay a non-axial or set-off portion so shaped that the distance between the pivot axis of the armature and the principal area of a magnetic attraction of said non-axial core portion varies in accordance with the angular position of the core in the coil whereby the relay can be set in accordance with the contact assembly to be controlled by the relay without altering the working angle of the armature and the extent of lifting or lowering of the contact assembly.

3,369,207
TEMPERATURE VARIED SEMICONDUCTOR DEVICE
Kichisabro Hasegawa, Meguru-ku, Tokyo, Etsuyuki Matsuura, Shinagawa-ku, Tokyo, and Motoaki Matsuura, Minato-ku, Tokyo, Japan, assignors to Hasegawa Electronics Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Jan. 16, 1964, Ser. No. 338,160
Claims priority, application Japan, Mar. 8, 1963, 38/12,094; Mar. 27, 1963, 38/15,600; May 14, 1963, 38/25,165; June 11, 1963, 38/31,327, 38/31,328; June 29, 1963, 38/33,943
7 Claims. (Cl. 338—23)



The natural voltage-current characteristic of a semiconductor element of silicon or germanium is modified by artifically changing its natural temperature. The semiconductor element can be artifically heated by application of heat thereto from an electrical heating coil wrapped around the element; a heat dissipating plate can be applied to the element in heat-transfer relation; and the element may be artifically cooled by utilizing a thermoelement in spaced relation with the element or by immersing the element in a cold liquid such as liquid nitrogen.

3,369,208
VARIABLE RESISTORS
William D. Kirkendall, Dalton, Pa., assignor to Weston Instruments, Inc., a corporation of Delaware
Filed Nov. 19, 1965, Ser. No. 508,751
5 Claims. (Cl. 338—174)



1. In a variable miniature resistor, the combination of a housing comprising
a first wall,
a second wall spaced from and at least generally parallel to said second wall, and
side wall means cooperating with said first and second walls to define a cavity;
a resistance element mounted in said cavity and extending circularly in a plane parallel to said first and second walls;
bearing means carried by said first wall;
a rotary contacting driving member disposed in said cavity and mounted on said bearing means for rotation about an axis at right angles to said first and second walls,
one side of said contact driving member being directed toward said second wall,
said axis passing through the center of the circle in which said resistance element extends;
an electrically conductive lead element having one end portion disposed within said cavity and extending circularly in a plane parallel to said first and second walls,

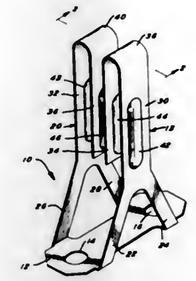
said one end portion being supported by said second wall and centered on said axis with said one end portion of said lead element exposed toward said first wall,
said lead element being a wire of circular transverse cross section;
at least one additional electrically conductive lead connected to said resistance element; and
an integral rotary contact member of electrically conductive spring metal sheet, said rotary contact member comprising
a generally flat body portion of such configuration and dimensions as to be capable of slip clutch engagement with said one side of said contact driving member,
a first contact arm, and
a second contact arm,
said first contact arm extending generally radially relative to said body portion, being bent to diverge outwardly from the plane thereof, and terminating in a contact tip,
said second contact arm commencing in a bend at the edge of said body portion at a location opposite said first contact arm and extending away from the plane of said body portion, on the same side thereof as said first contact arm and toward said one end portion of said lead element, said second contact arm terminating in a cup-shaped contact portion having a concave side facing said body portion and a convex, generally spherical side facing away from said body portion;
said rotary contact member being located within said cavity with said body portion in slip clutch engagement with said one side of said contact driving member, said generally spherical side of said cup-shaped contact portion in sliding engagement with said one end portion of said lead element, and said contact tip of said first contact arm in sliding engagement with said resistance element,
said second contact arm being resiliently distorted, by reason of engagement of said rotary contact member between said rotary member and said one end portion of said lead element, to urge said body portion against said one side of said contact driving member and said cup-shaped contact portion against said one end portion of said lead element.

3,369,209
ELECTRIC HEATING ELEMENT
Björn Edwin, Asvagen 22, and Thor Hegbom, Tegelbruksvagen 19, both of Hallstahammar, Sweden
Filed Feb. 5, 1965, Ser. No. 430,642
Claims priority, application Sweden, Feb. 7, 1964, 1,538/64
5 Claims. (Cl. 338—238)



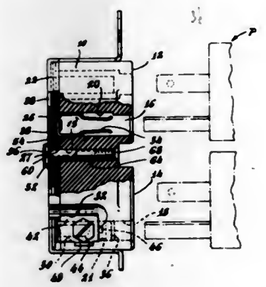
This invention relates to an electric heating element including an outer sheath, at least one resistance wire housed within said sheath and surrounded by magnesia powder, and said sheath containing, or alternatively, said powder containing ferrous oxide, nickel oxide, cobalt oxide or copper oxide in an amount sufficient to preclude substantial discoloration of the magnesia powder when the element is sealed in a gas-tight manner and heated to an elevated temperature.

3,369,210
ELECTRICAL CONNECTOR
Michael A. Menickella, Philadelphia, Pa., assignor to Electro-Nite Co., a corporation of Pennsylvania
Filed July 28, 1965, Ser. No. 475,481
17 Claims. (Cl. 339—9)



An electrical connector for use with slide wires including a pair of upstanding contact members for supporting an elongated contact to be positioned perpendicular to the slide wire or a backer and also for supporting, if desired, a second elongated contact member parallel to the first mentioned member, or an elongated backer. The contact members may also support only an elongated contact or only a backer, in which instance a central cylindrical contact post is provided. In all cases, a bias forces the elongated contacts towards each other or towards a backer so that a slide wire is engaged therebetween. The electrical connector is used primarily for simultaneously engaging two slide wires.

3,369,211
GROUNDING RECEPTACLE
John A. Sundquist, Trumbull, Conn., assignor to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed May 12, 1966, Ser. No. 549,705
10 Claims. (Cl. 339—14)

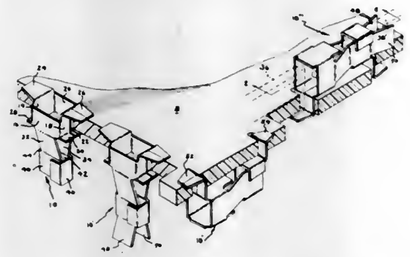


1. An electrical grounding receptacle which comprises: a body of insulating material defining chambers therein and including a face portion defining openings communicating with said chambers; a plurality of female electrical contacts within said chambers aligned to receive male contacts inserted through said openings; grounding terminal means on said body; an electrical conductor joining said grounding terminal means and at least one of said female electrical contacts; a metallic mounting strap on said body; and insulating means for electrically isolating said conductor from said mounting strap.

3,369,212
ELECTRICAL CONNECTOR

Daniel Russell Coldren, Enola, and Ralph Rupp Lau, Harrisburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed Nov. 24, 1965, Ser. No. 509,518
4 Claims. (Cl. 339—32)

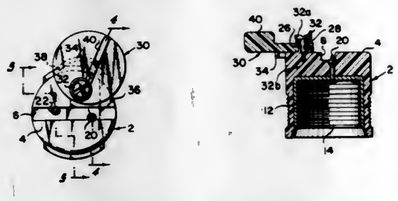


A female contact or receptacle is provided which accepts a male tab member and is positionable on a panel, printed circuit board, or the like. The receptacle may be mounted parallel or perpendicular to the board depending upon the particular system in which the receptacle is used. Various modifications of the receptacle are provided, differing in mounting techniques or in the direction from which male tabs are receivable.

3,369,213
INSULATION PIERCING ELECTRICAL CONNECTOR

Lewis E. Palmer, Washington, W. Va., assignor to Union Insulating Company, Inc., Parkersburg, W. Va., a corporation of West Virginia

Filed Dec. 27, 1965, Ser. No. 516,343
3 Claims. (Cl. 339—99)



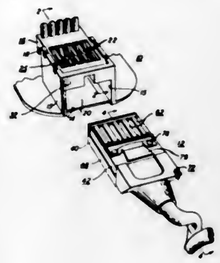
An electrical connector of the insulation-piercing type, including a body member containing a slot in which the insulation piercing members are mounted, and a cam-carrying cover member pivotally connected with said body and operable, during movement from an open position to a closed position, to force the conductors downwardly in the slot into electrical engagement with said piercing means.

3,369,214
CONNECTOR

Charles L. Krumreich, Indianapolis, Ind., and Victor S. Martin, Lutherville, Md., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 27, 1965, Ser. No. 505,375
7 Claims. (Cl. 339—105)

A plug and socket connector is described in which the plug is rectangular and includes a row of U-shaped contacts mounted thereon and extending parallel to the length thereof. One leg of each contact extends along the surface of the plug and provides the engaging portion, while the other leg of each contact is contained within the plug and is attached to a conductor. The socket includes a rectangular opening and a row of cantilever contacts that extend parallel to the length of the opening. The free ends

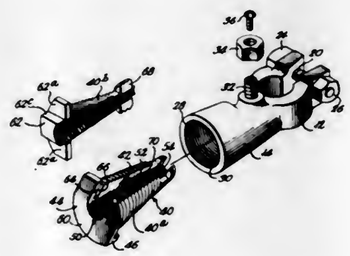


of the socket contacts are bowed so as to protrude into the opening and engage the plug contacts when the plug is inserted into the opening.

3,369,215
BATTERY TERMINAL CLAMP FOR EMERGENCY AND/OR PERMANENT CABLE CONNECTION

Clarence B. Haegert, P.O. Box 318, Coffeyville, Kans. 67337

Filed Feb. 11, 1966, Ser. No. 526,876
7 Claims. (Cl. 339—230)



A battery terminal post has a tapered threaded socket receiving an elongated exteriorly threaded tapered two part jam nut. The jam nut has an axially extending stepped bore. One part of said nut fits into a longitudinal slot which opens into the bore of the other part. Lateral wings are provided on the one part which fit into side slots of the other part. The one part is mounted for inward clamping movement with respect to the bore and the walls of the longitudinal slot of the other part.

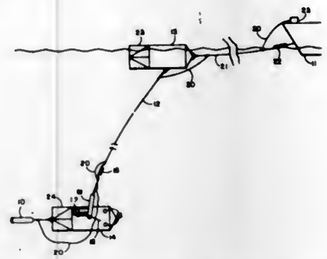
3,369,216
SYSTEM FOR REDUCING THE TRANSMISSION OF NOISE IN MARINE SEISMIC SURVEYING

George B. Loper, Duncanville, Tex., assignor to Mobil Oil Corporation, a corporation of New York

Continuation of application Ser. No. 325,700, Nov. 22, 1963. This application July 28, 1966, Ser. No. 568,541
4 Claims. (Cl. 340—7)

A marine seismic towing system including a tow vessel, a seismic detecting system coupled to the tow vessel by a cable arrangement, and a float for maintaining the detecting system at a desired depth in water and above the bottom. The detecting system is employed to detect seismic signals while being towed in the water. The effect of

mechanical noise upon the response of the detecting system and due to the towing operation is reduced by

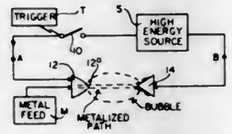


employing an inertia member coupled to the detecting system and resilient means coupled to the cable.

3,369,217
METHOD AND APPARATUS FOR GENERATING AN UNDERWATER ACOUSTIC IMPULSE

William H. Luehrmann, Carl O. Berglund, and William H. Parker, Dallas, Tex., assignors to Teledyne Industries, Inc., Geotech Division, a corporation of California

Filed Sept. 26, 1966, Ser. No. 581,982
4 Claims. (Cl. 340—7)

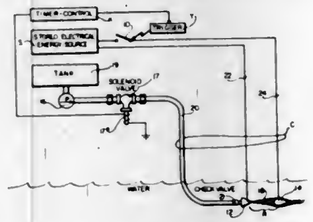


Method and apparatus for improving a seismic source by increasing the efficiency of conversion of electrical energy discharged between immersed electrodes from a given storage device into subaqueous seismic disturbances for the purpose of lowering the frequency of the resulting fundamental component of the disturbance by virtue of an increase in the size and duration of the resulting plasma bubble. The improved lower frequency content of the disturbance provides deeper penetration into subaqueous strata, and is the direct result of metallizing a small cross-section path between the electrodes prior to each discharge, and then discharging sufficient electrical energy therethrough to vaporize the path, the discharge persisting beyond the time required for such vaporization.

3,369,218
METALLIZED PLASMA PATH SOURCE

William H. Luehrmann, Dallas, and William H. Parker, Richardson, Tex., assignors to Teledyne Industries, Inc., Geotech Division, a corporation of California

Filed Nov. 21, 1966, Ser. No. 595,695
7 Claims. (Cl. 340—12)

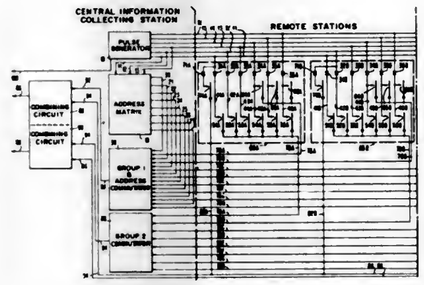


An underwater acoustical source for efficiently converting electrical energy discharged between spaced immersed electrodes from a storage device into an intense plasma discharge to form a large steam bubble which subsequently collapses to provide an acoustical disturbance having an improved low-frequency content. The described embodiment includes means for periodically pumping a conductive liquid through a hose and jetting the liquid from one electrode toward and against the other to form a metallized path of higher initial conductivity between them, and then discharging a very high peak current through the path to vaporize it.

3,369,219
SAMPLING SYSTEM FOR BINARY INDICATORS HAVING PLURAL SAMPLING RATES

Paul Abramson, Seymour Bederman, and Richard W. Bennett, Yorktown Heights, Pao H. Chin, Pleasantville, Morris Krakinowski, Ossining, George R. Stilwell, Jr., West Nyack, and Anthony H. Winchell, Mohegan Lake, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 30, 1964, Ser. No. 379,262
6 Claims. (Cl. 340—147)

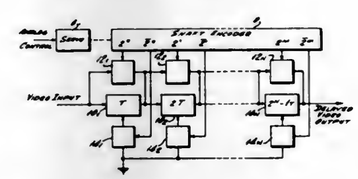


A sampling system for binary indicators comprising a plurality of binary indicators located at a plurality of remote stations, a pulse generator for generating sample pulses, a distribution means for applying selection sample pulses to each binary indicator and a plurality of time-division multiplexors for controlling data output from the sampling system.

3,369,220
ELECTRICALLY PROGRAMMED DELAY

Edward M. Buyer, Bayport, Arthur B. Kaplan, Merrick, and George M. Strauss, Nanuet, N.Y., assignors to Maxon Electronics Corporation, Great River, N.Y., a corporation of New York

Filed Oct. 7, 1963, Ser. No. 314,169
4 Claims. (Cl. 340—167)



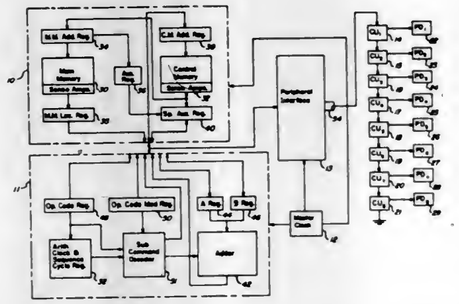
A plurality of N individual delay units connected in series provide different delays progressing successively in powers of 2. The unit with the shortest delay provides a delay of T seconds and that with the longest delay provides a delay of $2^{N-1}T$ seconds. Switches are connected across the respective delay units for selectively short-circuiting such units. Each of the switches includes a control terminal for opening and closing it in response to a binary signal. A pulse is applied to the first of the delay units.

A control simultaneously applies a binary signal to each of the control terminals. Additional switches are connected to each of the delay units and the control for preventing the application of a ground voltage to a delay unit when that unit has been short circuited. The additional switches include control terminals for opening and closing their associated switches. The delayed input pulse is derived from the last delay unit and is delayed by an amount proportional to the numerical value of the binary signal.

3,369,221
INFORMATION HANDLING APPARATUS

Walter R. Lethin, Canton, and Louis G. Oliari, Brockton, Mass., assignors to Honeywell Inc., a corporation of Delaware

Filed May 4, 1964, Ser. No. 364,686
14 Claims. (Cl. 340—172.5)

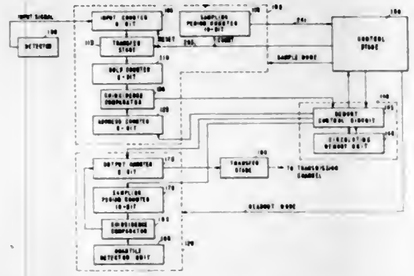


13. A data processing apparatus capable of collectively transferring information a character at a time during successive operating intervals between a memory unit and a plurality of peripheral devices over a common distribution circuit and for simultaneously processing instructions of an operating routine on a time-sharing basis, said apparatus comprising a memory portion for storing said information and the instructions of said operating routine, an arithmetic unit, means operatively connecting said arithmetic unit to said memory portion, a traffic control portion connected to both said memory portion and said arithmetic unit, said traffic control portion being further connected to a plurality of peripheral control units over said common distribution circuit, each of said plurality of peripheral control units having associated therewith at least one of said plurality of peripheral devices, said traffic control circuit comprising a sequencing circuit having an operative cycle consisting of a plurality of time intervals, means adapted to be energized while said sequencing circuit is operative in one of said time intervals to activate a particular one of said plurality of peripheral control units, means responsive to said activation signal to further activate said at least one of said peripheral devices associated with said particular one of said peripheral control units and to reserve thereto a particular one of said time intervals during subsequent sequencing cycles, said traffic control portion being further comprised of a plurality of pairs of registers, each of said pairs of registers being further associated with a particular one of said plurality of time intervals, the first one of a pair of said registers connected to said memory unit for storing a signal representation identifying the starting address of an area of memory to be referenced, said area of memory comprising a variable number of sequential storage locations within said memory unit, the second one of said pair of registers connected to said memory unit for storing a digital representation identifying the address of a particular one of said plurality of sequential storage locations within said area of memory to be referenced, and means connected to be responsive to certain conditions within said particular one of said plurality of peripheral devices to initiate the transfer of a unit of information between said peripheral device and the location in main memory as identified by the content of said second register during said particular one of said time intervals and to modify the digital representation stored in said second register so as to identify the location in main memory from whence the succeeding transfer is to be initiated.

3,369,222
DATA COMPRESSOR

James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of Edward C. Posner, Altadena, Isidore Eisenberger, Pasadena, Tage O. Anderson, Arcadia, and Warren A. Lushbaugh, Los Angeles, Calif.

Filed June 24, 1965, Ser. No. 466,875
14 Claims. (Cl. 340—172.5)



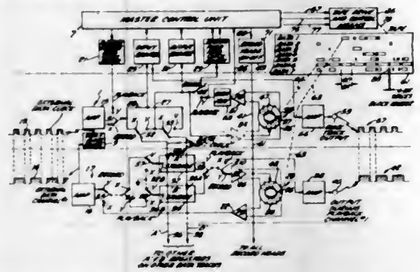
A data compressor which includes a counter to provide a number or count at the end of each of Y observation periods which represents the number of observed events which cannot exceed X. A binary type serial memory which stores X consecutive ones, followed by Y consecutive zeroes is read out at the end of each period. When the number of ones which are read out equals the number of observed events a zero is inserted among the ones. Thus at the end of the Y periods, the Y zeroes are dispersed among the X ones, with the number of ones preceding each zero representing the number of events observed during a different period.

3,369,223
INCREMENTAL TAPE RECORDER AND DATA RATE CONVERTER

Hugh L. Dryden, Deputy Administrator of the National Aeronautics and Space Administration, with respect to an invention of David A. Ehrenfeld, South Pasadena, and Irving Karsh, Los Angeles, Calif.

Filed Nov. 16, 1965, Ser. No. 508,170
7 Claims. (Cl. 340—172.5)

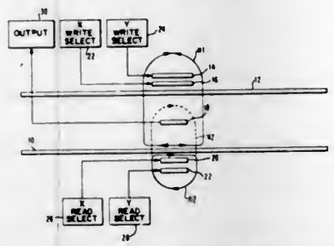
1. In a data handling and recording system of the character described, a first data storage means; a second data storage means; a first source of clock signals; a second source of clock signals; transducer means associated with a recording medium; control means for moving said recording medium forwardly, for stopping movement of said recording medium and for reversing the direction of movement of said recording medium with respect to said transducer means; first clock signal counting means for developing a first signal in accordance with the number of signals from said first source; second clock signal counting means for producing a second signal in accordance with a number of pulses from said second clock signal source; connecting means, in a first condition thereof, being effective to connect said first source of clock signals to said first data storage means and also to connect said second source of clock signals to said second storage means; said connecting means, in a second condition thereof, being effective to connect said first source of clock signals to said second storage means and also to connect said second source of clock signals to said first storage means; said connecting means being changed from said first condition to said second condition in accordance with said first signal; forward movement of said recording medium being initiated in accordance with said first signal effecting operation of said control means; said forward movement of said medium being stopped and reversed in accordance with said second signal effecting operation of said control means; said transducer cooperating with a recording of clock signals on said medium for developing a third signal; said reverse movement of said medium being stopped in accordance with said third signal effecting operation of said control means.



3,369,224
CRYOGENIC THIN FILM APPARATUS

Rex H. Blumberg, Hyde Park, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Apr. 3, 1964, Ser. No. 357,157
9 Claims. (Cl. 340—173.1)

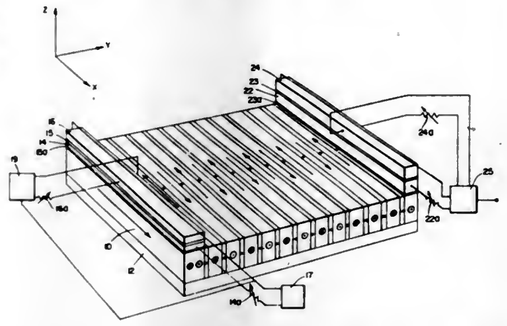


A means for sampling a magnetic field in a super-conductive device nondestructively employs the fact that a thin film of super-conductive material having magnetic fields H1 and H2 applied to the opposite sides thereof will remain in its super-conductive state if the fields are of the same sense, while switching if fields are of the opposite sense. When the film switches to resistive condition, it is no longer a barrier between fields H1 and H2, a fact which can be employed as one means of detecting the fact that the film has switched. H1 results from trapped flux data storage which has been entered in a sheet film memory element at one side of the barrier film. H2 is set up by operation of drive lines aligned with the memory site but at the other side of the barrier film. The flux H2 may or may not penetrate the barrier film depending on its polarity relationship to flux H1. If H2 does penetrate, the resulting distortion of the fields can be detected.

3,369,225
THIN FILM SHIFT REGISTER

Harrison W. Fuller, Needham, Mass., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware

Filed May 5, 1964, Ser. No. 364,914
5 Claims. (Cl. 340—174)

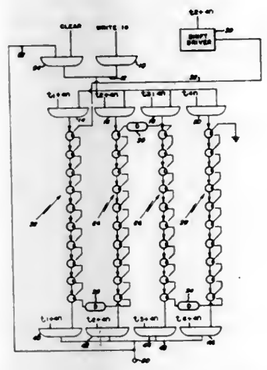


The thin magnetic film devices are disposed one above the other. One device acts as a storage medium and the other as a scanning medium. The storage medium is provided with means to produce magnetic domains having selected directions of magnetization representing digital information. The scanning medium is provided with means to create successive moving domains whose fringe field magnetically couple to the domains in the storage medium. A restraining field which retards the motion of the domains serves to control their density. By these means, domains of different magnetization are coated in the storage medium and their travel passed a readout coil is controlled.

3,369,226
DIGITAL DATA STORAGE AND TRANSFER CIRCUITRY

Roy W. Reach, Jr., Sudbury, Mass., assignor to Honeywell Inc., a corporation of Delaware

Continuation of application Ser. No. 2,700, Jan. 15, 1960. This application May 12, 1964, Ser. No. 366,876
3 Claims. (Cl. 340—174)



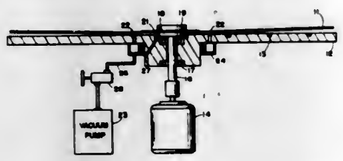
1. A digital data transfer circuit comprising a single data input adapted to receive serial input data, a first plurality of digital data gating circuits each having an input connected to said data input, timing sequencing means connected to said gating circuits to selectively sequence the data from said input through said gating means, a plurality of serial shift registers connected one each to the

outputs of each of said gating circuits, a shift signal source connected to each of said registers to shift the data therein, said shift signal source shifting each of said registers in a selected time sequence determined by said timing sequencing means, and data combining means comprising a second plurality of digital data gating circuits connected to the output of said registers for sequentially deriving serial output data from the latter in accordance with said timing sequencing means.

3,369,227
FLEXIBLE DISC MAGNETIC STORAGE DEVICE

Thomas A. Boissevain, Bedford, Mass., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware

Filed Aug. 12, 1965, Ser. No. 479,108
8 Claims. (Cl. 340—174.1)

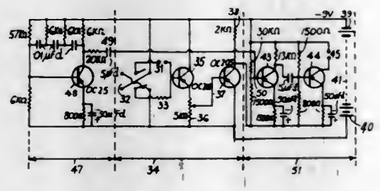


1. Data storage apparatus comprising a flexible magnetic disc, means to rotate the disc, backing means defining a stationary surface coextensive with one surface of the disc said backing means being apertured to admit fluid in between a central region of the disc and said stationary surface, means to withdraw fluid from between said stationary surface and an annular region of the disc concentric about said central region, said backing means being apertured to admit fluid to said withdrawal means so as to cause a localized annular depression in the disc which restricts the radially outward flow of fluid, and an array of heads mounted in said stationary surface for reading and writing on the region of the disc which surrounds said annular region.

3,369,228
ENVIRONMENT IDENTIFICATION SYSTEM

David Blythe Foster, Windlesham, England, assignor to National Research Development Corporation, London, England, a corporation of Great Britain

Filed Aug. 26, 1964, Ser. No. 392,243
Claims priority, application Great Britain, Aug. 29, 1963, 34,207/63; Apr. 14, 1964, 15,486/64; June 25, 1964, 26,411/64
12 Claims. (Cl. 340—228)

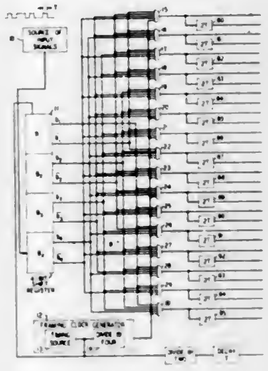


1. A system for use by blind persons for environment identification in which the visual characteristics of a field of view are converted to sound characteristics reproduced or generated by a device or devices carried by the user, said system comprising light-receiving means, an expansive nonlinear modulation system having first and second inputs and one output, a photo-electric device conected to receive light from said light-receiving means and deliver to said first input a current having a parameter proportional to the intensity of light received from said light-receiving means, a tone generator connected to feed frequencies to said second input, and a sound reproducing device connected to said output, said nonlinear modulation system comprising means to combine the frequencies from said tone generator with the output from said photo-electric device to form an audio output signal for feeding to said sound-reproducing device, said combining means comprising means to continuously regulate the amplitude of said frequencies, whenever said intensity passes a threshold level, in response to variations in the intensity of the light received by said light-receiving means, in accordance with a predetermined expansive nonlinear amplifying characteristic, and means for preventing the output from said photocell from regulating said signal when said intensity is below said threshold level, said last mentioned means being adjustable to vary the threshold level past which regulation is prevented.

3,369,229
MULTILEVEL PULSE TRANSMISSION SYSTEM

Irwin Dorros, Livingston, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 14, 1964, Ser. No. 417,863
5 Claims. (Cl. 340—347)

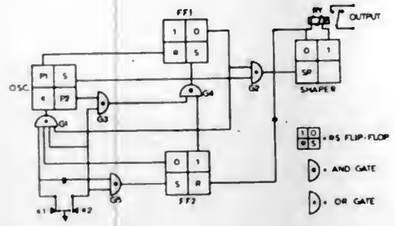


Binary pulse signals are converted into pulse signals having N possible levels in accordance with a first predetermined code set until a pulse signal is generated having a positive direct current component, whereupon conversion is accomplished in accordance with a second predetermined code set until a pulse signal having a negative direct current component is generated and the conversion again carried out in accordance with the first code set. The incoming signal is divided into words of K bits per word, which are then converted into γ symbol words where the ratio K/γ is greater than 1 and each symbol has N possible levels and the 2^K possible binary words are less in number than the N^γ possible N level words. Since 2^K possible binary words are less in number than N^γ possible N level words, selection of multilevel words is possible such that the resulting signal has no direct current component and a long train of spaces cannot be transmitted. In addition, since the ratio K/γ is greater than unity, each symbol of the resulting N bit pulse train carries the information of more than one bit of the original binary pulse train, and as a result less bandwidth is required in order to transmit the resulting signal.

3,369,230
TELEGRAPHIC KEYER

Edward B. Brown, 2915 Kentucky Ave., Topeka, Kans. 66605

Filed June 21, 1965, Ser. No. 465,667
7 Claims. (Cl. 340—353)

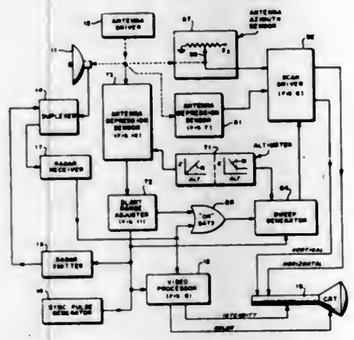


1. In a keyer: a keyed oscillator; a shaper, coupled to said oscillator and keyer output; a 1st flip-flop, coupled to said oscillator and shaper; a 2nd flip-flop, coupled to said 1st flip-flop, oscillator, and shaper; a 1st control key, coupled to said oscillator and 2nd flip-flop; a 2nd control key, coupled to said oscillator, 1st flip-flop, and 2nd flip-flop.

3,369,231
AIRBORNE OBSTACLE AVOIDANCE SYSTEM

Marvin J. Foral, Doylestown, Pa., assignor to the United States of America as represented by the Secretary of the Navy

Filed Aug. 26, 1964, Ser. No. 392,358
11 Claims. (Cl. 343—7.9)



1. An obstacle avoidance system for arcraft, comprising:

radar antenna means adapted to vertically and horizontally scan a solid angle in front of the aircraft for radiating and receiving radar signals, and including means for generating signals indicative of the instantaneous azimuth and depression scan angles;

radar transmitter-receiver means operatively connected to said antenna means for generating and detecting the radar signals, the detected radar signal being the signal reflected from obstacles within said solid angle;

video processor means operatively connected to said transmitter-receiver means for receiving the detected radar signals and producing intensity and color modulation signals as a function of signal strength and range, respectively;

altimeter means having one output signal which varies directly with altitude, and another output signal which varies inversely with altitude and then is constant above a predetermined altitude;

deflection means operatively connected to said antenna means and said altimeter means for receiving said scan angle signals and said altitude signals, respectively, and producing vertical and horizontal deflection signals synchronous with the scanning of the antenna means; and

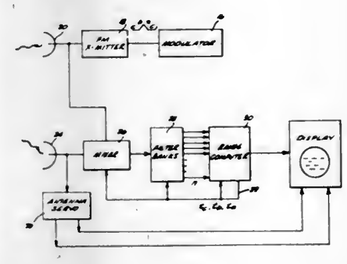
multi-color cathode ray tube means connected to said processor means and said deflection means for receiving said intensity and color modulation signals and said deflection signals, respectively, for display;

whereby contoured terrain and other obstacles are presented as a quasi real world display in the aircraft.

3,369,232
RADAR RANGE COMPUTER

Robert J. Boucher, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Dec. 30, 1965, Ser. No. 517,802
25 Claims. (Cl. 343—9)



In an FM three-phase Doppler radar wherein the frequency spacing between reflected energy components is proportional to target range, a range computer having a filter bank which is scanned to convert frequency information to time base information, a circulating storage means wherein each converted component of time base information is stored in a separate register as a digital bit and is read out by logic means to verify a target by the occurrence of three bits of information and to determine the target range by the spacing between the bits.

3,369,233
WIDEBAND COHERENT FREQUENCY MODULATOR WITH DYNAMIC OFFSET

Joseph Burnsweig, Jr., Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

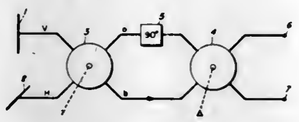
Filed May 10, 1966, Ser. No. 549,064
9 Claims. (Cl. 343—14)



A radio frequency modulator for a transmitter which permits at least two oscillators offset in frequency to be rendered coherently offset by supplying a synchronizing drive signal derived from a first tunable oscillator through a modulator and slewing the other tunable oscillators with respect to the first from which the drive signal was derived. The coherent offset is established by mixing a

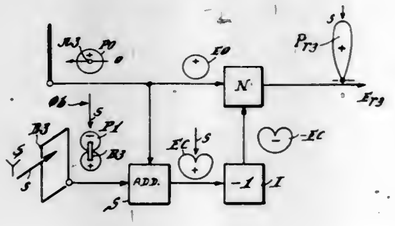
coherent fixed reference frequency with the frequency of the tuned oscillator at all tuning times and applying the intermediate frequency derived through a circulator and thereby injection locking it precisely to the intermediate frequency.

3,369,234
POLARIZATION CONTROL APPARATUS
George B. Bush, Clarksville, and Fletcher C. Paddison, Bethesda, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Oct. 3, 1962, Ser. No. 228,209
7 Claims. (Cl. 343—100)



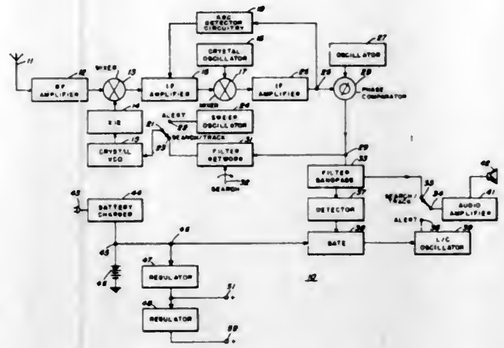
5. A polarization adjusting system comprising,
a receiver having a pair of mutually perpendicular antennas for receiving the vector components of a polarized wave,
a resolver connected to said antenna pair, said resolver aligning said vector components with said antennas, and
summing means connected to said resolver for shifting into vector coincidence and combining said vector components.

3,369,235
DIRECTIONALLY SELECTIVE ENERGY RECEIVING SYSTEM
Charles E. Odams, North Reading, and Morton F. Spears, Westwood, Mass., assignors to Gorham Corporation, Providence, R.I., a corporation of Rhode Island
Filed Feb. 8, 1966, Ser. No. 525,970
23 Claims. (Cl. 343—100)



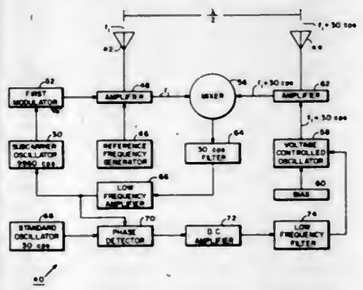
A directional radio receiver forms a narrow beam output signal from signals furnished by two antennas with dissimilar broad angle reception patterns (such as a whip antenna and a loop antenna) which are combined to eliminate from the broad angle reception patterns portions outside a predetermined narrow angle pattern, to the appreciable exclusion of energy including noise, impinging from without this narrow pattern. The combining of the reception patterns involves adding circuitry and bridge circuitry with four diodes connected at two opposite junctions to an impedance which is supplied with one antenna signal across its terminals and with the other antenna signal at a tap, the narrow beam output signal being derived from a terminal between two diodes connecting the two other bridge junctions. Interference rejection circuitry can be incorporated in the narrow beam reception circuitry. Several embodiments utilizing various antenna and intermediate reception patterns are described.

3,369,236
NAVIGATIONAL RECEIVER
Edwin E. Westerfield, Silver Spring, Jerry R. Norton, Greenbelt, Lauren J. Rueger, Silver Spring, and Malcolm B. Greenlee, Rockville, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed May 20, 1966, Ser. No. 551,776
9 Claims. (Cl. 343—100)



This is a navigational receiver for receiving signals broadcast continuously from artificial earth satellites, the satellite being a source of reliable all weather navigational information. The receiver may be tuned manually to the internationally known frequency of the satellite and then once contact has been made the receiver locks on to the satellite signal. Another phase of the receiver is that it will automatically scan a band of frequencies in the neighborhood of that used by the satellite so that an audio signal is given once the desired frequency has been passed indicating presence of a satellite whereupon the receiver locks on to this frequency and keeps it in steady contact from then on.

3,369,237
RADIO AID TO NAVIGATION
Minton B. Cronkhite, San Diego, Calif., assignor to Cubic Corporation, San Diego, Calif.
Filed Aug. 25, 1965, Ser. No. 482,446
8 Claims. (Cl. 343—105)



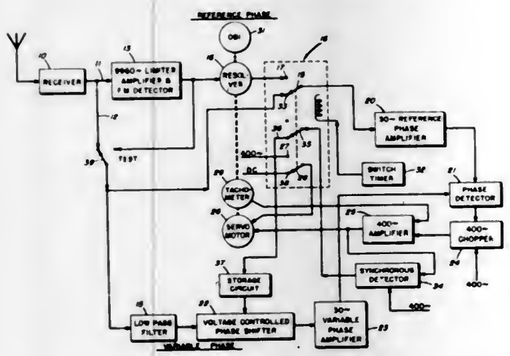
1. A portable, compact radio aid to navigation system operable in conjunction with a remote VHF omnirange receiver, (VOR) to provide at the receiver a visual display of deviation from a predetermined vector heading from the receiver toward the system, the system comprising:
(A) portable first transmitting means for generating and transmitting a first carrier signal in the VHF frequency range and second transmitting means for generating and transmitting a second carrier signal at a frequency offset by 30 cycles per second from said first carrier signal frequency and in phase coherence with said first carrier signal;

(B) first antenna means coupled to said first transmitting means for radiating said first carrier signal in a predetermined pattern; and
(C) second antenna means coupled to said second transmitting means for radiating said second carrier signal in a predetermined pattern;
said first and second antenna means being positioned along a common base line and separated by a distance

$$\frac{n\lambda}{m}$$

λ being equal to the wave length of said first carrier signal and n and m are integers, to provide to a remote omnirange receiver first and second carrier signals with a phase difference proportional to $n\lambda/m \cos \theta$, where θ is substantially equal to the angle existing between said base line and a vector from said antenna means to the remote receiver in addition to any phase difference that is attributable to the phase coherent generation of carrier signals at different frequencies.

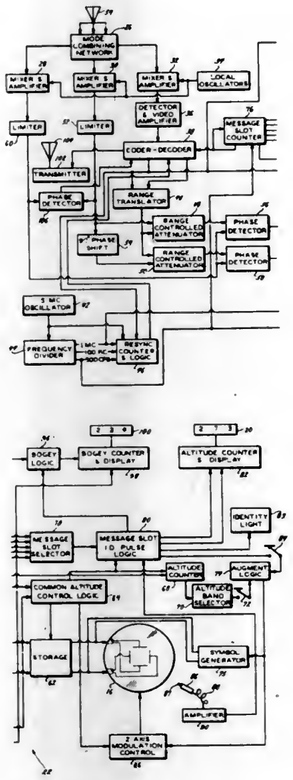
3,369,238
VOR RECEIVER WITH SELF-CALIBRATION TO ELIMINATE BEARING ERRORS
Reuben L. Stauffer, and Lester R. Yates, Baltimore, Md., assignors to The Bendix Corporation, Baltimore, Md., a corporation of Delaware
Filed Feb. 14, 1967, Ser. No. 616,066
16 Claims. (Cl. 343—106)



A VOR navigation receiver having automatic calibration means eliminating errors due to differential phase shift in the receiver phase comparison circuits. An electrically variable phase shifter is inserted in one of two separate signal circuits. Identical signal is applied to both signal circuits. Detected phase difference inversely controls phase shifter to eliminate phase difference.

3,369,239
AIR TRAFFIC CONTROL AND MONITORING SYSTEM
Robert E. Perkinson, St. Louis County, Martin J. Borrok, Berkeley, Wilbur H. von Fange, Kirkwood, and Frank E. Christofferson, Richmond Heights, Mo., and James E. Blouin, Godfrey, Ill., assignors to McDonnell Aircraft Corporation, St. Louis County, Mo., a corporation of Maryland
Filed Nov. 19, 1964, Ser. No. 412,368
18 Claims. (Cl. 343—112)

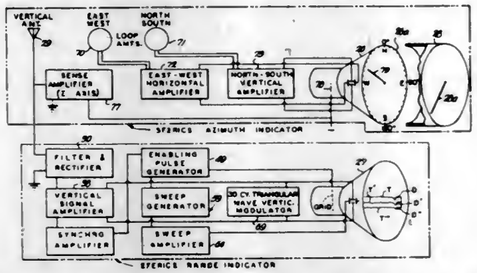
1. A ground station for monitoring air traffic and the like comprising signal transmitting and receiving means, precision means for keeping time including circuit means operatively connected to the transmitting means for energizing said transmitting means to transmit signals at preselected times, means responsive to the time keeping means for establishing repeating time periods and means for subdividing said time periods into individual transmitting intervals, means at the ground station for assigning different ones of said intervals to different airplanes, said receiving means responding to signals received from airplanes during their assigned transmitting intervals, display means for prdoucing images at location corresponding to the locations of the respective airplanes relative to the ground station, means connected between the receiving means and the display means for converting the signals received at the receiving means into signal components representing the locations of the airplanes for applying to the display means to produce images thereon at locations corresponding to the locations of the airplanes relative to the ground station.



3,369,240
RANGE AND BEARING INDICATION OF GEOGRAPHICALLY REMOTE SOURCES OF ELECTROMAGNETIC RADIATION
Thomas P. Leary, 1212 First National Bank Bldg., Omaha, Nebr. 68102
Continuation-in-part of application Ser. No. 313,232, Oct. 2, 1963. This application Aug. 29, 1966, Ser. No. 593,229
18 Claims. (Cl. 343—112)

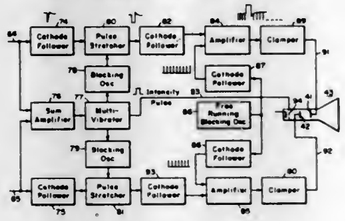
1. In a system for obtaining at a single station simultaneous visually determinable range and bearing fixes on a geographically remote source of vertically polarized,

high amplitude pulses of electromagnetic radiation in the ELF (extremely low frequency) range, the combination of means at said station for receiving and translating an ELF pulse from said source into a visible indication of the



direction of said source from said station, and means in close proximity to the first-named means for automatically measuring and visibly indicating the time lapse between the arrival at said station of the ground wave and sky wave, respectively, of said pulse.

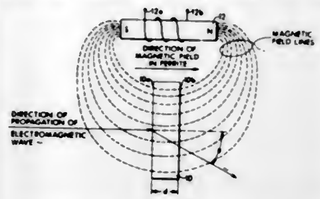
3,369,241
PASSIVE DETECTION AND DIRECTION FINDING APPARATUS
Paul D. Newhouse, Linthicum Heights, and Charles M. Allen, Arbutus, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 13, 1957, Ser. No. 640,049
18 Claims. (Cl. 343—119)



16. In radio detection and direction finding apparatus, in combination, antenna means for receiving pulsed radiant energy from a source detector means operatively connected to and energized from said antenna means, said antenna means having directional response characteristics whereby the radiant energy supplied to the detector means varies as the angular direction to the source varies in a predetermined plane of measurement, pulse stretching means including clamping means and pulse overshoot eliminating means operatively connected to and energized from said detector means, and indicator means operatively connected to said pulse stretching means, said indicator means being constructed and arranged to utilize the stretched pulses to provide a stable indication of the direction to said source as measured in said predetermined plane.

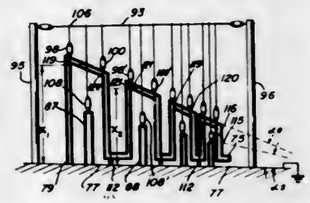
3,369,242
INERTIALESS ELECTROMAGNETIC WAVE SCANNER
Robert E. Johnson, Williamsville, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Nov. 24, 1964, Ser. No. 413,528
8 Claims. (Cl. 343—754)

Means for providing inertialess beam scanning of a millimeter wave length antenna comprising a parallel-sided body of ferrite material having an index of refraction that can be varied when subjected to a magnetic field, positioned in free space in the beam of an electromagnetic wave. An electromagnet is arranged to provide a magnetic field substantially parallel to the direction of propagation of the wave impinging on the ferrite and having a flux density gradient across the beam traversing the ferrite so that the phase delay is varied across the beam in the manner of a linear phase shift taper and the emerging energy will have a phase front at an angle to the original



direction of propagation. In an alternate embodiment, the phase taper is provided by the use of a ferrite wedge in a uniform magnetic field. Scanning is accomplished by varying the magnitude of the field. Two-dimensional scan is provided by arranging electromagnets orthogonally around the periphery of the parallel-sided ferrite body. Impedance matching between the ferrite and free space is provided by two layers of dielectric on the incident face of the ferrite body.

3,369,243
LOG-PERIODIC ANTENNA STRUCTURE
John W. Greiser, Champaign, Ill., assignor to University of Illinois Foundation, Urbana, Ill.
Filed Jan. 18, 1965, Ser. No. 426,236
11 Claims. (Cl. 343—770)

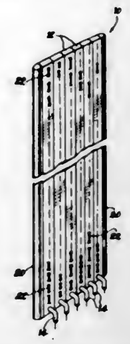


A wide band folded element type antenna structure having a plurality of series fed folded elements varying in length and spacing, and a series of phasing elements allowing control of the phase progression of the element currents. Three distinct modes of operation—a folded slot, dipole or monopole array—can be established.

3,369,244
MULTI-CHANNEL SLOT ANTENNA FOR ULTRA HIGH FREQUENCIES
Robert Wayne Masters, Falls Church Va., assignor, by mesne assignments, to Melpar, Inc., Falls Church, Va., a corporation of Delaware
Filed Mar. 1, 1965, Ser. No. 435,864
8 Claims. (Cl. 343—771)

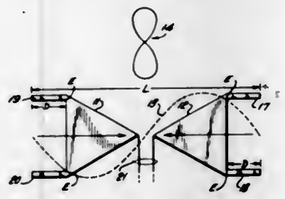
1. In a multi-channel antenna array for ultra high frequencies,
the combination comprising a plurality of wave guides in the form of metal ducts of generally rectangular cross section,
each of said wave guides having a pair of oppositely disposed wider sides and a pair of opposed narrower sides extending therebetween,
said wave guides being disposed side by side in a row with said narrower sides of the successive wave guides adjacent each other,
said wave guides being disposed with said wider sides of said wave guides in co-planar relation to one another,

each of said wave guides being formed with a series of longitudinal radiating slots in both of said wider sides thereof,
each of said wave guides being tuned to a different frequency channel,



and means for feeding ultra high frequency energy to said wave guides, said wave guides being effective to radiate ultra high frequency energy in the different frequency channels without interference with one another.

3,369,245
WING TYPE DIPOLE WITH END MOUNTED STUBS
Norman J. Rea, Sherburne, N.Y., assignor to Technical Appliance Corporation, Sherburne, N.Y., a corporation of Delaware
Filed Dec. 10, 1964, Ser. No. 417,341
13 Claims. (Cl. 343—795)



A broad band dipole antenna employing twin tapered arms which narrow toward the center conductor. The invention being the addition of a pair of spaced conductor elements to the outer broad end of the tapered dipole arms, which elements extend beyond said arms and constitute quarter wave stubs in the high-frequency range of the antenna's reception band. The addition of said elements electrically lengthens the dipole only to the lower frequencies of the reception band.

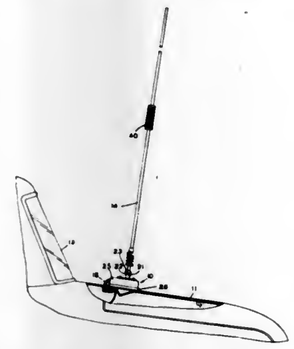
3,369,246
ZIG-ZAG DIPOLE ANTENNA
Ronald E. Fisk and Jose Perini, Syracuse, N.Y., assignors to General Electric Company, a corporation of New York
Filed May 12, 1965, Ser. No. 455,064
7 Claims. (Cl. 343—806)

1. An antenna comprising:
a pair of conductors each extending in opposite directions from a common region,
each conductor including a plurality of generally linear elements approximately one-half wavelength long at the frequency of operation of the antenna,
the elements of each of said conductors being serially connected,
even ordered elements of one of said conductors and odd ordered elements of the other of said conductors with reference to said region being oriented in one general direction,
odd ordered elements of said one conductor and said even numbered elements of said other conductor being oriented in another general direction,
a reflector spaced in radiative relationship with said pair of conductors,



a pair of energizing terminals,
means for connecting one of said terminals to the ends of said conductors adjacent said region, and means for connecting the other of said terminals to said reflector,
several successive elements of one of said conductors being progressively shorter than one-half wavelength,
several corresponding successive elements of said other conductor being progressively longer than one-half wavelength.

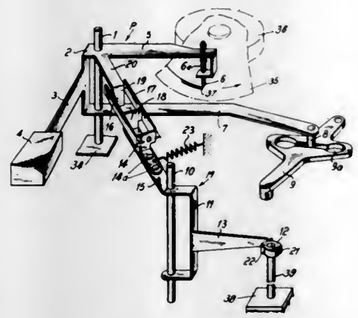
3,369,247
RADIO ANTENNA MOUNTING BRACKET FOR VEHICLES
Mitchell L. Bacow, 34 Cherokee Drive, Pontiac, Mich. 48053
Filed Nov. 2, 1964, Ser. No. 407,982
1 Claim. (Cl. 343—888)



A mounting bracket for long heavy radio sending antennas mountable on the deck lid of a vehicle with an anti-scratch pad therebetween including a hollow body compressible against the pad and deck and a connecting portion leading around and under the edge of the deck

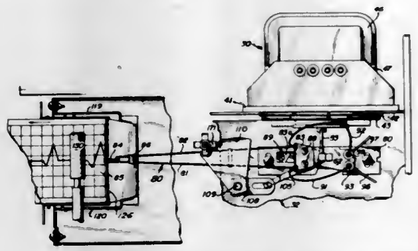
with concealed screws for securing and electrically connecting the bracket to the vehicle so that the device is mountable and dismountable without making holes in the deck and usable without marring the deck and providing a cavity in the hollow body for electrical cables and an aperture in the body for leading a cable therethrough.

3,369,248
RECORDING PENDULUM WITH PLURAL DRIVE MEANS
Norbert Helmschrott, Schwenningen, Germany, assignor to Kienzle Apparate G.m.b.H., Villingen, Germany
Filed Apr. 22, 1966, Ser. No. 544,448
Claims priority, application Germany, Apr. 23, 1965, K 55,894
14 Claims. (Cl. 346—7)



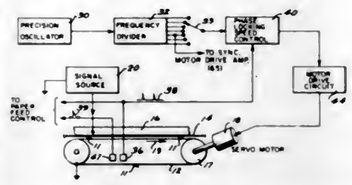
A motorcar has a vibratory recording pendulum which is oscillated not only by vibrations of the car caused by the road surface or by the engine, but also by mechanical impulses produced by a cam rotating with an odometer shaft and driving a follower acting on the pendulum.

3,369,249
ELECTROCARDIOGRAPH
Thomas W. Argy, Chicago, and Richard J. Lorenz, Des Plaines, Ill., assignors to The Hallicrafters Co., a corporation of California
Filed Aug. 31, 1965, Ser. No. 484,512
16 Claims. (Cl. 346—33)



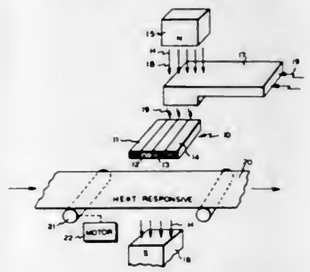
A graphic recorder actuated by a pair of push-pull driven solenoid coils which move a pivotally mounted stylus arm. The stylus is counterbalanced by a torsion spring and the entire assembly is pivotally mounted for zero adjustment, without stressing the torsion spring or the driving coils. An amplifier for the electrical signals to be recorded has electrical characteristics which complement the mechanical characteristics of the stylus, for linear operation. Coupling capacitors in the circuit are switched together to equalize charges thereon and to avoid jumping of the stylus, on switching between inputs to the recorder.

3,369,250
FACSIMILE RECORDING DEVICE
Thomas H. Gifft, 109 Paseo De La Playa, Redondo Beach, Calif. 90277
Filed July 15, 1965, Ser. No. 473,274
10 Claims. (Cl. 346—35)



An electrically sensitive sheet is positioned between a write head which is in contact with the sheet on one side thereof and a blade which is in contact with the sheet on the other side thereof. The write head is driven across the sheet in a direction substantially parallel to the surface thereof, such write head motion being frequency and phase locked with the output of a precision pulse signal generator. The sheet is fed in a direction normal to the motion of the write head in accordance with a predetermined program in response to a digital control signal.

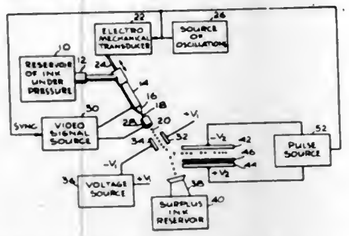
3,369,251
MICROWAVE TRANSDUCER
Harold C. Anderson, Rockville, Md., assignor to Litton Systems, Inc., College Park, Md.
Filed June 14, 1963, Ser. No. 287,884
7 Claims. (Cl. 346—74)



5. In a recording apparatus, a transducer for microwave frequency signals comprising: a mass of spin resonant material occupying a dispersed spatial region, means for conveying a microwave signal to energize said mass, said mass having differently characterized spin resonant materials being disposed at different spatial positions of the mass, whereby said different spatial positions are tunable by a homogenous magnetic field to selectively respond to different component frequencies of the signal, means for sensitizing said mass by a magnetic field to tune said different positions of the mass to respond to different frequency components of the microwave signal to provide a spectral image, and means for enabling the transfer of the image.

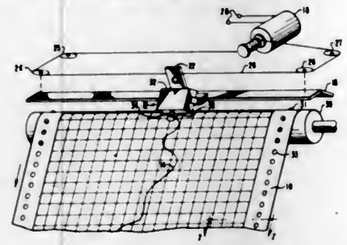
3,369,252
INK DROP PRINTER
Roman A. Adams, Skokie, Ill., assignor to The A. B. Dick Company, Chicago, Ill., a corporation of Illinois
Filed June 10, 1964, Ser. No. 374,135
12 Claims. (Cl. 346—75)

A system for writing is provided using ink drops which are projected from a source through a video charging tunnel to be selectively given a video charge. Thereafter, the drops pass between a biased pair of deflection plates which change the path of charged drops and permit uncharged drops to pass straight through. The uncharged drops are caught in a reservoir. The charged drops which remain pass through a second pair of deflection plates between which also is a sheet of the writing medium.



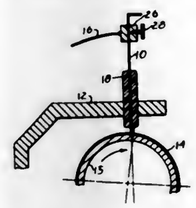
Pulses from a source are applied to the second pair of deflection plates. These pulses are synchronized so that a line of the charged drops is deflected onto the writing medium. The line of drops has a pattern which is determined by the video signals.

3,369,253
GRAPHICAL RECORDING
Kauno E. Sihvonen, Arcadia, Calif., assignor to Neff Instrument Corporation, a corporation of California
Filed May 27, 1965, Ser. No. 459,353
21 Claims. (Cl. 346—76)



1. In a graphical recording system for producing a trace representing at least one variable on a recording medium, wherein the system comprises, in combination, a recording medium, a pen adapted to produce a trace on the surface of the recording medium, a pen carrier connected to the pen and adapted to maintain the pen in proximity to the surface, means connected to the pen carrier and adapted to position the pen with respect to the surface in response to at least one variable, an ink reservoir coupled to the pen and adapted to contain non-aqueous ink having an initial softening point above ambient temperature and to pass the ink to the pen, heating means connected to the reservoir and adapted to supply the ink to the pen in a fluidized condition, whereby the ink can be readily deposited as a fluid on the surface and can be readily solidified on the surface to form a permanent trace corresponding to movements of the pen carrier relative to the recording medium in response to the variable, the improvement which comprises a dimensionally stable flexible, moisture resistant recording surface for said recording medium; at least said recording surface of said recording medium comprising normally solid, thermally fluidizable material compatible with said ink, having an initial softening point at least about that of said ink, and selected from the group consisting of synthetic thermoplastic resin, wax and mixtures thereof, whereby improved dimensional stability of a trace is provided.

3,369,254
STYLUS ASSEMBLY
Milton S. Cohen, Arlington, Mass., assignor, by mesne assignments, to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Sept. 14, 1964, Ser. No. 396,337
4 Claims. (Cl. 346—139)



A stylus assembly for writing on electrosensitive paper comprising a wire stylus mounted within an insulation sleeve and inclined in a direction opposite the direction of movement of the paper relative to the stylus, and a weighted member or tension spring detachably secured to the stylus for biasing it against the paper.

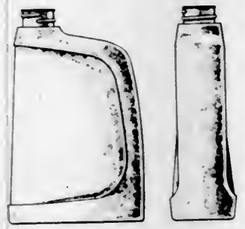
DESIGNS

FEBRUARY 13, 1968

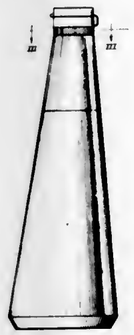
210,113
JUG OR SIMILAR ARTICLE
Carroll M. Gantz, North Canton, Ohio, Robert H. Hose, Mountainside, N.J., and Joseph T. Sestak, Canton, Ohio, assignors to The Hoover Company, Canton, Ohio, a corporation of Delaware
Filed Feb. 6, 1967, Ser. No. 5,694
Term of patent 14 years
(Cl. D9—42)



210,114
BOTTLE
Carroll M. Gantz, North Canton, Ohio, Robert H. Hose, Mountainside, N.J., and Joseph T. Sestak, Canton, Ohio, assignors to The Hoover Company, Canton, Ohio, a corporation of Delaware
Filed Feb. 6, 1967, Ser. No. 5,690
Term of patent 14 years
(Cl. D9—44)



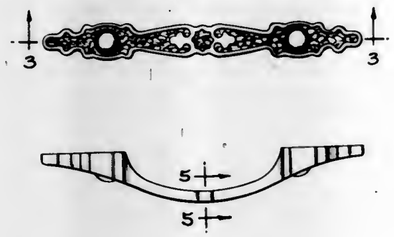
210,115
BOTTLE
Donald F. Armour, Bloomfield, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Dec. 23, 1965, Ser. No. 304
Term of patent 14 years
(Cl. D9—55)



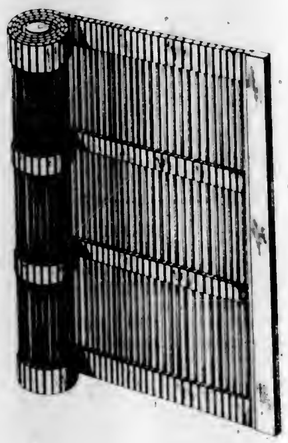
210,116
HANDLE FOR SLIDING SASH
Harry M. Riegelman, Long Beach, Calif., assignor to Ador Corporation, Fullerton, Calif., a corporation of California
Filed May 11, 1967, Ser. No. 7,078
Term of patent 14 years
(Cl. D10—8)



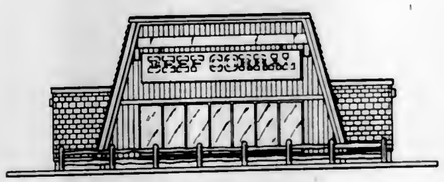
210,117
PULL
Leland George Stone, Mundelein, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Connecticut
Filed July 19, 1967, Ser. No. 7,869
Term of patent 14 years
(Cl. D10—8)



210,118
COILABLE, MOVABLE PARTITION
Kenneth J. Carlo, Dyersville, Iowa, assignor to New Castle Products, Inc., New Castle, Ind., a corporation of Indiana
Filed Dec. 19, 1966, Ser. No. 5,109
Term of patent 14 years
(Cl. D13—1)



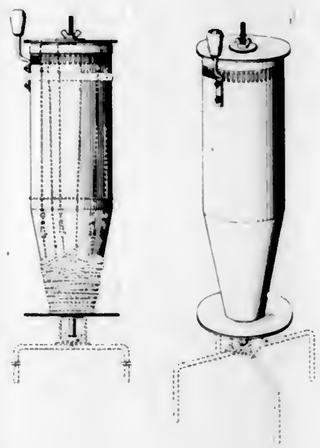
210,119
BUILDING
Samuel M. Mills, Chesterland, Ohio, assignor to Beef Corral Restaurants, Inc., Cleveland Heights, Ohio, a corporation of Ohio
Filed May 1, 1967, Ser. No. 6,911
Term of patent 14 years
(Cl. D13—1)



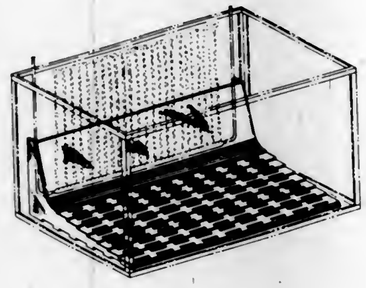
210,120
PORTABLE STOOL FOR A FISHERMAN
Charlie S. Otto, 106 Dicey Road, Weatherford, Tex. 76086
Filed Sept. 2, 1966, Ser. No. 3,703
Term of patent 3½ years
(Cl. D15—8)



210,121
TROT LINE REEL
Ivan H. Moore, 1405 Pfister Drive, Coffeyville, Kans. 67337
Filed Mar. 20, 1967, Ser. No. 6,307
Term of patent 14 years
(Cl. D22—22)



210,122
FILTER FOR AQUARIUMS AND THE LIKE
William E. Kelley, Euclid, and Robert W. Ott, Jr., South Euclid, Ohio, assignors to Aquarium Systems, Inc., Wickliffe, Ohio, a corporation of Ohio
Filed Jan. 18, 1967, Ser. No. 5,471
Term of patent 14 years
(Cl. D23—4)



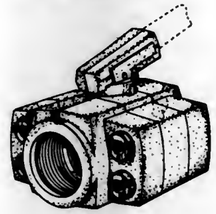
210,123
VALVE
Ladd M. Adams, Norman, Okla., assignor to Balon Corporation, Oklahoma City, Okla., a corporation of Oklahoma
Original design application Aug. 26, 1966, Ser. No. 3,603, now Patent No. 208,139, dated July 18, 1967. Divided and this application Feb. 7, 1967, Ser. No. 6,956
Term of patent 14 years
(Cl. D23—38)



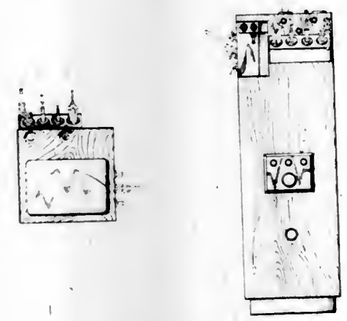
210,124
FLOW VALVE
Ladd M. Adams, Norman, Okla., assignor to Balon Corporation, Oklahoma City, Okla., a corporation of Oklahoma
Original design application Aug. 26, 1966, Ser. No. 3,606, now Patent No. 208,140, dated July 18, 1967. Divided and this application Feb. 6, 1967, Ser. No. 6,957
Term of patent 14 years
(Cl. D23—38)



210,125
LINE VALVE
Ladd M. Adams, Norman, Okla., assignor to Balon Corporation, Oklahoma City, Okla., a corporation of Oklahoma
Original design application Aug. 26, 1966, Ser. No. 3,597, now Patent No. 207,830, dated May 30, 1967. Divided and this application Feb. 7, 1967, Ser. No. 7,336
Term of patent 14 years
(Cl. D23—38)



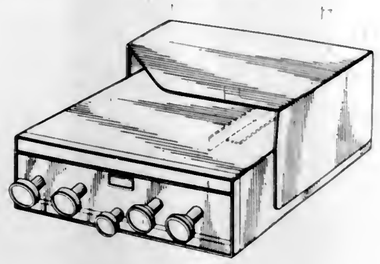
210,126
DENTAL INSTRUMENT SUPPORTING UNIT
Charles M. Weiss, and David Harold Linn, New York, N.Y., assignors to S. S. White Company, Philadelphia, Pa., a corporation of Pennsylvania
Continuation-in-part of design application Ser. No. 76,157, Aug. 8, 1963. This application May 1, 1967, Ser. No. 6,906
Term of patent 14 years
(Cl. D24—1)



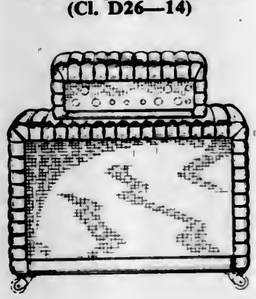
210,127
TAP-OFF CONNECTOR FOR UNDERGROUND INSTALLATION OF ELECTRICAL SERVICE
James Lenhart Mixon, Jr., Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Jan. 6, 1967, Ser. No. 5,329
Term of patent 14 years
(Cl. D26—1)



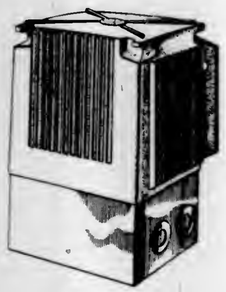
210,128
AUTOMOBILE STEREO TAPE PLAY-BACK UNIT
Makoto Fujihara, Tokyo, Japan, assignor to Teikoku Dempa Co., Ltd., Tokyo, Japan
Filed May 4, 1966, Ser. No. 2,158
Claims priority, application Japan Feb. 24, 1966
Term of patent 7 years
(Cl. D26—14)



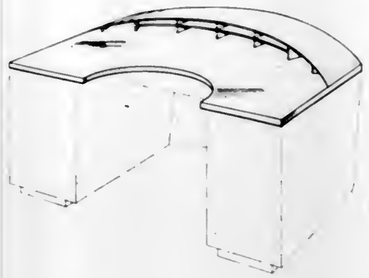
210,129
COMBINED ELECTRIC GUITAR AMPLIFIER AND LOUD SPEAKER HOUSING UNIT OR SIMILAR ARTICLE
Charles A. Ross, 7th and S. Steuben, Chanute, Kans. 66720
Filed June 3, 1966, Ser. No. 2,552
Term of patent 14 years
(Cl. D26—14)



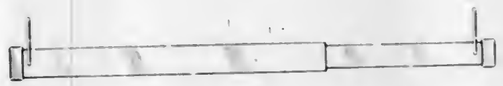
210,130
ELECTRICAL TRANSFORMER OR SIMILAR ARTICLE
Earl K. Stewart, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 31, 1966, Ser. No. 3,665
Term of patent 14 years
(Cl. D26—15)



210,131
DESK
Robert U. Rourke, P.O. Box 1, Pomfret Center, Conn. 06259
Filed Feb. 7, 1966, Ser. No. 931
Term of patent 14 years
(Cl. D33—7)



210,132
CLOTHES SUPPORT BAR
Wayman H. Cornelsen, 1000 E. Broadway, Fairview, Okla. 73737
Filed Oct. 6, 1966, Ser. No. 4,182
Term of patent 14 years
(Cl. D33—8)



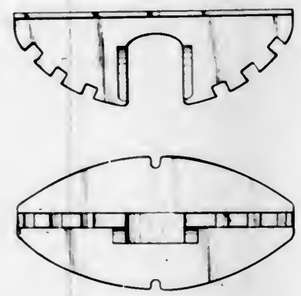
210,133
COMBINED LECTERN AND CABINET
Milton J. Miller, Bror W. Henrikson, and Chester J. Barecki, Grand Rapids, Mich., assignors to American Seating Company, Grand Rapids, Mich., a corporation of Delaware
Filed Dec. 22, 1966, Ser. No. 5,160
Term of patent 14 years
(Cl. D33—10)



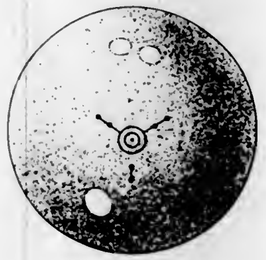
210,134
COMBINED CABINET, WORK TABLE AND ROOM PARTITION UNIT
Ole H. Christensen and William P. Merci, Chicago, Ill., assignors to Exchange National Bank of Chicago, a national banking association
Filed June 8, 1966, Ser. No. 2,603
Term of patent 14 years
(Cl. D33—19)



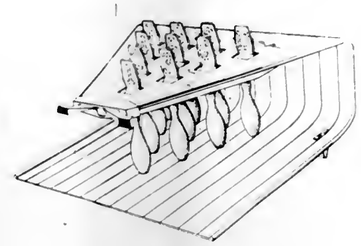
210,135
HOLDER FOR AN ELECTRIC TOOTHBRUSH HANDLE AND TOOTHBRUSHES
Jess Barber, Monmouth Junction, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 28, 1967, Ser. No. 5,976
Term of patent 14 years
(Cl. D33—28)



210,136
BOWLING BALL OR SIMILAR ARTICLE
Robert E. Moreo, South Fraser, Mich., assignor to SW Industries, Inc., Newton, Mass., a corporation of Massachusetts
Filed Jan. 4, 1966, Ser. No. 436
Term of patent 14 years
(Cl. D34—5)



210,137
BOWLING GAME TARGET
Calvin L. Payne, Jr., Hastings-on-Hudson, N.Y., assignor to Tudor Metal Products Corporation, Brooklyn, N.Y., a corporation of New York
Filed Aug. 11, 1966, Ser. No. 3,429
Term of patent 14 years
(Cl. D34—5)



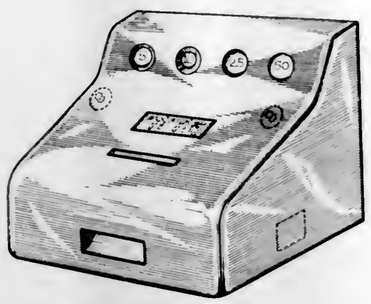
210,138
COMBINATION PUTTER COVER AND GOLF BALL CLEANER
Eddy Forst, 26500 Flamingo Ave., Hayward, Calif. 94544
Filed Mar. 6, 1967, Ser. No. 6,082
Term of patent 14 years
(Cl. D34—5)



210,139
SWING SEAT
Bobby L. Harness, 5052 Clark Drive, Shawnee Mission, Kans. 66205
Filed June 22, 1967, Ser. No. 7,559
Term of patent 14 years
(Cl. D34—5)



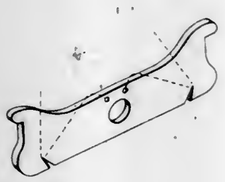
210,140
MULTI-COIN BANKING MACHINE
George A. Pebbles, Miami, Fla.
(5532 Eskridge #5, Houston, Tex. 77023)
Filed May 3, 1967, Ser. No. 6,940
Term of patent 14 years
(Cl. D34—11)



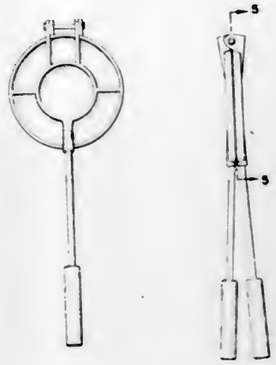
210,141
MULTI-PURPOSE TOOL FOR FIRE FIGHTING
Richard L. Woods, 1514 SW. 77th Terrace,
Oklahoma City, Okla. 73129
Filed May 22, 1967, Ser. No. 7,217
Term of patent 14 years
(Cl. D41—1)



210,142
COMBINATION KITE CONTROL STICK AND WINDER
Donald J. Kennedy, 6318 Camelia St.,
North Hollywood, Calif. 91344
Filed June 16, 1967, Ser. No. 7,503
Term of patent 14 years
(Cl. D41—1)



210,143
TORTILLA PRESS
Mark J. Skinner, 6777 Woodland Drive,
Paradise, Calif. 95969
Filed Mar. 13, 1967, Ser. No. 6,176
Term of patent 7 years
(Cl. D44—1)



210,144
CUP
Robert Y. Allen, Los Angeles, Melvin Shaw, Beverly Hills,
and Evan K. Shaw, Rolling Hills, Calif., assignors to
Metlox Manufacturing Co., Manhattan Beach, Calif.,
a corporation of California
Filed July 3, 1967, Ser. No. 7,704
Term of patent 14 years
(Cl. D44—9)



210,145
SUPPORT FOR TILTING A SKILLET HANDLE
Schuyler C. Mowrer, 218 S. Washington St.,
Danville, Ind. 46122
Filed June 27, 1966, Ser. No. 2,833
Term of patent 14 years
(Cl. D44—10)



210,146
SUGAR BOWL OR THE LIKE
Robert Y. Allen, Los Angeles, Melvin Shaw, Beverly Hills,
and Evan K. Shaw, Rolling Hills, Calif., assignors to
Metlox Manufacturing Co., Manhattan Beach, Calif.,
a corporation of California
Filed July 3, 1967, Ser. No. 7,702
Term of patent 14 years
(Cl. D44—15)



210,147
PITCHER
Robert Y. Allen, Los Angeles, Melvin Shaw, Beverly Hills,
and Evan K. Shaw, Rolling Hills, Calif., assignors to
Metlox Manufacturing Co., Manhattan Beach, Calif.,
a corporation of California
Filed July 3, 1967, Ser. No. 7,703
Term of patent 14 years
(Cl. D44—21)



210,148
COFFEE POT OR THE LIKE
Robert Y. Allen, Los Angeles, Melvin Shaw, Beverly Hills,
and Evan K. Shaw, Rolling Hills, Calif., assignors to
Metlox Manufacturing Co., Manhattan Beach, Calif.,
a corporation of California
Filed July 3, 1967, Ser. No. 7,701
Term of patent 14 years
(Cl. D44—26)



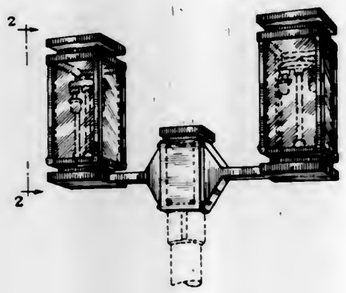
210,149
RELIGIOUS BRACELET
Adolph Frankenthaler, 243 West End Ave.,
New York, N.Y. 10023
Filed Jan. 3, 1967, Ser. No. 5,268
Term of patent 7 years
(Cl. D45—4)



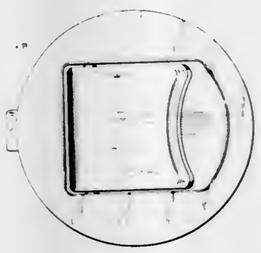
210,150
CIGARETTE LIGHTER
Stanley H. Newman, 19 E. 70th St.,
New York, N.Y. 10021
Filed Nov. 28, 1966, Ser. No. 4,830
Term of patent 14 years
(Cl. D48—27)



210,151
LAMP
Walter Koziol, Russell, Ill., assignor to Charmglow Manufacturing Co., Antioch, Ill., a corporation of Illinois
Filed May 22, 1967, Ser. No. 7,228
Term of patent 14 years
(Cl. D48—31)

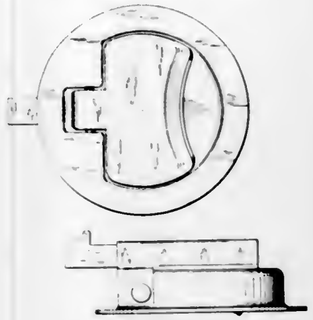


210,152
PADDLE LOCK
John V. Pastva, Jr., Parma Heights, Ohio, assignor to The Eastern Company, Cleveland, Ohio, a corporation of Connecticut
Filed Sept. 2, 1966, Ser. No. 3,706
Term of patent 14 years
(Cl. D50—5)

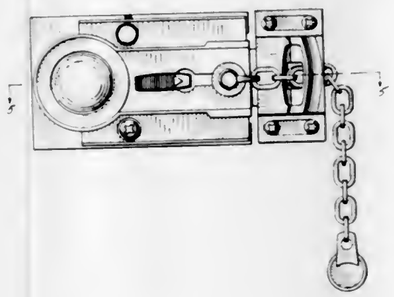




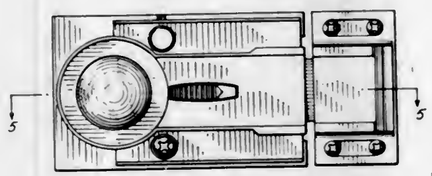
210,153
PADDLE LOCK
John V. Pastva, Jr., Parma Heights, Ohio, assignor to The Eastern Company, Cleveland, Ohio, a corporation of Connecticut
Filed Sept. 2, 1966, Ser. No. 3,707
Term of patent 14 years
(Cl. D50—5)



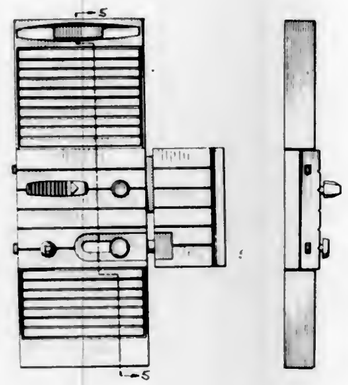
210,154
CHAIN ALARM LOCKSET
Felix Gilbert, New York, N.Y., assignor to General Alarm Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 4,380
Term of patent 14 years
(Cl. D50—5)



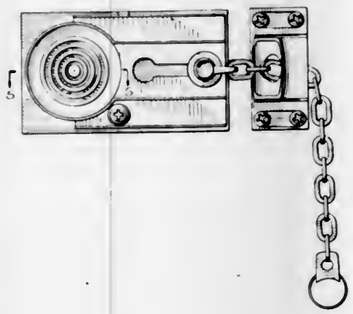
210,155
ALARM LATCH
Felix Gilbert, New York, N.Y., assignor to General Alarm Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 4,401
Term of patent 14 years
(Cl. D50—5)

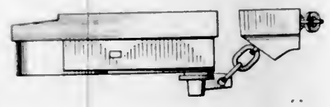


210,156
ALARM LOCKSET
Felix Gilbert, New York, N.Y., assignor to General Alarm Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 4,402
Term of patent 14 years
(Cl. D50—5)

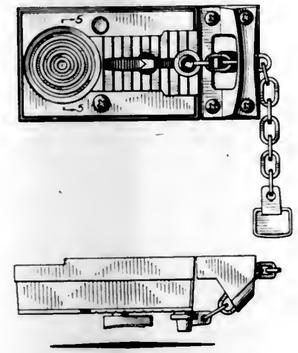


210,157
COMBINATION CHAIN LOCK AND ALARM FOR DOORS
Felix Gilbert, New York, N.Y., assignor to General Alarm Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 23, 1966, Ser. No. 4,795
Term of patent 14 years
(Cl. D50—5)

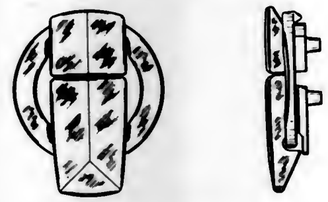




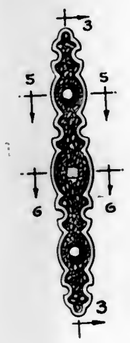
210,158
COMBINATION CHAIN LOCK AND ALARM FOR DOORS
Felix Gilbert, New York, N.Y., assignor to General Alarm Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 23, 1966, Ser. No. 4,796
Term of patent 14 years
(Cl. D50—5)



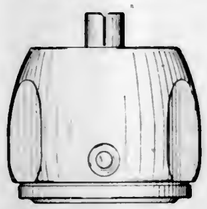
210,159
DRAW BOLT OR SIMILAR ARTICLE
Anthony N. D'Elia, Riverdale, Bronx, and Edward M. Stolarz, Yorktown Heights, N.Y., assignors to Presto Lock Co., Inc., Garfield, N.J., a corporation of New York
Filed Mar. 24, 1967, Ser. No. 6,368
Term of patent 14 years
(Cl. D50—5)



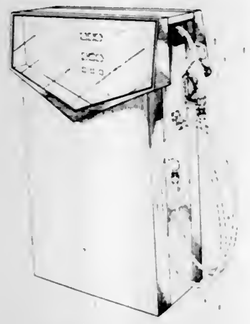
210,160
ESCUTCHEON PLATE
Leland George Stone, Mundelein, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Connecticut
Filed July 19, 1967, Ser. No. 7,868
Term of patent 14 years
(Cl. D50—6)



210,161
TAPE COILER
Irving Allen, Hamden, Conn., assignor to Connecticut Scientific Center, Inc., New Haven, Conn., a corporation of Delaware
Filed Jan. 13, 1967, Ser. No. 5,462
Term of patent 14 years
(Cl. D52—1)



210,162
GASOLINE PUMP HOUSING
Bolling H. Sasnett, Jr., 775 Douglas Road NE., Atlanta, Ga. 30305
Filed Mar. 10, 1967, Ser. No. 6,161
Term of patent 14 years
(Cl. 52—2)



210,163
VENDING MACHINE
Jose Arturo Conde, Independence, Mo., assignor to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed Nov. 17, 1966, Ser. No. 4,717
Term of patent 14 years
(Cl. D52—3)



210,164
FLOATING THERMOMETER
Herbert R. Axelrod, Deal, N.J., assignor to T.F.H. Publications, Inc., Jersey City, N.J., a corporation of New York
Filed Feb. 6, 1967, Ser. No. 5,695
Term of patent 14 years
(Cl. D52—7)



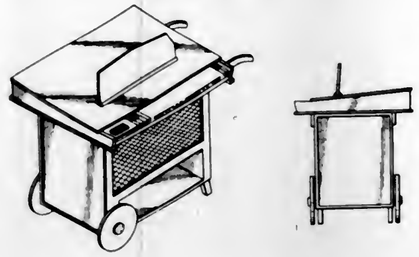
210,165
FORK OR SIMILAR ARTICLE
James Russell Price, Esmond, R.I., assignor to Gorham Corporation, Providence, R.I.
Filed Apr. 11, 1967, Ser. No. 6,638
Term of patent 14 years
(Cl. D54—12)



210,166
GUITAR NECK OR THE LIKE
John B. Pitts, Chicago, Ill., assignor to David Wexler & Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 28, 1966, Ser. No. 4,824
Term of patent 14 years
(Cl. D56—1)



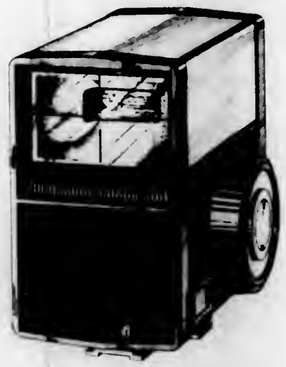
210,167
KEYBOARD INSTRUMENT
Robert Pearce, Emmaus, Pa., assignor to Allen Organ Co., Macungie, Pa., a corporation of Pennsylvania
Filed Apr. 22, 1966, Ser. No. 1,988
Term of patent 14 years
(Cl. D56—2)



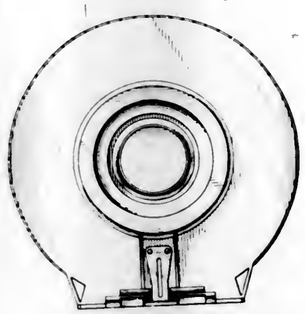
210,168
JAR CAP
Carl M. Plochman, Jr., Chicago, Ill., assignor to Plochman, Inc., Chicago, Ill., a corporation of Illinois
Filed Apr. 17, 1967, Ser. No. 6,724
Term of patent 14 years
(Cl. D58—26)



210,169
FLASH UNIT
Wallace A. Monson, Golden Valley, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Jan. 21, 1966, Ser. No. 716
Term of patent 14 years
(Cl. D61—1)



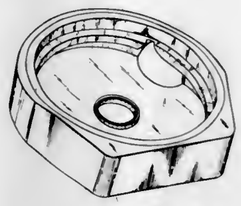
210,170
ROTARY SLIDE TRAY
Grant D. Ross, Jr., Deerfield, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 4, 1966, Ser. No. 1,285
Term of patent 14 years
(Cl. D61—1)



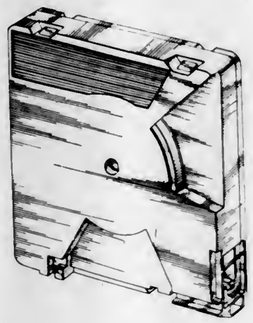
210,171
FLANGE FOR A TAPE REEL
George F. Lyman, South Hadley, Mass., assignor to Data Packaging Corp., Cambridge, Mass., a corporation of Massachusetts
Filed July 21, 1966, Ser. No. 3,158
Term of patent 14 years
(Cl. D61—1)



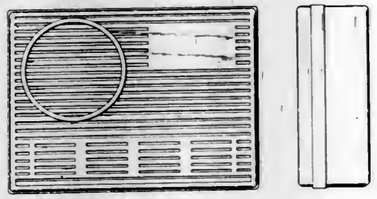
210,172
FILM CARTRIDGE
Robert J. Roman, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 1, 1966, Ser. No. 4,507
Term of patent 14 years
(Cl. D61—1)



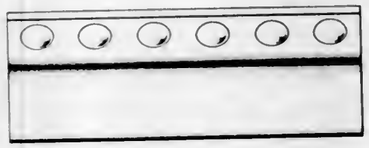
210,173
FILM SPOOL MAGAZINE
Bob Mouissie, Yverdon, Vaud, Switzerland, assignor to Paillard SA., Vaud, Switzerland, a corporation of Switzerland
Filed Dec. 19, 1966, Ser. No. 5,104
Claims priority, application Switzerland June 20, 1966
Term of patent 14 years
(Cl. D61—1)



210,174
FIRE ALARM CABINET
Walter S. Franczek, Elmhurst, Ill., assignor to Lucas & Franczek, Inc., Chicago, Ill., a corporation of Illinois
Filed Sept. 15, 1966, Ser. No. 3,874
Term of patent 14 years
(Cl. D72—1)



210,175
REFLECTING TRAFFIC GUIDE OR SIMILAR ARTICLE
John B. Keats, Marietta, Ohio, and Roger G. Royer, Parkersburg, W. Va., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 4, 1966, Ser. No. 4,547
Term of patent 14 years
(Cl. D72—1)

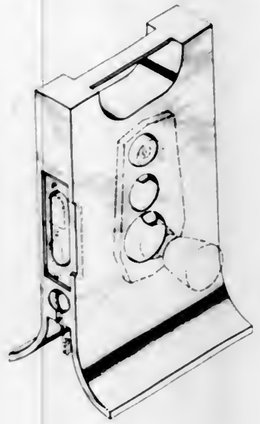




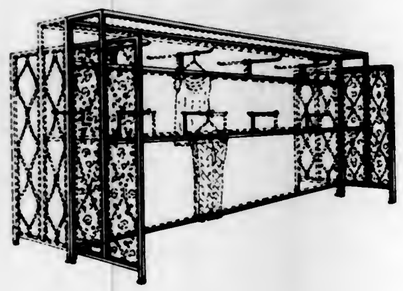
210,176
COMBINATION LETTER OPENER AND KNIFE OR THE LIKE
Leo F. Wildgen, Minneapolis, and Alvin J. Stabel, St. Paul, Minn., assignors to Arthur Salm, Inc., Chicago, Ill., a corporation of Illinois
Filed Jan. 19, 1967, Ser. No. 5,478
Term of patent 14 years
(Cl. D74—11)



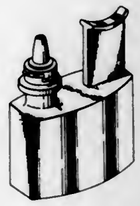
210,177
LOCK DISPLAY STAND
Benjamin M. Levinger, Hillsborough, Calif., assignor to Schlage Lock Company, a corporation
Filed Feb. 13, 1967, Ser. No. 5,799
Term of patent 14 years
(Cl. D80—9)



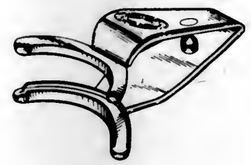
210,178
CLOTHING DISPLAY RACK
Harry A. Robbins, 1516 Vermilion St., Danville, Ill. 61732
Filed Sept. 12, 1966, Ser. No. 3,819
Term of patent 14 years
(Cl. D80—10)



210,179
CONTAINER FOR DISPENSING EYE DROPS
James J. Mahoney and Charles L. Weckesser, Chenango County, N.Y., assignors to The Norwich Pharmacal Company, a corporation of New York
Filed June 5, 1967, Ser. No. 7,350
Term of patent 14 years
(Cl. D83—1)



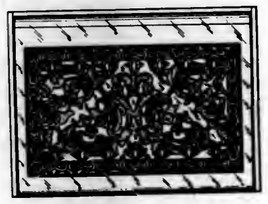
210,180
FALSE EYELASH APPLICATOR
Nathan L. Solomon, P.O. Box 550, Englewood, N.J. 07231
Filed May 25, 1966, Ser. No. 2,430
Term of patent 14 years
(Cl. D86—10)



210,181
BANG CUTTER GUIDE
Nathan L. Solomon, P.O. Box 550, Englewood, N.J. 07231
Continuation-in-part of design application Ser. No. 82,256, Oct. 20, 1964. This application May 25, 1966, Ser. No. 2,431
Term of patent 14 years
(Cl. D86—10)



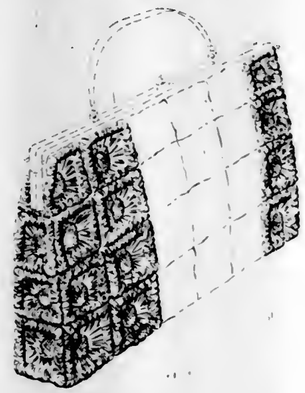
210,182
LIPSTICK KIT
Ira W. Schwartz, 2 Terrace Drive, Great Neck, N.Y. 11021
Filed June 16, 1966, Ser. No. 2,693
Term of patent 14 years
(Cl. D86—10



210,183
TRANSPARENT PROTECTIVE SHIELD FOR HAIR SPRAYING
Aline L. Ross, 12080 SW. 116th Ave., Tigard, Oreg. 97223
Filed Jan. 31, 1967, Ser. No. 5,637
Term of patent 14 years
(Cl. D86—10)



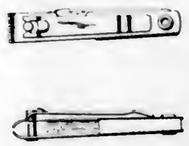
210,184
HANDBAG OR SIMILAR ARTICLE
Helena Fairbanks Simmons, Rio de Janeiro, Botafogo, Brazil, assignor to Nicholas Peter Konsuvo, Guttenberg, N.J.
Filed Mar. 30, 1966, Ser. No. 1,700
Term of patent 14 years
(Cl. D87—3)



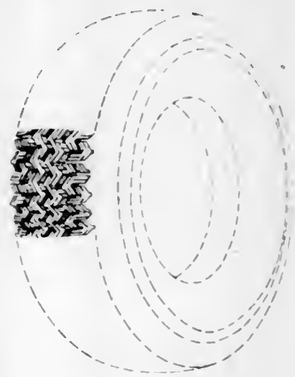
210,185
LUGGAGE CASE OR SIMILAR ARTICLE
Charles S. Gehrie, Montclair, N.J., and Sol Koffler, Providence, R.I.; said Gehrie assignor to said Koffler
Filed Apr. 19, 1967, Ser. No. 6,752
Term of patent 14 years
(Cl. D87—5)



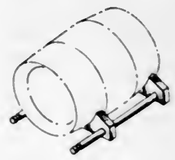
210,186
COMBINED NAIL CLIPPER AND PIVOTABLE BLADE TOOL
Harvey N. Bliss, Windsor, Conn., assignor to The Britton Corporation, Newington, Conn., a corporation of Connecticut
Filed Dec. 15, 1966, Ser. No. 5,058
Term of patent 14 years
(Cl. D95—3)



210,187
TIRE
James F. Newman, St. Clair Shores, Mich., assignor to Uniroyal, Inc., a corporation of New Jersey
Filed Oct. 4, 1966, Ser. No. 4,165
Term of patent 14 years
(Cl. D90—20)



210,188
SUPPORT STAND FOR A BEER KEG OR THE LIKE
Cecil K. Burns, 11050 Emelita St., North Hollywood, Calif. 90028
Filed Apr. 25, 1967, Ser. No. 6,834
Term of patent 14 years
(Cl. D94—3)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 13TH DAY OF FEBRUARY, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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Reid, Roland R., and E. G. Gressman, to Union Tank Car Co. Water conditioning system. Re. 26,343, 2–13–68, Cl. 210—32.
Reswick, James B., to The W. E. Bassett Co. Combined nail clipper and knife. Re. 26,344, 2–13–68, Cl. 30—142.
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Allen, Robert Y., and M. and E. K. Shaw, to Mettox Mfg. Co. Pitcher. 210,147, 2–13–68, Cl. D44—21.
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Kelley, William E., and R. W. Ott, Jr., to Aquarium Systems, Inc. Filter for aquariums and the like. 210,122, 2–13–68, Cl. D23—4.

Kennedy, Donald J. Combination kite control stick and winder. 210,142, 2–13–68, Cl. D41—1.

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Pebbles, George A. Multi-coin banking machine. 210,140, 2–13–68, Cl. D34—11.

Pitts, John B., to David Wexler & Co. Guitar neck or the like. 210,166, 2–13–68, Cl. D56—1.

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Robbins, Harry A. Clothing display rack. 210,178, 2–13–68, Cl. D80—10.

Roman, Robert J., to Eastman Kodak Co. Film Cartridge. 210,172, 2–13–68, Cl. D61—1.

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Woods, Richard L. Multi-purpose tool for fire fighting. 210,141. 2–13–68. Cl. D41—1.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 13TH DAY OF FEBRUARY, 1968

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Alabastro, Pura Z. Toy projectile having streamers and a metal cap. 3,368,815, 2–13–68, Cl. 273—106.

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Altermatt, Hans, to Ciba Ltd. Process of dispersing a fiber-forming polyamide and pigments in a dispersing medium. 3,368,992, 2–13–68, Cl. 260—29.2.

Altoz, Frank E., to Westinghouse Electric Corp. Mounting mechanism with angular adjustment. 3,368,781, 2–13–68, Cl. 248—27.

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Anderson, George A., to Olin Mathieson Chemical Corp. Heat exchanger. 3,368,614, 2–13–68, Cl. 165—82.

Anderson, Harold C., to Litton System, Inc. Microwave transducer. 3,369,251, 2–13–68, Cl. 346—74.

Anderson, Jack I.: *See*—
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Anderson, Wilmer C., to General Time Corp. Frequency dividing synchronous saturable core oscillator having high frequency signal effective only at saturation. 3,369,194, 2–13–68, Cl. 331—113.

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Andrews, Christopher D.: *See*—
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Keller, Herbert W., and Andrews. 3,368,945.

Andrews, Roland E., to Tektronix, Inc. Attenuator apparatus. 3,369,173, 2–13–68, Cl. 323—80.

Andrews, Thomas D. H., P. E. Checkley, and C. R. Little, to Dowty Mining Equipment Ltd. Speed control devices for free-running railway vehicles. 3,368,497, 2–13–68, Cl. 104—162.

Andrews, Thomas D. H., to Dowty Hydraulic Units Ltd. Tractor power lift control. 3,368,630. 2–13–68, Cl. 172—7.

Angele, Eugen, to Union Special Maschinenfabrik, G.m.b.H. Needle thread take-up for double chain stitch sewing machines. 3,368,508, 2–13–68, Cl. 112—245.

Anthony, David D. Collapsible flexible automatic signal device. 3,368,518, 2–13–68, Cl. 116—63.

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Aqua-Marine Mfg. Ltd.: *See*—
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Argy, Thomas W., and R. J. Lorenz, to The Hallicrafters Co. Electrocardiograph. 3,369,249, 2–13–68, Cl. 346—33.

Arnold, Charles E., and L. G. Sayer, to General Electric Co. Device for protecting electrical apparatus. 3,369,153, 2–13–68, Cl. 317—16.

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Gudmestad, Ragnar. 3,368,429.
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Asamaki, Tatsuo, and T. Dairokuno, to Nippon Electric Co. Ltd. Vacuum flange. 3,368,818, 2–13–68, Cl. 277—9.

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Augstein, Joachim, and A. M. Monro, to Chas. Pfizer & Co., Inc. 3-guanidino-alkylene-chromans. 3,369,029, 2–13–68, Cl. 260—345.2.

Ault, Clifford M. Electronic ignition compensation. 3,368,540, 2–13–68, Cl. 123—179.

Ault, John D., to Saunders Roe & Nuclear Enterprises Ltd. Level bubble illumination by means of a radioactive gas and a phosphor element. 3,368,287, 2–13–68, Cl. 33—211.

Avedikian, Souren Z. Filter cigarette. 3,368,566, 2–13–68, Cl. 131—10.7.

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Babcock & Wilcox Co., The: *See*—
Baumgartel, Frank A., and Hage. 3,368,753.

Babian, Theodore H. Shank type coupler and adapter inserter. 3,368,270, 2–13–68, Cl. 29—237.

Bacow, Mitchell L. Radio antenna mounting bracket for vehicles. 3,369,247, 2–13–68, Cl. 343—888.

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Bailey, William A., Jr., to Shell Oil Co. Separating asphaltene coated water-soluble solids from an oil phase. 3,368,876, 2–13–68, Cl. 23—300.

Bakis, Raimo, to International Business Machines Corp. Formant locating system. 3,369,076, 2–13–68, Cl. 179—1.

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Ball, Murray. Insect repelling vibratory screen. 3,368,304, 2–13–68, Cl. 49—58.

Ball, Newton E., to Niff Instrument Corp. Temperature regulating circuit for an ink reservoir. 3,369,107, 2–13–68, Cl. 219—499.

Balthazor, Bernard E., to Buddy L. Corp. Toy excavator. 3,368,300, 2–13–68, Cl. 46—40.

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Bardwell, Francis G., and R. A. Payne, to Stewart-Warner Corp. Pattern tracing apparatus with crossline detection circuit. 3,369,123, 2–13–68, Cl. 250—202.

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MacDonald, Charles E., Anderson, and Barker. 3,368,517.

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Baumel, Anton. Wear- and oxidation-resisting hard alloys. 3,368,889, 2–13–68, Cl. 75—171.

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Baxendale, Richard H., to Dust Control Equipment Ltd. Unit for filtering dust-laden air. 3,368,331, 2–13–68, Cl. 55—299.

Bayer, Wolfgang, to Hilti Aktiengesellschaft. Article marking apparatus. 3,368,730, 2–13–68, Cl. 227—8.

Beacham, Harry H., and L. S. Burnett, to FMC Corp. Polyalkenyl esters of polybasic organic acids plastic composition and methods of manufacture. 3,368,996, 2–13–68, Cl. 260—40.

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Alaburda, Raymond D., Beam, Buehler, and Rudy. 3,368,363.

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Beasley, Noel F., to Puritan Compressed Gas Corp. Respiration apparatus with fluid amplifier. 3,368,555, 2–13–68, Cl. 128—145.8.

Beason, Elmer C., to Phillips Petroleum Co. Method and apparatus for forming tubes of thermoplastic film. 3,368,930, 2–13–68, Cl. 156—251.

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Bell, Jack W. Condensate syphon pipe for drying drum. 3,368,288, 2–13–68, Cl. 34—125.

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Giger, Adolf J., and Schottle. 3,369,197.
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French, Charlie N., Hager, and Julow. 3,368,459.
French, Charles N., and Julow. 3,368,586.
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Blake, Edward S., R. E. De Brunner, and J. A. Webster, to Monsanto Research Corp. Fluorine-containing phosphoramidates. 3,369,064, 2–13–68, Cl. 260—953.

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Blake, Robert A. Receptacle or container storage means. 3,368,691, 2–13–68, Cl. 211—87.

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Blomeyer, Friedrich, H. Gruber, R. Hebermehl, and R. Kubens, to Farbenfabriken Bayer Aktiengesellschaft. Polyurethane preparations containing hydrolyzable esters. 3,369,000, 2–13–68, Cl. 260—75.

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Bolhofer, William A., to Merck & Co., Inc. 3-pyridylmethyl phenoxy (phenylthio and anilino) alkanoates. 3,369,025, 2–13–68, Cl. 260—295.

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Bonalumi, Ettore. Textile drawing apparatus. 3,368,246, 2–13–68, Cl. 19—261.

Boosen, Karl-Josef, to Therachemie Chemisch Therapeutische Gesellschaft m.b.H. Azo compounds for dyeing human hair. 3,368,941, 2–13–68, Cl. 167—88.

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Bozek, John W., to The Rosaen Filter Co. Filter with drop in element. 3,368,679, 2–13–68, Cl. 210—90.

Bozek, John W., to The Rosaen Filter Co. Filter with element subassembly. 3,368,680, 2–13–68, Cl. 210—90.

Brachvogel, Heinz, to Contina Bureaux- und Rechenmaschinenfabrik Aktiengesellschaft. Apparatus for examining tubes comprising an X-ray source and fluorescent screen. 3,369,119, 2–13–68, Cl. 250—71.

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Brownyer, Nelson R., to Rockwell-Standard Corp. Floating cam brake having brake shoe linings of different volumes. 3,368,648, 2–13–68, Cl. 188—78.

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Bruno, Gerald A., T. A. Haney, P. Numerof, and K. Reinhardt, to E. R. Squibb & Sons, Inc. Radioactive package and container therefor. 3,369,121, 2–13–68, Cl. 250—106.

Büchel, Karl-Heinz, to Shell Oil Co. Herbicidal benzimidazole. 3,369,028, 2–13–68, Cl. 260—309.2.

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Burg, Marion, to E. I. du Pont de Nemours and Co. Polymerizable compositions and elements. 3,368,900, 2–13–68, Cl. 96—115.

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Burke, Donald J., R. D. Schlesch, and E. W. Morain, to Continental Vending Machine Corp. Ball-type shutoff valve. 3,368,790, 2–13–68, Cl. 251—176.

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Burrows, Walter F., to General Aniline & Film Corp. Viscous pre-development solution for rewind processing. 3,368,897, 2–13–68, Cl. 96—50.

Bush, George B., and F. C. Paddison, to United States of America, Navy. Polarization control apparatus. 3,369,234, 2–13–68, Cl. 343—100.

Buttriss, Albert T., to Tinnerman Products, Inc. Fastener device and mounting assembly. 3,368,780, 2–13–68, Cl. 248—27.

Buyer, Edward M., A. B. Kaplan, and G. M. Strauss, to Maxon Electronics Corp. Electrically programmed delay. 3,369,220, 2–13–68, Cl. 340—167.

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Caltax, Inc.: *See*—
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Calkins, George B.: *See*—
Sarnoff, Stanley J., and Calkins. 3,368,559.

Callahan, Edward J.: *See*—
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Callihan, Dale H., to Norwalk Thermostat Co. Thermal stack switch with a pair of adjustment means. 3,369,092, 2–13–68, Cl. 200—122.

Campbell, Richard A., and C. W. Carruthers, to United States of America, Army. Water cooled waveguide load. 3,369,198, 2–13–68, Cl. 333—22.

Campbell Soup Co.: *See*—
Coffin, William J., and Hockenbury. 3,368,906.
Miller, Ralph A. 3,368,907.

Capra, Uberto, to Ceccato & C. S.p.A. Car washing apparatus. 3,368,572, 2–13–68, Cl. 134—123.

Cardwell, Lloyd, to Cardwell Westinghouse Co. Hydraulic draft gear with constant force device. 3,368,698, 2–13–68, Cl. 213—43.

Cardwell Westinghouse Co.: *See*—
Cardwell, Lloyd. 3,368,698.

Carl, David G., and H. A. Steigelman. Abrasion-resistant glass article having dual protective coatings thereon. 3,368,915, 2–13–68, Cl. 117—72.

Carlberg, Robert E.: *See*—
Bauer, Myron J., Blomquist, Carlberg, Kane, Scheurich, and Wilson. 3,368,451.

Carlson, Robert L., to W. H. Miner, Inc. Cushioning device. 3,368,697, 2–13–68, Cl. 213—40.

Carmichael, Thomas F.: *See*—
Eberline, Richard F., Carmichael, and Schilling. 3,368,275.

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Merrick, Richard H. 3,368,367.

Carruthers, Charles W.: *See*—
Campbell, Richard A., and Carruthers. 3,369,198.

Carter, Andrew G. Guideline projector. 3,368,597, 2–13–68, Cl. 143—168.

Carter, Ben C. Airfield runway light fixture extension. 3,369,114, 2–13–68, Cl. 240—1.2.

Carter, Lloyd G., and D. K. Smith, to Halliburton Co. Permeable cement for wells. 3,368,623, 2–13–68, Cl. 166—12.

Carter, Mark L. Means and method of supplying treated water to livestock. 3,368,580, 2–13–68, Cl. 137—412.

Carter, Robert C., to Collins Radio Co. RC correlator circuit for synchronous signal detection. 3,369,185, 2–13–68, Cl. 329—50.

Casale, Ralph, and J. M. Woulbroun, to Sylvania Electric Products Inc. Composite protective coat for thin film devices. 3,368,919, 2–13–68, Cl. 117—217.

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Herbemar, Edward J., and Cass. 3,368,852.

Cavallone, Luis L., and A. Trifiletti, 75% to said Trifiletti and 25% to Cavallone. Internal combustion engine. 3,368,537, 2–13–68, Cl. 123—16.

Cavallone, Luis: *See*—
Cavallone, Luis L., and Trifiletti. 3,368,537.

Ceccato & C. S.p.A.: *See*—
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Celanese Corp.: *See*—
Nettles, Forest T. 3,368,774.

Cellasto Inc.: *See*—
Szonn, Reinhold E. 3,368,806.

Centre Technique Des Industries De La Fonderie: *See*—
Vollanik, Nicolas. 3,368,885.

Chaboseau, Jean, to Compagnie Electro-Mecanique. Shaft construction for rotary machines. 3,368,743, 2–13–68, Cl. 230—132.

Chadha, Rejenjra N., and T. H. Porter, to Stauffer Chemical Co. Primer composition and method of bonding silicone rubber to a metal surface susceptible to sulfide formation. 3,368,928, 2–13–68, Cl. 148—6.2.

Chalmers, William, and A. J. Shaw, to Eversharp, Inc. Process for separating saponifiables and unsaponifiables in marine animal oils. 3,369,034, 2–13–68, Cl. 260—412.1.

Champion Spark Plug Co.: *See*—
Morris, Robert G. 3,369,175.

Chatman, William C.: *See*—
Long, William P., Chatman, and Deghetto. 3,368,578.

Checkley, Peter E.: *See*—
Andrews, Thomas D. H., Checkley, and Little. 3,368,497.

Cheely, Burl L. Jet suction device. 3,368,849, 2–13–68, Cl. 302—15.

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Chevron Research Co.: *See*—
Ferstandig, Louis L. 3,369,051.
Postlewaite, William R. 3,368,619.

Chicago Pneumatic Tool Co.: *See*—
Lear, Earl B. 3,368,634.

Chin, Norman C., and R. H. Hass, to Union Oil Co. of California. Catalytic hydrocarbon conversion process. 3,368,964, 2–13–68, Cl. 208—60.

Chin, Pao H.: *See*—
Abramson, Paul, Bederman, Bennett, Chin, Krakinowski, Stillwell, and Winchell. 3,369,219.

Cholet, Jacques, and J. P. Fail, to Institut Francais du Petrole des Carburants & Lubrifiants. Sound wave transmitting device. 3,368,641, 2–13–68, Cl. 181—.5.

Chou, Shao H. Self-cleaning hair washer and massager. 3,368,554, 2–13–68, Cl. 128—67.

Chr. Mann Maschinenfabrik: *See*—
Kaiser, Johann. 3,368,342.

Christian, John. Indicating radiator closure. 3,368,405, 2–13–68, Cl. 73—306.

Christie, Theodore, and P. Juodikis, to Precision Scientific Co. Automatic flash point testing device. 3,368,388, 2–13–68, Cl. 73—36.

Chromalloy American, Corp.: *See*—
Ellis, John L., and Tarkan. 3,368,882.

Chromatronix Inc.: *See*—
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Chrtek, Milan: *See*—
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Chrysler Corp.: *See*—
Lewakowski, John J. 3,368,457.

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Sanford, Elbert A., Hall, and Chu. 3,368,712.

Chung, Jackson, to Dodge Mfg. Corp. Hub and bushing structure. 3,368 833. 2–13–68, Cl. 287—52.06.

Ciba Ltd.: *See*—
Altermatt, Hans. 3,368,992.
Wahli, Robert. 3,369,155.

Cirocco, Paul: *See*—
Russell, Fred J., and Cirocco. 3,368,375.

Clapper, Allen B., and R. Wallingford, to Universal Recording Corp. Scanning type magnetic recording head. 3,369,083, 2–13–68, Cl. 179—100.2.

Clar, Milton, to Disposal System Development Corp. Compaction apparatus. 3,368,478, 2–13–68, Cl. 100—50.

Clark, Herbert H., Jr.: *See*—
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Clayton & Lambert Mfg. Co.: *See*—
Lusk, William H. 3,368,703.

Clerk, Robert C., to Richfield Industrial Equipment Ltd. Flywheels. 3,368,424, 2–13–68, Cl. 74—572.

Coberly, Clarence J., to Kobe, Inc. Multiple zone well completion with common inlet and production tubings. 3,368,628, 2–13–68, Cl. 166—68.

Cocke, Erle, Jr.: *See*—
Kidwell, Donald G. 3,368,539.

Cocker Machine & Foundry Co.: *See*—
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Coffin, William J., and R. W. Hockenbury, to Campbell Soup Co. Process for preparing bone stock. 3,368,906, 2–13–68, Cl. 99—110.

Cohen, Boris, to All-Luminum Products, Inc. Locking mechanism for foldable tables. 3,368,504, 2–13–68, Cl. 108—131.

Cohen Milton S., to Arthur D. Little, Inc. Stylus assembly. 3,369,254, 2–13–68, Cl. 346—139.

Collcraft, Inc.: *See*—
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Coldren, Daniel R., and R. R. Lau, to AMP Inc. Electrical connector. 3,369,212. 2–13–68, Cl. 339—32.

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Norton, John P., and Cole. 3,368,364.

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Collins Radio Co.: *See*—
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Sullivan, Robert P. 3,368,536.
Svendsen, Konrad S., and Schroedter. 3,368,535.

Comer, John A. Multi-purpose table saw. 3,368,596, 2–13–68, Cl. 143—36.

Commercial Solvents Corp.: *See*—
Bell, Gordon W. 3,368,929.

Commissariat a l'Energie Atomique: *See*—
Vulliez, Paul. 3,368,413.

Compagnie Des Compteurs: *See*—
Souillard, Michel H. P. 3,369,156.

Compagnie Electro-Mecanique: *See*—
Chaboseau, Jean. 3,368,743.

Compagnie Generale d'Electricite: *See*—
Klein, Georges, and Dubois. 3,369,134.

Concordia Maschinen- und Elektrisitats-G.m.b.H.: *See*—
Martin, Helmut. 3,368,789.

Coniker Enterprises, Inc.: *See*—
Coniker, Jerome F. 3,368,600.
Voller, Rouald L. 3,368,692.

Coniker, Jerome F., to Coniker Enterprises, Inc. Folio construction. 3,368,600, 2–13–68, Cl. 150—28.

Conlee, George D. Variable throw oscillator mechanism. 3,368,412, 2–13–68, Cl. 74—42.

Conley, Robert F., to Georgia Kaolin Co. Insulating compositions containing heat tempered, essentially montmorillonite-free kaolin. 3,368,976, 2–13–68, Cl. 252—63.5.

Connelly, Gordon F., and F. P. Gruchmann, to United States of America, Air Force. Film twister device. 3,368,729, 2–13–68, Cl. 226—197.

Connine, John G., to General Electric Co. Mounting apparatus. 3,368,779, 2–13–68, Cl. 248—27.

Conover, William J., to Black, Sivalls & Bryson, Inc. Poultry raising and laying house. 3,368,527. 2–13–68, Cl. 119—18.

Contina Bureaux- und Rechenmaschinenfabrik Aktiengesellschaft: *See*—
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Continental Can Co., Inc.: *See*—
Piazze, Thomas E. 3,368,441.
Williams, Henry R. 3,368,241.

Continental Oil Co.: *See*—
Endo, Michimasa. 3,368,515.
Heuer, George J., Jr., Felsenthal, and Jacocks. 3,368,624.
Watari, Tamiro. 3,368,512.

Continental Vending Machine Corp.: *See*—
Burke, Donald J., Schlesch, and Morain. 3,368,790.

Cook, William. Extension cord reel. 3,369,084, 2–13–68, Cl. 191—12.4.

Cooper, Dexter P., Jr.: *See*—
Land, Edwin H., and Cooper. 3,368,447.

Copeland, John W. Time, speed and distance computer. 3,368,748, 2–13–68, Cl. 235—71.

Copping, Geoffrey P., and K. W. H. Whittington, to Her Majesty's Postmaster General. Seriatim presentation of articles for viewing. 3,368,701 2–13–68, Cl. 214—11.

Copping, Geoffrey P., and K. W. H. Whittington, to Postmaster General, Her Majesty's. Seriation presentation of articles for viewing. 3,368,701, 2–13–68, Cl. 214—11.

Cordis, Gladys S.: *See*—
Cordis, Nat. 3,368,522.

Cordis, Nat, deceased (by G. S. Cordis, executor), ⅜ to C. F. Jensen, and ⅛ to G. T. Dobie. Wet wipe sheet dispenser. 3,368,522. 2–13–68, Cl. 118—43.

Cornell, Arden P.: *See*—
Weaver, Thomas O., and Cornell. 3,368,967.

Cornett, Walter V. Scrap metal breaker. 3,368,746, 2–13–68, Cl. 241—270.

Cotton, Herbert L., to United States Concrete Pipe Co. Hole cutting apparatus for pipe sections. 3,368,255, 2–13–68, Cl. 25—107.

Coulombe, Alyre. Monitor and control for process variables. 3,368,757, 2–13–68, Cl. 236—51.

Cowles, John H., and R. H. White, to The Torrington Co. Bearing retainer. 3,368,855, 2–13–68, Cl. 308—217.

Cramer Industries, Inc.: *See*—
Walkinshaw, Thomas G. 3,368,846.

Crawford, Robert R.: *See*—
Turillon, Pierre P., Crawford, Trapp, and La Que. 3,368,880.

Crile, Eugene E., P. M. Thomas and W. R., to Builders Equipment Co. Vertical level locator for a pallet handling machine. 3,368,702. 2–13–68, Cl. 214—16.4.

Cripe, Maxwell L., to The Bendix Corp. Fluid pressure proportioning means. 3,368,350, 2–13–68, Cl. 60—54.5.

Crissey, Jackson R., to Ling-Temco-Vought, Inc. Single location charger. 3,368,576, 2–13–68, Cl. 137—1.

Cronkhite, Minton B., to Cubic Corp. Radio aid to navigation. 3,369,237. 2–13–68, Cl. 343—105.

Crook, Alan, and M. J. Horrobin, to English Sewing Cotton Co. Ltd. Sewing thread. 3,368,343, 2–13–68, Cl. 57—140.

Crowder, William E. One piece hollow block with double thickness connecting ears. 3,368,316, 2–13–68, Cl. 52—593.

Caicsatka, Antal, to General Electric Co. Integrated electronic circuit construction including external bias resistor. 3,369,187, 2–13–68, Cl. 330—38.

Cubic Corp.: *See*—
Cronkhite, Minton B. 3,369,237.

Culligan, Inc.: *See*—
Rak, Stanley F. 3,368,683.

Culpepper, Jesse L., Jr.: *See*—
Sachnik, Norman H., and Culpepper. 3,368,787.

Curtiss-Wright Corp.: *See*—
Bremer, Roger E., and Dangler. 3,368,640.

Custer, Robert E., to General Motors Corp. Potential regulator circuit for permanent magnet type alternators. 3,369,170. 2–13–68, Cl. 322—28.

Daiichi Seiyaku Co., Ltd.: *See*—
Okuda, Noriyuki, and Susuki. 3,368,868.

Dailey, William J., and A. B. Miller, to North American Rockwell Corp. Flexible structure closure. 3,368,599, 2–13–68, Cl. 150—8.

Daimler-Benz Aktiengesellschaft: *See*—
Jurisch, Wilhelm, and Walliser. 3,368,348.

Dairokuno, Tetsuo: *See*—
Asamaki, Tatsuo, and Dairokuno. 3,368,818.

Dale, John I., III: *See*—
Weaver, Max A., Dale, and Straley. 3,369,013.

Dale, Vernon F. Target trap with friction-reducing target holder. 3,368,542, 2–13–68, Cl. 124—8.

Daly, Edgar F., and T. J. Dean, to Unicam Instruments Ltd. Cryogenic apparatus. 3,368,360, 2–13–68, Cl. 62—6.

Dangauthier, Marcel, to Societe Industrielle et Commerciale des Automobiles Peugeot. seat unit. 3,368,840, 2–13–68, Cl. 296—65.

Dangler, Robert L.: *See*—
Bremer, Roger E., and Dangler. 3,368,640.

Darnell, James R., and D. A. Tarver, to Texas Instrument Inc. Process for adherently depositing a metal carbide on a metal substrate. 3,368,914, 2–13–68, Cl. 117—71.

Dashew, Stephen S., to West Coast Industries, Inc. Tilting trailer. 3,368,827, 2–13–68, Cl. 280—401.

Davey, Thomas R. R., and H. T. Webster, deceased (by E. F. Webster, executrix), to The Broken Hill Associated Smelters Proprietory Ltd. Apparatus for copper drossing of lead bullion. 3,368,805, 2–13–68, Cl. 266—37.

Davis Flow-Valve, Inc.: *See*—
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Davis, Harry S., to Davis Flow-Valve, Inc. Sequencing device. 3,369,204. 2–13–68, Cl. 335—138.

Davis, Thomas G., and J. W. Thompson, to Eastman Kodak Co. Antioxidants. 3,368,975, 2–13–68, Cl. 252—51.5.

De Acetis, William, to Shell Oil Co. Polymercaptans and their preparation from epithio compounds. 3,369,040, 2–13–68, Cl. 260—468.

Dean, Hollie T., to Swift & Co. Color changing window with closed liquid circulation system. 3,368,862, 2–13–68, Cl. 350—312.

Dean, Thomas J.: *See*—
Daly, Edgar F., and Dean. 3,368,360.

Deane, Stanley W. Apparatus for the remote electronic control of vehicle speeds. 3,368,639, 2–13–68, Cl. 180—98.

De Brunner, Ralph E.: *See*—
Blake, Edward S., De Brunner, and Webster. 3,369,061.
Blake, Edward S., De Brunner, and Webster. 3,369,064.

Deco Products Co.: *See*—
Storlie, Llewellyn O., and Northrup. 3,368,836.

De Corso, Serafino M., to Westinghouse Electric Corp. Nonconsumable annular fluid-cooled electrode for arc furnaces. 3,369,067. 2–13–68, Cl. 13—18.

Deering, Christopher P., and J. P. Monahan. Magnetic ball racker. 3,368,810, 2–13–68, Cl. 273—11.

Deering Milliken Research Corp.: *See*—
Belcher, Donald W., and Farkas. 3,368,917.

Deghetto, Kenneth A.: *See*—
Long, William P., Chatman, and Deghetto. 3,368,578.

De Long, George E., to Johns-Manville Corp. Method and apparatus for introducing a flocculating agent to an asbestos-cement slurry to control the thickness of the sheet used in winding to form a pipe. 3,368,936, 2–13–68, Cl. 162—118.

Demag Aktiengesellschaft: *See*—
Breuer, Karl, Grundig, and Pottbacker. 3,368,368.

De Man, Heiko T., and J. A. Beaton, to Dynamic Research Corp. Pressure-vacuum indicator. 3,368,520, 2–13–68, Cl. 116—70.

Denison, Irving A., W. J. Paull, and G. R. Snyder, to United States of America, Army. Treating zinc plates of zinc-silver oxide battery. 3,368,925, 2–13–68, Cl. 136—126.

De Sabla, Louis J.: *See*—
O'Connor, Timothy J., and De Sabla. 3,368,487.

Desai, Haresh M.: *See*—
Lavanchy, Andre C., Reed, and Desai. 3,368,747.

De Soto, Inc.: *See*—
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Sekmakas, Kazys, and Drunga. 3,368,999.

Deutsch Controls Corp.: *See*—
Solomon, Ralph E. 3,368,754.

Deutsch, Marshall E., to Becton, Dickinson and Co. Apparatus for mounting a testing device. 3,368,783, 2–13–68, Cl. 248—176.

Deutsche Akademie Der Wissenschaften Zu: *See*—
Grunze, Herbert and I. 3,368,970.

De Voghel, Raymond, to Glaverbel S.A. Vehicle. 3,368,825, 2–13–68. Cl. 280—144.

Dew, Brock S., to United States of America, Navy. Gyro fast slew modification. 3,368,410, 2–13–68, Cl. 74—5.

Dexco Corp.: *See*—
Harris, William H., Jr. 3,368,263.

Diassi, Patrick A., and P. A. Principe, to E. R. Squibb & Sons, Inc. Methyl-3-acetoxy-16-keto burico-8,24(28)-dien-21-oate. 3,369,032, 2–13–68, Cl. 260—397.1.

Dick, A. B', Co., The: *See*—
Adams, Roman A. 3,369,252.

Dickinson, Becton, and Co.: *See*—
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Dickmeyer, Robert D.: *See*—
Johnston, Lawrence M., Jr., Dickmeyer, Loubier, and Krall. 3,368,427.

Di Curcio, Robert A., to United Aircraft Corp. Laser micro processer. 3,369,101, 2–13–68, Cl. 219—121.

Dietsch, Francis W., to United States of America, Army. Breech mechanism for a recoilless gun. 3,368,450, 2–13–68, Cl. 89—1.705.

Di Giovandel, Gaudenz G., R. Zweidler, and R. Vonderwahl, to J. R. Geigy, A.G. Optical brighteners derived from 3,5-diaminopyrazine-2,6-dicarboxylic acid. 3,369,018, 2–13–68, Cl. 260—250.

Dillon, Roy E., and R. W. Gray, to Madison Throwing Co., Inc. Fabric take-up for circular knitting machine. 3,368,372, 2–13–68, Cl. 66—151.

DiMarco, Bernard: *See*—
Kussy, Frank W., and DiMarco. 3,369,100.

Disposal System Development Corp.: *See*—
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Doble, Gerald T.: *See*—
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Doczi, John: *See*—
Turner, James E., Jr., and Doczi. 3,368,940.

Dodge Mfg. Corp.: *See*—
Chung, Jackson. 3,368,833.

Doerner, Frank, to Doerner Products Co., Ltd. Chair control for tilting and swivel chairs having improved tensioning bolt. 3,368,844, 2–13–68, Cl. 297—303.

Doerner Products Co., Ltd.: *See*—
Doerner, Frank. 3,368,844.

Dolegowski, Arthur R.: *See*—
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Domotor, Lorant, to Wagner Electric Corp. Thermionic emissive cathode. 3,369,145, 2–13–68, Cl. 313—346.

Dormady, Joseph: *See*—
Milazzo, Paul J., Lynch, and Dormady. 3,368,816.

Dorros, Irwin, to Bell Telephone Laboratories, Inc. Multilevel pulse transmission system. 3,369,229, 2–13–68, Cl. 340—347.

Doublebsky, Ctibor: *See*—
Barsukov, Arkadij, Bures, Doudlebsky, Chrtek, and Kabele. 3,368,340.

Douglas Aircraft Co., Inc.: *See*—
Bennett, Robert H., Jr. 3,368,318.

Dove, Herbert L., to National Research Development Corp. Ship anchors and stowage. 3,368,513, 2–13–68, Cl. 114—210.

Doveri, Carlo. Disassembleable and transportable ski-tow. 3,368,498, 2–13–68, Cl. 104—173.

Dow Chemical Co., The: *See*—
Garrett, Walter L. 3,368,893.
Gilbert, Herman S. 3,368,678.
Hurst, Robert E., and Smith. 3,368,627.

Dowty Hydraulic Units Ltd.: *See*—
Andrews, Thomas D. H. 3,368,630.

Dowty Mining Equipment Ltd.: *See*—
Andrews, Thomas D. H., Checkley, and Little. 3,368,497.

Dresser Industries, Inc.: *See*—
Weaver, Ernest P. 3,368,670.

Dreyer, Heinz, to H. Dreyer Amazonen-Werke. Centrifugal spreader. 3,368,762, 2–13–68, Cl. 239—665.

Drosdziok, Hermann: *See*—
Ziehr, Georg, Drosdziok. 3,368,913.

Drumbore, Allen L. Miter guide for portable power saws. 3,368,594, 2–13–68, Cl. 143—6.

Drunga, Karolis: *See*—
Sekmakas, Kazys, and Drunga. 3,368,999.

Dryden, Hugh L., Deputy Administrator of the National Aeronautics and Space Administration with respect to an invention of D. A. Ehrenfeld, and I. Karsh. Incremental tape recorder and data rate converter. 3,369,223, 2–13–68, Cl. 340—172.5.

Duane, Paul O. Bicycle exercising stand. 3,368,809, 2–13–68, Cl. 272—73.

Dubo, Harry H. Locking latch for container closure. 3,368,711, 2–13–68, Cl. 220—55.

Dubois, Andre: *See*—
Klein, Georges, and Dubois. 3,369,134.

Dueker, James E., to McDonnell Aircraft Corp. Photovoltaic device for indicating position and intensity including peripheral electrode. 3,369,124, 2–13–68, Cl. 250—211.

Dueker, James E., to McDonnell Aircraft Corp. Optical fiber electroluminescent-photoconductive image intensifier. 3,369,125, 2–13–68, Cl. 250—213.

Duncan, Earl N. Device for indicating attainment of proper golf swing movements. 3,368,817, 2–13–68, Cl. 273—183.

Duncan, Richard W. Self-cleaning grill and instant charcoal lighter. 3,368,544, 2–13–68, Cl. 126—25.

Dunlap, Robert J.: *See*—
Shook, David E., and Dunlap. 3,368,491.

Dunlop Rubber Co. Ltd.: *See*—
Jenkins, Peter J. 3,368,417.

Dunn, Robert O., to Phillips Petroleum Co. Separation of chloronitrobenzene isomers by crystallization and fractionation. 3,368,365, 2–13–68, Cl. 62—123.

Du Pont de Nemours, E. I., and Co.: *See*—
Alaburda, Raymond D., Beam, Buehler, and Rudy. 3,368,363.
Barnett, William J., Mancini, and Symonds. 3,368,883.
Blake, Ralph K., and Fan. 3,368,899.
Burg, Marion. 3,368,900.
Graham, Boynton. 3,368,878.
Vosburgh, William G., Sr. 3,368,934.
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Duriron Co. Inc., The: *See*—
Storms, Robert S. 3,368,483.

Duschinsky, Robert: *See*—
Berger, Julius, and Duschinsky. 3,368,938.

Dust Control Equipment Ltd.: *See*—
Baxendale, Richard H. 3,368,331.

Duynstee, Eduard F. J., and J. L. J. P. Hennekens, to Stamicarbon N.V. Preparation of decarbonylation products of carboxylic acids. 3,369,017, 2–13–68, Cl. 260—239.3.

Dynamic Research Corp.: *See*—
De Man, Heiko T., and Beaton. 3,368,520.

Dynamics Corp. of America: *See*—
Wakeman, Alfred W. 3,368,719.

Dynapower Systems Corp. of California: *See*—
Kendall, William D., and Yarger. 3,368,565.

Eads, Charles L., to Adams Rite Mfg. Co. Lock actuator and door pull. 3,368,374, 2–13–68, Cl. 70—100.

Eagle Electric Mfg. Co.: *See*—
Nicolosi, Robert V. 3,369,117.

Eastham, John S., to Owens-Illinois, Inc. Hardwood carton brake. 3,368,658, 2–13–68, Cl. 193—35.

Eastman Kodak Co.: *See*—
Brannock, Kent C. 3,369,024.
Davis, Thomas G., and Thompson. 3,368,975.
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Fuller, Harrison W., to Laboratory for Electronics, Inc. Thin film shift register. 3,369,225, 2–13–68, Cl. 340—174.

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Smith, Walter J., and Parker. 3,368,755.
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Johnston, James D., to Ethyl Corp. Preparation of high purity primary organo aluminum compounds. 3,369,037, 2–13–68, Cl. 260—448.
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Judkins, Kenneth R., and B. W. Irvine, Jr., to Reserve Mining Co. Locking pin for digging dipper tooth. 3,368,293, 2–13–68, Cl. 37—142.
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Karig, Erhardt, and H. Kirchner, to Reimer-Gatriebe A.G. Control mechanism for engine combined with infinitely variable transmission. 3,368,426, 2–13–68, Cl. 74—865.
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Kilmer, Lauren G., to Sinclair Research, Inc. Gas exploder seismic wave generator. 3,368,642, 2–13–68, Cl. 181—.5
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Kirkendall, William D., to Weston Instruments, Inc. Variable resistors. 3,369,208, 2–13–68, Cl. 338—174.
Kirby, Charles A., to Allied Building Components Inc. Pivoting door mounting assembly. 3,368,236, 2–13–68, Cl. 16—181.
Kirby, James B. Tooth-cleaning and massaging device. 3,368,-553, 2–13–68, Cl. 128—62.

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Klein, Frederick A., and R. E. Gilchrist, to Phillips Petroleum Co. Retarding spontaneous ignition during reverse combustion. 3,368,622, 2–13–68, Cl. 166—11.
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Kravos, Joseph F., and G. A. Fortnam, to General Electric Co. Portable electric clothes cleaner. 3,368,231, 2–13–68, Cl. 15—344.
Krock, Richard H., and E. J. Zdanuk, to P. R. Mallory & Co. Inc. Tungsten structures. 3,368,879, 2–13–68, Cl. 29—182.1.
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Kuntz, Eloise, and E. S. Nuwayser, to Ethicon, Inc. Collagen-carbonic acid surgical sponge. 3,368,911, 2–13–68, Cl. 106—155.
Kusel, Edward J., and R. S. Mankin. Railing assembly having a replaceable newel post cap. 3,368,798, 2–13–68, Cl. 256—65.
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Langberg, Edwin, and L. W. Roberts, to Metcom, Inc. Gallium metal contact switch. 3,369,094, 2–13–68, Cl. 200—140.
Langmead, Peter N. F., to Zealand Engineering Co. Ltd. Adjustable self-locking joints. 3,368,847, 2–13–68, Cl. 297—366.
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Laverdant, Bernard E. E., to Societe Anonyme D.B.A. Spot-type disc brakes and disc brake friction pads. 3,368,647, 2–13–68, Cl. 188—73.
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Lawrence, Richard E. Stack sections with expansion means. 3,368,506, 2–13–68, Cl. 110—184.
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Lepelletier, Pierre A. G., to Societe Anonyme Francaise du Ferodo. Control means for self-energized brake systems. 3,368,651, 2–13–68, Cl. 188—152.
Le Suer, William M., to The Lubrizol Corp. Preparation of lubricant additives with reduced odor. 3,369,021, 2–13–68, Cl. 260—268.
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Le Vasseur, Edward, to Boice Gages, Inc. Indicator feeler biasing and reversible means. 3,368,283, 2–13–68, Cl. 33—169.
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Leverin, Paul D., to American Steel and Pump Corp. Stud driver and release tools. 3,368,430, 2–13–68, Cl. 81—53.
Levi, Hans L. Five panel folder with cushion ends. 3,368,735, 2–13–68, Cl. 229—40.
Levine, Duane G., M. Beltzer, and B. L. Tarmy, to Esso Research and Engineering Co. Methods for electrodeposition on thin conductive films. 3,368,950, 2–13–68, Cl. 204—27.
Lewakowski, John J., to Chrysler Corp. Hydraulic control arrangement. 3,368,457, 2–13–68, Cl. 91—39.
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Lewis, Everett C., and J. Jonakin, to Combustion Engineering, Inc. High temperature steam heaters and tube arrangement therefor. 3,368,532, 2–13–68, Cl. 122—367.
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Lister, Paul J., and A. Krynytzky, to The B. F. Goodrich Co. Hose curing unit. 3,368,240, 2–13–68, Cl. 18—6.
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Thrasher, Howard G. 3,368,807.
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Loch, Charles H., to Westinghouse Electric Corp. Runway centerline light. 3,369,112, 2–13–68, Cl. 240—1.2.
Loch, Charles H., to Westinghouse Electric Corp. Runway centerline light. 3,369,112, 2–13–68, Cl. 240—1.2.
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Loeb, Arthur L., to Kennecott Copper Corp. Instrument for representation of crystal structure. 3,368,290, 2–13–68, Cl. 35—18.
Loewenfeld, Kurt, and W. Reiners, to Firma G. Siempelkamp & Co. Multiplaten press system with individual charging sheets. 3,368,242, 2–13–68, Cl. 18—17.
Long, William P., W. C. Chatman, and K. A. Deghetto, to Foster Wheeler Corp. Integral seal pot arrangement. 3,368,-578, 2–13–68, Cl. 137—251.
Loper, George B., to Mobil Oil Corp. System for reducing the transmission of noise in marine seismic surveying. 3,369,-216, 2–13–68, Cl. 340—7.
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Johnston, Lawrence M., Jr., Dickmeyer, Loubier, and Krall. 3,368,427.
Love, Kenneth E., and C. L. Moulton, to True-Grade, Inc. Method and apparatus for orienting, aligning and conveying tobacco leaves. 3,368,568, 2–13–68, Cl. 131—149.
Lovercheck, Lawrence R. Heat producing device. 3,369,104, 2–13–68, Cl. 219—268.
Lowery, John L. Reinforcing bar and frame supports. 3,368,-320, 2–13–68, Cl. 52—684.
Lozeau, Homer A., to Koehler Mfg. Co. Method and means for charging electrical storage battery. 3,369,165, 2–13–68, Cl. 320—24.
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Warne, Eugene H. 3,368,346.
Lucas, Joseph (Industries) Ltd.: *See*—
Wright, Maurice J. 3,369,172.
Luckey, Franklin E. Mounting for bobbin stripper. 3,368,589, 2–13–68, Cl. 139—264.
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Ludkvist, Karl A., to Telefonaktiebolaget L. M. Ericsson. Electromagnetic telephone relay. 3,369,206, 2–13–68, Cl. 335—273.
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Higgason, Frank G., Jr. 3,368,470.
Luehrmann, William H., C. O. Berglund, and W. H. Parker, to Teledyne Industries, Inc. Method and apparatus for generating an underwater acoustic impulse. 3,369,217, 2–13–68, Cl. 340—7.
Luehrmann, William H., and W. H. Parker, to Teledyne Industries, Inc. Metallized plasma path source. 3,369,218, 2–13–68, Cl. 340—12.
Lundberg, Robert D., to Union Carbide Corp. Polymers containing dihalocyclopropane units. 3,369,012, 2–13–68, Cl. 260—94.7.
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MacArthur, Norman C., to Hercules Inc. Ethylenically unsaturated azidoformates. 3,369,030, 2–13–68, Cl. 260—349.
MacDonald, Charles E., J. W. Anderson, and J. C. Barker, to Eaton Yale & Towne Inc. Through-transom marine propulsion unit. 3,368,516, 2–13–68, Cl. 115—35.
MacDonald, Charles E., J. W. Anderson, and J. C. Barker, to Eaton Yale & Towne Inc. Marine through-transom propulsion unit. 3,368,517, 2–13–68, Cl. 115—41.
Macek, Thomas J., and R. E. King, to Merck & Co., Inc. Injectable solid steroid-anesthetic. 3,368,937, 2–13–68, Cl. 167—52.
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Tarrant, Edmund H. 3,368,700.
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Maddigan, Richard J., to Kaiser Aluminum & Chemical Corp. Method for preventing metal-liquid explosions in casting operation. 3,368,607, 2–13–68, Cl. 164—1.
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Mamas, Leo G., to Industrial Nucleonics Corp. Originating filler identification system. 3,368,593, 2–13–68, Cl. 141—83.
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Martino, Dom. Balloon inflator with rotatable valved nozzle. 3,368,302, 2–13–68, Cl. 46—90.

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Matkan, Josef, and R. J. Wright, to Research Laboratories of Australia Pty. Ltd. Multiple copy printing method and apparatus. 3,368,894, 2–13–68, Cl. 96—1.

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Matsuura, Motoaki: *See*—
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McKenzie, Donald E., and J. P. Howe, to North American Rockwell Corp. Conversion of heat to electricity by electrochemical means using UO_2 melt. 3,368,921, 2–13–68, Cl. 136—86.

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Merrick, Richard H., to Carrier Corp. Solution storage arrangement for absorption refrigeration systems. 3,368,367, 2–13–68, Cl. 62—476.

Merrill, Fred W., to Honeywell Inc. Control apparatus. 3,368,751, 2–13–68, Cl. 235—201.

Mester, Ulrich, to Telefunken Patentverwertungsgesellschaft m.b.H. Binary frequency divider circuit having externally adjustable frequency selection means and reset means. 3,369,183, 2–13–68, Cl. 328—48.

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Meyer, Willard A., to American Can Co. Method of and apparatus for manufacturing tubular container bodies. 3,368,434, 2–13–68, Cl. 82—47.

Micciche, Frank. Disposable toothbrush. 3,368,668, 2–13–68, Cl. 206—46.

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Miller, Ralph L., and W. R. Young, Jr., to Bell Telephone Laboratories, Inc. Conference circuit for coded signals permitting conference calls between vocoder and analogue stations. 3,369,080, 2–13–68, Cl. 179—18.

Miller, Robert E., to Monsanto Co. Substituted alkenyl halosilanes. 3,369,036, 2–13–68, Cl. 260—448.2.

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Mitchell, Wallace F. Self-adjusting pulley .3,368,416, 2–13–68, Cl. 74—230.17.

Mixon, Joseph L., to Westinghouse Electric Corp. Dishwashing apparatus. 3,368,573, 2–13–68, Cl. 134—176.

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Blake, Edward S., De Brunner, and Webster. 3,369,064.
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Mueller, Hans. Wax injection press. 3,368,244, 2–13–68, Cl. 18—30.

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Mumpower, Erle R., to The National Cash Register Co. Shock-absorbing typebar stop. 3,368,659, 2–13–68, Cl. 197—42.

Munters, Carl G., and H. H. R. Niemann. Regenerative moisture exchanger for gaseous media. 3,368,327, 2–13–68, Cl. 55—179.

Murakami, Shinichi, to Nippon Gakki Seizo Kabushiki Kaisha. Contact device for electric switches. 3,369,097, 2–13–68, Cl. 200—166.

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Muta, Toru, M. Shimizu, K. Matsukura, and T. Nishi, to Yawata Iron & Steel Co., Ltd. Atmospheric corrosion-resistant cold-rolled steel sheet of deep drawing quality. 3,368,886, 2–13–68, Cl. 75—125.

Mutchler, Paul A., to American Air Filter Co., Inc. Combustion apparatus. 3,368,604, 2–13–68, Cl. 158—4.

Nagy, Charles S., L. C. Hoskins, and W. J. Scott, to The National Cash Register Co. Control system for change-dispensing accounting machines. 3,368,750, 2–13–68, Cl. 13—2.

Nakajima, Azkira, and M. Shinohara, to American Cyanamid Co. Acrylonitrile polymer solution. 3,368,993, 2–13–68, Cl. 260—29.6.

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Natelson, Samuel, to Scientific Industries, Inc. Automatic chemical analyzer. 3,368,872, 2–13–68, Cl. 23—253.

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Negishi, Elzaburo, to Kabushiki Kaisha Negishi Kogyo Kenbyusho. Rotating spinning tube. 3,368,339, 2–13–68, Cl. 57—58.89.

Nepela, Daniel A., to General Aniline & Film Corp. Autopositive film and paper and emulsions therefor. 3,368,898, 2–13–68, Cl. 96—64.

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Neumann, Egon. Electrodynamic torque converter. 3,369,139, 2–13–68, Cl. 310—102.

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Nexus Research Laboratory Inc.: *See*—
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Nicht, Roland E., to United States of America, Navy. Function modulator for simulation apparatus. 3,369,070, 2–13–68, Cl. 35—10.4.

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Nordahl, John G., to Weston Instruments, Inc. Osciliator with controlled linear feedback circuit. 3,369,193, 2–13–68, Cl. 331—109.

Norden, Alexander R., and H. H. Kobryner, to Murray Mfg. Corp. Circuit breaker having break-away walls. 3,369,099, 2–13–68, Cl. 200—168.

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CLASSIFICATION OF PATENTS

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NOTE.—First number, class; second number, subclass; third number, patent number

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14	3,368,221	18	3,368,290	237	3,368,380	94– 18	3,368,463	49	3,368,523	156–251	3,368,930
22	3,368,222	43	3,368,291	238	3,368,381		3,368,464	244	3,368,524	479	3,368,931
93	3,368,223	37– 10	3,368,292	289	3,368,382	39	3,368,465	637	3,368,525	497	3,368,932
4– 57	3,368,224	142	3,368,293	361	3,368,383	45	3,368,466		3,368,526	498	3,368,933
249	3,368,225	38– 77	3,368,294	73– 15	3,368,384	95– 10	3,368,467	119– 18	3,368,527	158– 4	3,368,604
5–236	3,368,226	40–124	3,368,295	23.1	3,368,385		3,368,468	29	3,368,528	7	3,368,605
296	3,368,227	336	3,368,296	27	3,368,386	53	3,368,469	51.11	3,368,529	76	3,368,606
8– 25	3,368,864	42– 1	3,368,297	32	3,368,387	73	3,368,470	99	3,368,530	161–150	3,368,934
9– 1	3,368,228	16	3,368,298	36	3,368,388	76	3,368,471	122–136	3,368,531	162– 72	3,368,935
13– 18	3,369,067	43– 43.12:	3,368,299	53	3,368,389	89	3,368,472	367	3,368,532	118	3,368,936
	3,369,068	46– 40	3,368,300	56	3,368,390	96– 1	3,368,891	406	3,368,533	164– 1	3,368,607
	3,369,069	74	3,368,301	57	3,368,391		3,368,892	480	3,368,534	130	3,368,608
14– 71	3,368,229	90	3,368,302	63	3,368,392		3,368,893	510	3,368,535	386	3,368,609
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344	3,368,231	49– 58	3,368,304	100	3,368,394	28	3,368,895	123– 16	3,368,537	7	3,368,611
16– 90	3,368,235	70	3,368,305	105	3,368,395	29	3,368,896	136	3,368,538	9	3,368,612
131	3,368,236	192	3,368,306	139	3,368,396	50	3,368,897	148	3,368,539		3,368,613
164	3,368,237	280	3,368,307	147	3,368,397	64	3,368,898	179	3,368,540	82	3,368,614
18– 5	3,368,239	51– 9	3,368,308	150	3,368,398	107	3,368,899	124– 7	3,368,541	149	3,368,615
6	3,368,240	37	3,368,309		3,368,399	115	3,368,900	8	3,368,542	164	3,368,616
14	3,368,241	100	3,368,310	151.5	3,368,400	98– 31	3,368,473	125– 13	3,368,543	175	3,368,617
17	3,368,242	52–127	3,368,311	191	3,368,401	115	3,368,474	126– 25	3,368,544	166– .5	3,368,618
19	3,368,243	241	3,368,312	208	3,368,402	99– 8	3,368,901	121	3,368,545	.6	3,368,619
30	3,368,244	278	3,368,313	253	3,368,403	83	3,368,902	350	3,368,546	9	3,368,620
42	3,368,245	451	3,368,314	304	3,368,404	91	3,368,903		3,368,547		3,368,621
19–261	3,368,246	588	3,368,315	306	3,368,405	93	3,368,904	360	3,368,548	11	3,368,622
21– 96	3,368,865	593	3,368,316	349	3,368,406	104	3,368,905	128– 2	3,368,549	12	3,368,623
23– 63	3,368,866	603	3,368,317	399	3,368,407	110	3,368,906		3,368,550	29	3,368,624
108	3,368,867	618	3,368,318	425.4	3,368,408		3,368,907		3,368,551	33	3,368,625
114	3,368,868	637	3,368,319	516	3,368,409	111	3,368,908	4	3,368,552		3,368,626
199	3,368,869	684	3,368,320	74– 5	3,368,410	168	3,368,909	62	3,368,553	42	3,368,627
202	3,368,870	53– 57	3,368,321	.4	3,368,411	235	3,368,475	67	3,368,554	68	3,368,628
208	3,368,871	138	3,368,322	42	3,368,412	293	3,368,476	145.8	3,368,555	167– 52	3,368,937
253	3,368,872	198	3,368,323	55	3,368,413	298	3,368,477	204	3,368,556	58	3,368,938
281	3,368,873	247	3,368,324	68	3,368,414	100– 50	3,368,478	218	3,368,558	65	3,368,939
283	3,368,874	55– 59	3,368,325	142	3,368,415	229	3,368,479		3,368,559	76	3,368,940
288	3,368,875	96	3,368,328	230.17	3,368,416	101– 40	3,368,481	221	3,368,557	88	3,368,941
300	3,368,876	158	3,368,329	237	3,368,417	153	3,368,482	272	3,368,560		3,368,942
344	3,368,877	161	3,368,326	246	3,368,418	450	3,368,483	275	3,368,561	94	3,368,943
361	3,368,878	179	3,368,327	401	3,368,419	463	3,368,484	284	3,368,562	95	3,368,944
24– 16	3,368,247	193	3,368,330	410	3,368,420	102– 7	3,368,480	288	3,368,563	169– 15	3,368,629
73	3,368,248	299	3,368,331	493	3,368,421	27	3,368,485	348	3,368,564	172– 7	3,368,630
205.14	3,368,249	306	3,368,332		3,368,422	49.5	3,368,486	404	3,368,565	173– 12	3,368,631
241	3,368,250	354	3,368,333	527	3,368,423	70.2	3,368,487	131– 10.7	3,368,566	49	3,368,632
263	3,368,251	385	3,368,334	572	3,368,424	81	3,368,488	143	3,368,567	60	3,368,633
	3,368,252	57– 34	3,368,335	720.5	3,368,425	95	3,368,489	149	3,368,568	105	3,368,634
25– 38	3,368,253	56	3,368,338	865	3,368,426	103– 2	3,368,490	132–116	3,368,569	163	3,368,635
90	3,368,254	58.67	3,368,336	867	3,368,427	41	3,368,491	133– 2	3,368,570	174– 65	3,369,071
107	3,368,255	.76	3,368,337	75– 26	3,368,884	87	3,368,492	134–100	3,368,571	75	3,369,072
28– 4	3,368,256	.89	3,368,339	53	3,368,885	97	3,368,493	123	3,368,572	175– 72	3,368,636
29–106	3,368,257		3,368,340	125	3,368,886	108	3,368,494	176	3,368,573	176– 77	3,368,945
156.7	3,368,259	76	3,368,341	128	3,368,887	152	3,368,495	135– 1	3,368,574	78	3,368,946
157.3	3,368,258	125	3,368,342	171	3,368,888	104– 18	3,368,496	4	3,368,575	177–211	3,368,637
	3,368,260	140	3,368,343		3,368,889	162	3,368,497	136– 86	3,368,921	178– 6.6	3,369,073
	3,368,261	59– 78	3,368,344	211	3,368,890	173	3,368,498		3,368,922	7.82	3,369,074
	3,368,262	60– 30	3,368,345	81– 9.51	3,368,428	105–368	3,368,499		3,368,923	68	3,369,075
159.2	3,368,263	39.15	3,368,346		3,368,429	377	3,368,500	102	3,368,924	179– 1	3,369,076
	3,368,264	.16	3,368,347	53	3,368,430	106– 39	3,368,910	126	3,368,925		3,369,077
182.1	3,368,879	.28	3,368,348	54	3,368,431	155	3,368,911	155	3,368,926	2.5	3,369,078
.5	3,368,883		3,368,349	165	3,368,432	107– 1	3,368,501	160	3,368,927	5	3,369,079
183.5	3,368,880	54.5	3,368,350	82– 23	3,368,433	4	3,368,502	137– 1	3,368,576	18	3,369,080
192	3,368,881	97	3,368,351	36	3,368,449	54	3,368,503	81.5	3,368,577	100.2	3,369,081
195	3,368,882	224	3,368,352	47	3,368,434	108–131	3,368,504	251	3,368,578		3,369,082
200	3,368,265	240	3,368,353	83– 23	3,368,435	110– 18	3,368,505	403	3,368,579		3,369,083
	3,368,266	257	3,368,354	140	3,368,436	184	3,368,506	412	3,368,580	180– 22	3,368,638
203	3,368,267	61– 11	3,368,355	244	3,368,437	112–209	3,368,507	460	3,368,581	98	3,368,639
	3,368,268	36	3,368,356	336	3,368,438	245	3,368,508	549	3,368,582	108	3,368,640
207.5	3,368,269	37	3,368,357	437	3,368,439	114– .5	3,368,509	625.46	3,368,583	181– .5	3,368,641
237	3,368,270	72.4	3,368,358	513	3,368,440	16	3,368,510	.65	3,368,584		3,368,642
411	3,368,271	62– 3	3,368,359	588	3,368,441	66.5	3,368,511	636	3,368,585		3,368,643
494	3,368,272	6	3,368,360	84–411	3,368,442	74	3,368,512	138– 30	3,368,586	23	3,368,644
528	3,368,273	45	3,368,361	85– 32	3,368,443	210	3,368,513	44	3,368,587	184– 55	3,368,645
589	3,368,274	58	3,368,362		3,368,444	235	3,368,514	178	3,368,588	186– 1	3,368,646
598	3,368,275	64	3,368,363	49	3,368,445		3,368,515	139–264	3,368,589	188– 73	3,368,647
625	3,368,276	117	3,368,364	84	3,368,446	115– 35	3,368,516	140– 93	3,368,590	78	3,368,648
30–133	3,368,277	123	3,368,365	88– 23	3,368,447	41	3,368,517	141– 20	3,368,591	90	3,368,649
142	Re.26,344	374	3,368,366	24	3,368,448	116– 63	3,368,518	69	3,368,592	100	3,368,650
31– 46	3,368,278	476	3,368,367	89– 1.705	3,368,450	67	3,368,519	83	3,368,593	152	3,368,651
32– 27	3,368,279	64– 8	3,368,368	.802	3,368,451	70	3,368,520	143– 6	3,368,594	166	3,368,652
58	3,368,280	9	3,368,369	.816	3,368,452	116	3,368,521	32	3,368,595	218	3,368,653
33– 3	3,368,281	21	3,368,370	14	3,368,453	117– 42	3,368,912	36	3,368,596		3,368,654
46	3,368,282	27	3,368,371		3,368,454	53	3,368,913	168	3,368,597	190– 51	3,368,655
169	3,368,283	66–151	3,368,372	90– 1	3,368,455	71	3,368,914	146– 8	3,368,598	191– 12.4	3,369,084
174	3,368,284	67– 7.1	3,368,373	62	3,368,456	72	3,368,915	148– 6.2	3,368,928	192– 3.33	3,368,656
	3,368,285	70–100	3,368,374	91– 39	3,368,457	136	3,368,916	149– 46	3,368,929	84	3,368,657
180	3,368,286	146	3,368,375	308	3,368,458	138.8	3,368,917	150– 8	3,368,599	193– 35	3,368,658
211	3,368,287	72– 82	3,368,376	391	3,368,459	216	3,368,918	28	3,368,600	195– 28	3,368,947
34–125	3,368,288	128	3,368,377	93– 1	3,368,460	217	3,368,919	52	3,368,601	197– 42	3,368,659
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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

February 13, 1968 Volume 847 Number 2

TRADEMARKS

NOTICES

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Edu-Tek, Incorporated, St. Louis, Mo., Reg. No. 737,919, Canc. No. 9016.

Neil Products Inc., Santa Monica, Calif., Reg. No. 503,823, Canc. No. 9028.

Jacob Anthes, d.b.a. American Research Laboratories, Fort Atkinson, Wis., Reg. No. 740,652, Canc. No. 9039.

Mrs. Stevens Candles, Inc., assignee of Candy Lane, Inc., Los Angeles, Calif., Reg. No. 524,571, Canc. No. 9061.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

CONDITION OF TRADEMARK APPLICATIONS AS OF DECEMBER 31, 1967

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	17,288
Date of oldest new application	Dec. 19, 1966
Date of oldest amended application (filing date)	Aug. 20, 1964

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	3-21-67	4-8-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	4-6-67	8-20-64
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	2-13-67	11-5-64
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	12-19-66	5-25-65
Renewals (All Classes)	12-4-67	.....
Sec. 12(c) Publications (All Classes)	12-11-67	.....

Applications filed during the month of December 1967—2,073

Registrations Issued ---------- 431—No. 843,903 to No. 844,333
Renewals Issued ---------- 60

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 224,203. Kali-Chemie Aktiengesellschaft, Hannover, Germany. Filed July 26, 1965.

KALI-CHEMIE



The diagonal lining on the drawing indicates shading of the design. Owner of German Reg. No. 626,166, dated Apr. 28, 1951.

Class 6—Chemicals and Chemical Compositions

For Chemicals—Namely, Aluminum Salts and Compounds; Barium Salts and Compounds; Fluorine and Fluorine Compounds; Sulfur and Sulfur Compounds; Alkali Metal Salts and Compounds; Inorganic Acids; Hydrogen Peroxide; Fluorinated Alkane Compounds Useful as Propellants, Foaming Agents, Refrigerants, and Solvents; Catalysts; Desiccants for Gases and Liquids; Inorganic Pigments; Silicon Compounds; Boron Compounds.

Class 10—Fertilizers

For Fertilizers.

Class 18—Medicines and Pharmaceutical Preparations

For Medicines and Pharmaceutical Preparations.

SN 255,606. Ferrania Societe per Azioni, Milan, Italy. Filed Oct. 3, 1966.



Priority claimed under Sec. 44(d) on Italian application filed Apr. 8, 1966; Reg. No. 179,602, dated July 19, 1966.

Class 6—Chemicals and Chemical Compositions

For Chemicals; Developers, Fixers and Stabilizers for Processing Photographic Papers, Films, Photography, Radiography.

Class 26—Measuring and Scientific Appliances

For Optical, Photographic and Cinematographic Machines and Apparatus for Making (Exposing and Processing) Photographic Papers, Films and Photography Paper; and Light Sensitive Photographic Papers and Films.

SN 256,178. Horticultural Industries Proprietary Limited, Port Melbourne, Victoria, Australia. Filed Oct. 11, 1966.

SIRE SINE

Owner of Australian Reg. Nos. A155,940, A155,941, dated Sept. 9, 1959, and A192,016, dated Dec. 24, 1964.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Harness for Rams and Harness for Animals Other Than Rams.

Class 37—Paper and Stationery

For Marking Crayons.

SN 263,061. Ground to Flight, Inc., Wayzata, Minn. Filed Jan. 23, 1967.



Class 38—Prints and Publications

For Ground to Flight Instruction Manuals.
First use Oct. 22, 1966.

Class 107—Education and Entertainment

For Pre-Flight and In-Flight Instruction Services.
First use June 1965.

SN 266,383. Marine Construction & Design Co., Seattle, Wash. Filed Mar. 10, 1967.

MARCO

Owner of Reg. Nos. 705,931 and 808,466.

Class 19—Vehicles

For Boats of Various Types—Namely, Fishing Boats, Purse Seine Skiffs and Tugboats.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Machinery, Gear and Equipment for the Marine and Commercial Fishing Industry—Namely, Winches; Net-Hauling and Line-Hauling Power Driven Blocks and Guide Devices; Articulating Deck Cranes; Net Reels and Guide Roller Devices, Both Powered and Unpowered; Line Guide Blocks and Sheaves; Cable Tensioning Winch Devices and Cable Tension Metering Devices; Gear Reducers; Fish Pumping Devices and Fish-Water Separator Screens; Hydraulic Equipment and Systems for Driving, Actuating and Controlling Such Winches, Blocks, Cranes, Reels and Devices and Other Machinery; Steering Gear; Trawl Doors; Snap Purse Rings; Purse Line Releases; Brailers.

First use March 1957.

SN 268,729. Ken Hagen Manufacturing Co., Inc., Shelburn, Ind. Filed Apr. 10, 1967.



Class 2—Receptacles

For Plastic Molded Containers and Fitments.

Class 50—Merchandise Not Otherwise Classified

For Closures.

First use in the year 1958.

SN 273,550. EZ Paintr Corporation, Milwaukee, Wis. Filed June 12, 1967.

E Z PAINTR

Owner of Reg. Nos. 435,352, 582,171, and 618,494.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Paint Trays, Paint Roller Cleaning Scrapers, Non-Skid Attachments for Paint Buckets, Non-Skid Inserts for Paint Roller Trays and Ladder Attachments for Paint Roller Trays.
First use September 1945.

Class 29—Brooms, Brushes, and Dusters

For Paint Rollers, Paint Roller Covers, Paint Applicators, Paint Roller Handles, Extension Poles for Paint Rollers and Painters' Mittens.
First use July 1945.

Class 32—Furniture and Upholstery

For Display Stands for Paint Rollers and Paint Trays.
First use Feb. 4, 1952.

SN 276,207. The Travelodge Corporation, El Cajon, Calif. Filed July 18, 1967.



Class 38—Prints and Publications

For Motor Hotel Directories.
First use on or about September 1954.

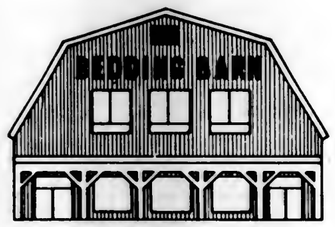
Class 100—Miscellaneous

For Motor Hotel Services.
First use on or about May 1954.

Class 102—Insurance and Financial

For Performing a Charge Account Service—Namely, Extending Credit to Customers of Applicant.
First use on or about September 1954.

SN 280,364. Bedding Barn, Inc., Newington, Conn. Filed Sept. 15, 1967.



The drawing is lined for the color red and no claim is made to color.

Class 32—Furniture and Upholstery

For Mattresses and Boxsprings.

Class 101—Advertising and Business

For Retail Bedroom Furniture and Bedding Accessories Store Services.

First use Oct. 5, 1965.

SN 281,256. Commonwealth Oil Refining Company, Inc., San Juan, Puerto Rico. Filed Sept. 27, 1967.

CORCO

Class 1—Raw or Partly Prepared Materials

For Polyester Resin.

Class 6—Chemicals and Chemical Compositions

For Naphtha and Naphtha-Type Cigarette Lighter Fluid; Cresylic Acids; Monomers; Phenol; and Liquefied Petroleum Gas.

Class 12—Construction Materials

For Asphalt for Paving and Construction Purposes.

Class 15—Oils and Greases

For Kerosene; Liquid Fuel, for Use in Heating and in Internal Combustion Engines; Lubricating Grease, and Lubricating Oil.

First use Jan. 12, 1967.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 257,842. Ford Motor Company, Dearborn, Mich. Filed Nov. 3, 1966.

COMFORS

For Supported and Unsupported Vinyl Film and Sheet for General Use in the Industrial Arts.
First use Apr. 23, 1966.

SN 261,746. NVF Company, Wilmington, Del. Filed Dec. 30, 1966.

forbon

Owner of Reg. Nos. 749,306 and 811,220.
For Vulcanized Fibre in the Form of Sheets, Rods, and Tubes for General Use in the Industrial Arts.
First use June 8, 1962.

SN 266,597. A. O. Smith Corporation, Milwaukee, Wis. Filed Mar. 13, 1967.

MOLYCOR

For Glass Fiber Reinforced Tubing for General Use in the Industrial Arts.
First use Feb. 1, 1963.

SN 266,723. Best Quality Plastics, Inc., Denver, Colo. Filed Mar. 15, 1967.

BESTFLEX

For Sheet Material of Polystyrene and Similar Synthetic Resins.
First use on or about June 30, 1966.

SN 278,297. Goodrich-Gulf Chemicals, Inc., Cleveland, Ohio. Filed Aug. 15, 1967.

AMERIPOL CB
MICRO-BLACK

Owner of Reg. Nos. 382,669, 757,068, and others.
For Synthetic Elastomers and Compositions Containing Synthetic Elastomers, Particularly Butadiene Polymeric Compositions Containing Carbon Black.
First use on or about May 19, 1967.

SN 278,440. Vistron Corporation, Cleveland, Ohio. Filed Aug. 16, 1967.

PRO MAC

For Melamine Molding Powder.
First use July 3, 1967.

SN 283,205. Stauffer Hoechst Polymer Corporation, Delaware City, Del. Filed Oct. 24, 1967.

SH

Owner of Reg. No. 828,954.
For Plastic Film and Sheeting.
First use at least as early as April 1965.

Class 2—Receptades

SN 245,078. Industrial Crating & Packing, Inc., d.b.a. Palmer Arzo Company, Seattle, Wash. Filed May 6, 1966.

AB-PAC

For Wooden and Paperboard Shipping Boxes.
First use Nov. 27, 1964.

SN 247,312. Best Quality Plastics, Inc., Denver, Colo. Filed June 6, 1966.

TOTEM

For Box-Type Containers and Especially Box-Type Stacking Containers for Use With Industrial Conveying Equipment and Stock Shelving.
First use May 20, 1966.

SN 278,192. Container Corporation of America, Chicago, Ill. Filed Aug. 14, 1967.

REDI-FRAME

For Paperboard Folding Cartons.
First use July 10, 1967.

SN 278,484. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed Aug. 17, 1967.

E-Z LOAD

Owner of Reg. Nos. 227,085, 817,741, and others.
For Folded Paperboard Cartons.
First use July 17, 1967.

SN 285,794. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 29, 1967.

TRAYSIN

For Disposable Containers.
First use Nov. 2, 1967.

Class 4—Abrasives and Polishing Materials

SN 266,429. Stephen Charles Kahanick, Sr., d.b.a. S.K. Products, West Seneca, N.Y. Filed Mar. 10, 1967.

SK

For Gunstock Polish and Wax.
First use Dec. 12, 1966.

SN 267,390. Armour and Company, d.b.a. Armour Abrasives Company, Chicago, Ill. Filed Mar. 23, 1967.

ARMOSHIELD

For Sandpaper and Other Coated Abrasives in Sheet Form Having a Flexible Backing of Paper or Cloth With Abrasive Grain Secured to the Backing by Means of an Adhesive.
First use on or prior to Mar. 14, 1967.

SN 267,391. Armour and Company, d.b.a. Armour Abrasives Company, Chicago, Ill. Filed Mar. 23, 1967.

ARMOLUBE

For Sandpaper and Other Coated Abrasives in Sheet Form Having a Flexible Backing of Paper or Cloth With Abrasive Grain Secured to the Backing by Means of an Adhesive.
First use on or prior to Mar. 14, 1967.

Class 6—Chemicals and Chemical Compositions

SN 241,449. General Aniline & Film Corporation, New York, N.Y. Filed Mar. 21, 1966.

GAF

Owner of Reg. Nos. 509,124, 744,454, and others.
For Organic and Inorganic Chemical Compounds and Compositions for Industrial and Consumer Use—Namely, UV Absorbers, Optical Brighteners, Opacifiers, Surface Active Agents, Wetting Agents, Solubilizers, Emulsifiers, Dispersants, Coagulants, Gelling Agents, Peptizers, Tanning Agents, Suspending Agents, Stabilizers, Preservatives, Foaming Agents, Inhibitors and Controllers, Penetrants, Swelling Agents, Clarifiers, Sequestering Agents, Dedusters, Antistatic Agents, Anti-Freeze Agents and Solutions, De-Icing Agents, Hygroscopic Agents, Dehydrating Agents, Reducing Agents, Oxidizing Agents, Decolorizers, Deodorants, Bleaching Agents, Discharge Agents, Creaseproofers, Moth-Proofers, Mildew-Proofers, Fire-Proofers, Water-Proofers, Water Repellants, Water Softeners, Textile Softeners, Acidifiers, Alkalizers, Catalysts, Reaction and Polymerization Accelerators, Antioxidants, Deoxidizers, Emulsion Breakers, Filament and Film Formers and Spinning Assistants, Coating and Impregnating Composition, Sizes, Thinners, Thickeners, Non-Adhesive Binders, Fillers, Protective Colloids, Electroplating Agents and Assistants, Textile Lubricants, Additives Used in the Manufacture of Oils, Gasolines and Lubricants; Hydraulic Fluids, Gas Absorbers and Detectors, Sanitizers, Detoxicants, Solvents, Diluents, Disinfectants, Fungicides, Bactericides, Insecticides, Herbicides, Defoliants, Fumigants, Nematocides, Pesticides, Rubber Tackifiers, Metal Chelates, Metal Carbonyls, Corrosion, Rust and Scale Inhibitors; Fluorescent Materials, Dyes and Dyestuffs, Mordants, Toners, Pigments, Crosslinkers, Chemical Intermediates, Especially for Agricultural Chemicals; Dyes, Plasticizers, and Surface Active Agents, Agents for Treating Textiles, Leather, Hides, Paper and Other Fibrous Materials, Dyeing and Printing Fixers, Assistants and Auxiliaries, Oil and Wax Emulsions, Water and/or Oil Soluble Polymers and Surfactants for Use as Oil Drilling Additives, and Preparations, Reagents, Assistants, and Auxiliaries for Use in Photographic and Copying Processes.
First use Aug. 27, 1951.

SN 248,797. General Aniline & Film Corporation, New York, N.Y. Filed June 23, 1966

gaf

Owner of Reg. Nos. 509,124, 744,454, and others.
For Organic and Inorganic Chemical Compounds and Compositions for Industrial and Consumer Use—Namely, UV Absorbers, Optical Brighteners, Opacifiers, Surface Active Agents, Wetting Agents, Solubilizers, Emulsifiers, Dispersants, Coagulants, Gelling Agents, Peptizers, Tanning Agents, Suspending Agents, Stabilizers, Preservatives, Foaming Agents, Inhibitors and Controllers, Penetrants, Swelling Agents, Clarifiers, Sequestering Agents, Dedusters, Antistatic Agents, Anti-Freeze Agents and Solutions, De-Icing Agents, Hygroscopic Agents, Dehydrating Agents, Reducing Agents, Oxidizing Agents, Decolorizers, Deodorants, Bleaching Agents, Discharge Agents, Creaseproofers, Mothproofers, Mildew-Proofers, Fire-Proofers, Water-Proofers, Water Repellants, Water Softeners, Textile Softeners, Acidifiers, Alkalizers, Catalysts, Reaction and Polymerization Accelerators, Antioxidants, Deoxidizers, Emulsion Breakers, Filament and Film Formers and Spinning Assistants, Coating and Impregnating Compositions, Sizes, Thinners, Thickeners, Non-Adhesive Binders, Fillers, Protective Colloids, Electroplating Agents and Assistants, Textile Lubricants, Additives Used in the Manufacture of Oils, Gasolines and Lubricants; Hydraulic Fluids, Gas Absorbers and Detectors, Sanitizers, Detoxicants, Solvents, Diluents, Disinfectants, Fungicides, Bactericides, Insecticides, Herbicides, Defoliants, Fumigants, Nematocides, Pesticides, Rubber Tackifiers, Metal Chelates, Metal Carbonyls, Corrosion, Rust and Scale Inhibitors; Fluorescent Materials, Dyes and Dyestuffs, Mordants, Toners, Pigments, Crosslinkers, Chemical Intermediates, Especially for Agricultural Chemicals; Dyes, Plasticizers, and Surface Active Agents, Agents for Treating Textiles, Leather, Hides, Paper and Other Fibrous Materials, Dyeing and Printing Fixers, Assistants and Auxiliaries, Oil and Wax Emulsions, Water and/or Oil Soluble Polymers and Surfactants for Use as Oil Drilling Additives, and Preparations, Reagents, Assistants, and Auxiliaries for Use in Photographic and Copying Processes.
First use Oct. 8, 1965.

SN 264,592. Rust-Oleum Corporation, d.b.a. Stop-Rust Company, Chicago, Ill. Filed Feb. 13, 1967.

STOP-RUST

Owner of Reg. Nos. 544,652, 632,437, and 734,800.
For Chemical Rustproofing Preparation.
First use in or about the month of October 1933.

SN 266,007. Coulter Electronics, Inc., Hialeah, Fla. Filed Mar. 6, 1967.

ISOTON

For Diluent for Laboratory Use in Solutions for Blood Cell Counting and Sizing Determinations.
First use Mar. 22, 1966.

SN 266,185. S. C. Johnson & Son, Inc., Racine, Wis. Filed Mar. 8, 1967.

CONQ-R-DUST

For Chemical Preparation for Application to Dust Mops and Dust Cloths To Absorb the Dust.
First use on or about Jan. 8, 1965.

SN 268,475. Coulter Electronics, Inc., Hialeah, Fla. Filed Apr. 6, 1967.

ZAPonin ISOTON

Owner of Reg. No. 828,977.
For Lysing Reagent for White Blood Cell Counts for Laboratory Use.
First use on or about July 1, 1966.

SN 268,535. Stiles-Kem Sales Corporation, Waukegan, Ill. Filed Apr. 6, 1967.

SKOPE

For Liquid Chemical Compositions as Water Additives for Prevention of Scale Build-Up, Inhibition of Corrosion, and Maintaining Finely Dissolved Solids in Suspension in Water Circulating Systems.
First use Oct. 18, 1966.

SN 268,536. Stiles-Kem Sales Corporation, Waukegan, Ill. Filed Apr. 6, 1967.

SOLO

For Liquid Chemical Compositions for Boiler Water Treatment Combining Sequestering Agents To Improve Transfer Characteristics and Anti-Foaming Agents To Retard Entrainment.
First use Oct. 18, 1966.

SN 268,540. Uniroyal, Inc., New York, N.Y. Filed Apr. 6, 1967.

NAUGATUCK

For Chemicals for Manufacturing Use in the Rubber or Plastics Industries; and Acids.
First use prior to 1920.

SN 268,905. Varney Chemical Corporation, Janesville, Wis. Filed Apr. 11, 1967.

VARAMINE

For Imidazolines—Namely, Tertiary Amine Emulsifiers and Corrosion Inhibitors.
First use Feb. 14, 1967.

SN 268,908. Varney Chemical Corporation, Janesville, Wis. Filed Apr. 11, 1967.

VARAMIDE

For Alkanolamides for Use in the Manufacture of Detergents, Cleaners, Thickeners, Foam Stabilizers and Boosters, and Lubricants.
First use December 1965.

SN 270,402. Microcopy Inc., Los Angeles, Calif. Filed May 1, 1967.

INSTA-FIX

For Photographic Film Fixative.
First use Nov. 2, 1965.

SN 270,403. Microcopy Inc., Los Angeles, Calif. Filed May 1, 1967.

INSTA-NEG

For Photographic Film Developer.
First use Nov. 2, 1965.

SN 276,066. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed July 17, 1967.

PHOSPHASTRATE

Owner of Reg. No. 661,808.
For Diagnostic Reagent Kit Consisting of Substrate and Color Stabilizer for Determining Alkaline Phosphatase.
First use June 21, 1966.

SN 276,067. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed July 17, 1967.

PHOSPHASTRATE

Owner of Reg. No. 661,808.
For Diagnostic Reagent Kit Consisting of Substrate and Color Developer for Determining Acid Phosphatase.
First use Nov. 29, 1966.

SN 285,977. General Aniline & Film Corporation, New York, N.Y. Filed Dec. 1, 1967.

gaf

Owner of Reg. Nos. 509,124, 837,005, and others.
For Chemicals and Chemical Compositions.
First use Oct. 8, 1965.

SN 285,978. General Aniline & Film Corporation, New York, N.Y. Filed Dec. 1, 1967.

GAF

Owner of Reg. Nos. 509,124, 837,005, and others.
For Chemicals and Chemical Compositions.
First use Aug. 27, 1951.

Class 8—Smokers' Artides, Not Including Tobacco Products

SN 255,724. Ronson Corporation, Woodbridge, N.J. Filed Oct. 4, 1966.

PREMIER

For Cigarette Lighters.
First use July 1961.

SN 280,331. Rogers, Inc., New York, N.Y. Filed Sept. 14, 1967.

AIRWELT

For Tobacco Pouches.
First use January 1941.

SN 280,332. Rogers, Inc., New York, N.Y. Filed Sept. 14, 1967.

FILLS-EASY

For Tobacco Pouches.
First use January 1941.

SN 280,333. Rogers, Inc., New York, N.Y. Filed Sept. 14, 1967.

NIMBUS

For Tobacco Pouches.
First use January 1941.

SN 284,574. B & S Engineering and Manufacturing Company, Chicago, Ill. Filed Nov. 13, 1967.

LITETTE

For Cigarette Lighters and Dispensers.
First use Sept. 8, 1967.

Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 267,702. James L. Wade, d.b.a. Wade Tri-Test Munitions Company, Mundelein, Ill. Filed Mar. 27, 1967.

ACCURACY IS OUR AIM

For Rifle, Shotgun and Pistol Ammunition.
First use on or about Aug. 28, 1961.

Class 10—Fertilizers

SN 268,714. Gus Dettelbach, d.b.a. Georgia-Tennessee Mining & Chemical Co., Atlanta, Ga. Filed Apr. 10, 1967.

pro-root

For Soil Conditioner Used To Lighten Heavy Soils and Increase Air Conduction to the Roots of Plants and Retention of Moisture and Nutrients in Soil.
First use on or about Aug. 30, 1966.

SN 285,419. Jesse C. Haley, Jr., d.b.a. Haley Excelsior Co., Hanover, Va. Filed Nov. 22, 1967.

Haley EXCELSIOR CO.

For Pine Bark Mulch.
First use Nov. 29, 1962.

SN 285,420. Jesse C. Haley, Jr., d.b.a. Haley Excelsior Co., Hanover, Va. Filed Nov. 22, 1967.

PINELAND

For Pine Bark Mulch.
First use May 14, 1965.

SN 285,674. Phillips Petroleum Company, Bartlesville, Okla. Filed Nov. 27, 1967.

SP-2

For Ammonium Nitrate Fertilizer.
First use at least as early as November 1961.

Class 11—Inks and Inking Materials

SN 270,550. Chromex Chemical Corp., Brooklyn, N.Y. Filed May 3, 1967.

MICRO-FLOW

For Water Based Ink for Use in Markers.
First use Apr. 19, 1967.

SN 270,719. Sun Chemical Corporation, New York, N.Y. Filed May 4, 1967.

HI F

For Printing Inks.
First use Mar. 28, 1967.

Class 12—Construction Materials

SN 240,707. Chemsearch Corporation, Fort Collins, Colo. Filed Mar. 11, 1966.

CHEMSTOP

For Petroleum Base Penetrating Waterproofing Compound for Use on Wood and Masonry Surfaces.
First use June 1, 1964.

SN 282,964. Swingline Inc., Long Island City, N.Y. Filed Oct. 20, 1967.

SWINGLINE

Owner of Reg. Nos. 641,731, 668,579, and others.
For Repair Kits for Automobile Bodies Consisting of Resin Sheets and Solvents.
First use Sept. 7, 1966.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 238,822. Sentry Hardware Corporation, Cleveland, Ohio. Filed Feb. 14, 1966.

SENTRY

For Wire Screening for Houses and Other Buildings.
First use Nov. 30, 1965.

SN 250,523. Lear Siegler, Inc., Cleveland, Ohio. Filed July 18, 1966.

LOC-MASTER

For Flow Control Valve.
First use Nov. 1, 1959.

SN 264,313. Farris Engineering Corporation, Palisades Park, N.J. Filed Feb. 9, 1967.

FarriServo

Owner of Reg. No. 646,337.
For Pilot-Operated Safety Valves.
First use May 1966.

SN 269,854. Calumet & Hecla, Inc., Allen Park, Mich. Filed Apr. 24, 1967.

ADAPTATUBE

For Hydronic Connector in the Form of a Flexible Piece of Corrugated Metal Tube for Use in Fluid Systems.
First use Mar. 28, 1967.

SN 269,963. American Standard Inc., New York, N.Y., by change of name from American Radiator & Standard Sanitary Corporation, New York, N.Y. Filed Apr. 25, 1967.

CHURCH

Owner of Reg. Nos. 521,486 and 528,635.
For Toilet Seats, Covers and Hinges.
First use 1892.

SN 270,344. E. W. Bliss Company, Davenport, Iowa. Filed May 1, 1967.

ROCKWOOD

Owner of Reg. Nos. 512,680, 738,128, and others.
For Ball Valves.
First use at least as early as 1945.

Class 14—Metals and Metal Castings and Forgings

SN 269,127. Thailand Smelting and Refining Company Limited, Bangkok, Thailand. Filed Apr. 13, 1967.

THAISARCO

For Ingot Tin.
First use on or about Nov. 19, 1965; in commerce on or about Nov. 19, 1965.

SN 270,605. Precoat Metals Incorporated, St. Louis, Mo. Filed May 3, 1967.

PRECO-MET

For Coated Steel and Aluminum in Coils and Sheets.
First use Feb. 21, 1962.

Class 15—Oils and Greases

SN 273,121. Simonis Company, Chicago, Ill. Filed June 5, 1967.

OIL PLUS

No claim is made to the word "Oil" apart from the mark as shown.
For Motor Oil Additive.
First use May 2, 1967.

SN 274,621. H.R.L. Inc., d.b.a. HRLubricants Inc., Los Angeles, Calif. Filed June 23, 1967.

Vii

For Lubricant and Additive for Engines, Motors, Gears, Chain Drives, Transmissions, and Differentials.
First use Apr. 17, 1967.

SN 276,441. J. Gilbert Haller, d.b.a. Haller Oil Company, Lancaster, Pa. Filed July 20, 1967.

ANTIQUE CHARM

For Scented Illuminating Oil for Lamps.
First use Dec. 1, 1965.

SN 276,443. J. Gilbert Haller, d.b.a. Haller Oil Company, Lancaster, Pa. Filed July 20, 1967.

VICTORIAN

For Scented Illuminating Oil for Lamps.
First use Feb. 8, 1966.

SN 277,473. Quaker State Oil Refining Corporation, Oil City, Pa. Filed Aug. 3, 1967.

QUAKER STATE

F-L-M

Owner of Reg. Nos. 106,015, 769,044, and others.
For Automatic Transmission Fluid.
First use March 1964.

Class 16—Protective and Decorative Coatings

SN 255,484. The Valspar Corporation, Rockford, Ill. Filed Sept. 29, 1966.

ZIP DRY

For Heavy Duty Enamels for Interior and Exterior Use.
First use on or about Dec. 24, 1957.

SN 265,558. Salmon Products, Inc., Newton, Iowa. Filed Feb. 27, 1967.

NEW WOOD

For Liquid Wood Graining Toner Kit.
First use on or before Jan. 1, 1954.

SN 277,401. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Aug. 2, 1967.

KORCHEM

For Paint Particularly Adapted for Chemical Resistance and for Industrial Maintenance Purposes.
First use Jan. 3, 1967.

Class 17—Tobacco Products

SN 266,718. The American Tobacco Company, New York, N.Y. Filed Mar. 15, 1967.

MALIBU THINS

Applicant disclaims the word "Thins" apart from the mark as shown.
For Cigarettes.
First use Mar. 6, 1967.

SN 270,873. The American Tobacco Company, New York, N.Y. Filed May 8, 1967.

SILVA THINS

Applicant makes no claim to the word "Thins" apart from the mark as shown.
For Cigarettes.
First use May 3, 1967.

SN 271,722. The Pinkerton Tobacco Co., Toledo, Ohio. Filed May 17, 1967.

PAY CAR

Owner of Reg. No. 191,763.
For Chewing Tobacco.
First use in or about 1912.

SN 272,749. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed May 31, 1967.

CHAPEL HILL

For Smoking Tobacco.
First use May 15, 1967.

SN 281,708. P. Lorillard Company, New York, N.Y. Filed Oct. 3, 1967.

BOUNTY SLIMS

Owner of Reg. No. 501,243.
For Cigarettes.
First use Sept. 28, 1967.

SN 282,134. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed Oct. 9, 1967.

HANDY PAL

For Chewing Tobacco.
First use Sept. 27, 1967.

SN 285,511. The American Tobacco Company, New York, N.Y. Filed Nov. 24, 1967.

AT EASE

For Cigarettes.
First use Nov. 6, 1967.

SN 285,627. Philip Morris Incorporated, New York, N.Y. Filed Nov. 27, 1967.

LIMELIGHT

For Cigarettes.
First use Nov. 11, 1967.

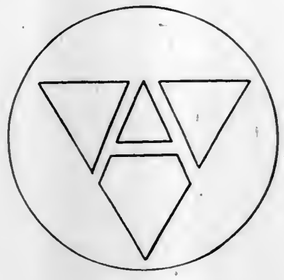
Class 18—Medicines and Pharmaceutical Preparations

SN 243,513. Strath Labor AG, Zurich, Switzerland. Filed Apr. 15, 1966.

ANIMA-STRATH

Owner of Swiss Reg. No. 192,031, dated Apr. 25, 1962; and U.S. Reg. No. 763,362.
For Veterinary Preparations Used as Tonic and Additives to Animal Foods.

SN 261,440. Alborin Corporation, Reseda, Calif. Filed Dec. 27, 1966.



For Medicinal Preparations for Gastric Hyperacidity.
First use July 1, 1956.

SN 263,195. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Jan. 24, 1967.

JERRAMYCIN

For Antibiotic Preparation.
First use Dec. 22, 1966.

SN 264,647. Boehringer Ingelheim G.m.b.H., Ingelheim (Rhine), Germany. Filed Feb. 14, 1967.

INGALAX

Owner of U.S. Reg. No. 735,217.
For Laxatives.
First use Dec. 2, 1966; in commerce Dec. 2, 1966.

SN 265,109. Roussel Corporation, New York, N.Y. Filed Feb. 20, 1967.

K-20

For Potassium and Chloride Supplement for Human Therapy.
First use Feb. 9, 1967.

SN 265,534. The Kendall Company, Walpole, Mass. Filed Feb. 27, 1967.

KENDALL

Owner of Reg. Nos. 113,986, 730,226, and others.
For Veterinary and Pharmaceutical Preparations for Livestock.
First use Sept. 20, 1963.

SN 265,771. Standard Laboratories, Inc., Morris Plains, N.J. Filed Mar. 2, 1967.

S/L

For External Analgesic.
First use July 27, 1966.

SN 266,696. Stanley Drug Products, Inc., Portland, Oreg. Filed Mar. 14, 1967.

PROCYTOXID

For Skin Oxygenating Factor Incorporated as an Ingredient in Hemorrhoidal Ointment.
First use June 29, 1964.

SN 267,261. The Norwich Pharmacal Company, Norwich, N.Y. Filed Mar. 21, 1967.

FURESTROL

Owner of Reg. No. 660,732.
For Chemotherapeutic Vaginal Suppository Pharmaceutical Preparation.
First use prior to July 2, 1964.

SN 270,767. The Dow Chemical Company, Midland, Mich. Filed May 5, 1967.

TORELLEN

For Anthelmintic for Animal Use.
First use Apr. 17, 1967.

SN 271,585. Xttrium Laboratories, Inc., Chicago, Ill. Filed Apr. 18, 1967.

PERIES

For Medicated Compress.
First use Mar. 10, 1967.

SN 279,022. American Home Products Corporation, New York, N.Y. Filed Aug. 25, 1967.

YOUNG SPIRIT

For Iron Tonic.
First use Aug. 10, 1967.

SN 282,240. Diamond Laboratories, Inc., Des Moines, Iowa. Filed Oct. 11, 1967.

BVD VAC

For Modified Live Virus Diarrhea Vaccine for Cattle.
First use May 1964.

SN 283,190. American Home Products Corporation, New York, N.Y. Filed Oct. 24, 1967.

ANADIN

Owner of Reg. Nos. 123,606 and 418,790.
For Analgesic Tablets.
First use Oct. 9, 1967.

Class 19—Vehicles

SN 250,691. Rockwell-Standard Corporation, Pittsburgh, Pa. Filed July 20, 1966.

ROCKWELL-STANDARD

Owner of Reg. Nos. 667,225, 761,242, and others.
For Vehicles and Component Parts Thereof—Namely, Steering Axles, Trailer Axles and Other Non-Drive Axles and Parts Thereof; Brakes and Brake Operating Systems (Mechanical, Hydraulic and Air) and Parts Thereof Including Fluid Pressure Responsive and Electrical Actuators for Service, Parking and Emergency Brakes and Boosters; Suspension Assemblies and Parts Thereof Including Leaf, Coil and Air Springs and Combinations Thereof, Beams and Torque Rods; Wheels and Hubs; and Bumpers Including Face Bars and Brackets.
First use Apr. 15, 1966.

SN 252,367. Excel Corporation, Elkhart, Ind. Filed Aug. 15, 1966.

XL8 Products

The word "Products" is disclaimed apart from the mark as shown.
For Glazed Vehicle Windows.
First use July 12, 1966.

SN 255,359. Shelby Mobile Homes, Inc., Omaha, Nebr. Filed Sept. 28, 1966.

SHELBY

For Mobile Homes and House Trailers.
First use on or about Aug. 1, 1966.

SN 260,962. The Salmon Stiles Corporation, El Monte, Calif. Filed Dec. 16, 1966.

JACK SALMON-14

"Jack Salmon" is a fanciful name.
For Sailing Vessels.
First use Mar. 2, 1966.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 259,025. Russ International, Inc., Gardena, Calif. Filed Nov. 18, 1966.

AQUAMASTER

For Low Voltage Lawn Sprinkler Switch.
First use Aug. 31, 1966.

SN 262,111. American Home Products Corporation, New York, N.Y. Filed Jan. 9, 1967.

FYRE SPIKE

Applicant disclaims the word "Spike" apart from the mark as shown.
For Electronic Livestock Prod Pole.
First use Dec. 22, 1966.

Class 22—Games, Toys, and Sporting Goods

SN 250,319. Paul W. Wehrle & Associates, Inc., Buena Park, Calif. Filed July 14, 1966.

ACE IN THE HOLE

For Game Cards for Distribution by Retail Outlets as a Means To Distribute Merchandise Prizes To Promote and Stimulate the Sale of Their Goods and Services.
First use on or before Nov. 11, 1965.

SN 257,994. Springbok Editions, Inc., New York, N.Y. Filed Nov. 4, 1966.

Springbok SHELF STOR—PUZZLES

Applicant disclaims the representation of the puzzle pieces apart from the mark as shown. Owner of Reg. Nos. 823,328, 823,610, and 823,611.
For Jigsaw Puzzles.
First use Sept. 30, 1966.

SN 257,995. Springbok Editions, Inc., New York, N.Y. Filed Nov. 4, 1966.

Springbok Bookcase Puzzles

Applicant disclaims the word "Puzzles" and the representation of the puzzle pieces apart from the mark as shown. Owner of Reg. Nos. 823,328, 823,610, and 823,611.
For Jigsaw Puzzles.
First use Sept. 30, 1966.

SN 257,996. Springbok Editions, Inc., New York, N.Y. Filed Nov. 4, 1966.

Springbok PUZZLE SHELF COLLECTION

Applicant disclaims the words "Puzzle" and "Collection" and the representation of the puzzle pieces apart from the mark as shown. Owner of Reg. Nos. 823,328, 823,610, and 823,611.
For Jigsaw Puzzles.
First use Sept. 30, 1966.

SN 257,997. Springbok Editions, Inc., New York, N.Y. Filed Nov. 4, 1966.

Springbok
Shelf-Puzzle

Applicant disclaims the representation of the puzzle pieces apart from the mark as shown. Owner of Reg. Nos. 823,328, 823,610, and 823,611.
For Jigsaw Puzzles.
First use Sept. 30, 1966.

SN 258,328. Springbok Editions, Inc., New York, N.Y. Filed Nov. 9, 1966.

OKTA-PUZZLE

For Jigsaw Puzzles.
First use Aug. 26, 1966.

SN 262,989. Wham-O Mfg. Co., San Gabriel, Calif. Filed Jan. 20, 1967.

ZILLION BUBBLES

Applicant hereby disclaims any registration rights for the word "Bubbles" apart from the mark as shown in the drawing, but applicant waves none of its common-law rights in the mark shown in the drawing or any feature thereof.
For Bubble-Making Toys.
First use at least as early as Dec. 21, 1966.

SN 265,814. Dunlop Tire and Rubber Corporation, Buffalo, N.Y. Filed Mar. 2, 1967.

DUNLOP RANGER

Owner of Reg. Nos. 520,146, 613,549, and 635,123.
For Golf Balls.
First use Jan. 31, 1967.

SN 267,679. Science Games, San Diego, Calif. Filed Mar. 27, 1967.

I-QUBE

For Parts for a Parlor Game.
First use Mar. 15, 1967.

SN 268,197. Koltanbar Engineering Co., Clawson, Mich. Filed Apr. 3, 1967.

JIM-GYM

The applicant disclaims the representation of the goods sold in connection with the mark apart from the mark as shown in the drawing.
For Gymnastic Exercise Stands.
First use Mar. 3, 1967.

SN 271,059. Moen and Patton, Inc., Lancaster, Pa. Filed May 9, 1967.

BATTLE PADDLE

Without waiver of common law rights, applicant disclaims the word "Paddle" apart from the mark as shown.
For Game Apparatus in the Nature of a Racket Having a Ball Tethered Thereto by an Elastic Band.
First use on or about Mar. 14, 1967.

SN 272,253. Franz O. Armbruster, d.b.a. Products of the Behavioral Sciences, Palo Alto, Calif. Filed May 24, 1967.

INSTANT INSANITY

For Color Matching Block Puzzle.
First use June 10, 1966.

SN 273,165. Milton Bradley Company, Springfield, Mass. Filed June 6, 1967.

ANIMAL TWISTER

Owner of Reg. Nos. 828,172.
For Equipment Comprising Game Cards and a Delineated Playing Surface for Playing a Parlor Game.
First use Feb. 27, 1967.

SN 277,045. Hawkins and Hawkins, Inc., Englishtown, N.J. Filed July 28, 1967.

RANDOO

For Game Board for Playing Games of Chance and Skill.
First use May 15, 1967.

SN 277,799. South Bend Tackle Company Inc., South Otselic, N.Y. Filed Aug. 8, 1967.

CLASSIC V

For Fishing Rods.
First use May 31, 1967.

SN 277,800. South Bend Tackle Company Inc., South Otselic, N.Y. Filed Aug. 8, 1967.

FORESTER

For Fishing Rods.
First use June 1, 1967.

SN 277,801. South Bend Tackle Company Inc., South Otselic, N.Y. Filed Aug. 8, 1967.

CLASSIC I

For Fishing Rods.
First use May 31, 1967.

SN 277,802. South Bend Tackle Company Inc., South Otselic, N.Y. Filed Aug. 8, 1967.

CLASSIC II

For Fishing Rods.
First use May 31, 1967.

SN 277,804. South Bend Tackle Company Inc., South Otselic, N.Y. Filed Aug. 8, 1967.

CLASSIC III

For Fishing Rods.
First use May 31, 1967.

SN 277,806. South Bend Tackle Company Inc., South Otselic, N.Y. Filed Aug. 8, 1967.

OUTDOORSMAN

For Fishing Rods.
First use May 29, 1967.

SN 279,273. The Coleman Company, Inc., Wichita, Kans. Filed Aug. 29, 1967.

FLEX-AIRE

For Tents for Outdoor Camping.
First use during or before November 1966.

SN 279,372. The Coleman Company, Inc., Wichita, Kans. Filed Aug. 30, 1967.

OASIS

For Tents for Outdoor Camping.
First use during or before November 1966.

SN 281,351. Atlantic Lures, Inc., Providence, R.I. Filed Sept. 28, 1967.

CRYSTAL

For Fishing Lures.
First use Aug. 8, 1955.

SN 281,352. Atlantic Lures, Inc., Providence, R.I. Filed Sept. 28, 1967.

JERSEY BOUNCE

For Fishing Lures.
First use Aug. 6, 1956.

SN 281,353. Atlantic Lures, Inc., Providence, R.I. Filed Sept. 28, 1967.

MEDIC

For Fishing Lures.
First use July 5, 1967.

SN 282,035. Wham-O Mfg. Co., San Gabriel, Calif. Filed Oct. 9, 1967.

WATER WIGGLE

Applicant hereby disclaims any registration rights for the word "Water" apart from the mark as shown in the drawing, but aplicant waives none of its common-law rights in the mark shown in the drawing or any feature thereof.
For Water Toy—Namely, a Head Shaped Device To Be Attached to a Hose for Play Purposes.
First use Apr. 30, 1962.

SN 283,233. John E. Durnack, Flushing, N.Y. Filed Oct. 24, 1967.

ZEROIN

For Golf Putter.
First use June 1966.

SN 285,094. Naroc Industries, Inc., Florissant, Mo. Filed Nov. 17, 1967.

NAROCO

For Equipment Sold as a Unit for Playing a Board Game.
First use Nov. 11, 1967.

SN 285,757. Parker Brothers, Inc., Salem, Mass. Filed Nov. 28, 1967.

AVALANCHE

For Equipment for Use in Playing a Board Game.
First use Oct. 11, 1966.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 236,621. Litton Business Systems, Inc., Orange, N.J., by merger and change of name from Monroe International, Inc., Orange, N.J. Filed Jan. 17, 1966.

PLIMPTON'S

For Office Machines—Namely, Typewriters, Stencil-Type Master Duplicating Machines, Spirit Duplicator Machines, Checkwriters, Pencil Sharpeners, Staplers, and Letter Opening Machines.
First use not later than in or about 1930.

SN 243,630. Samuel Bingham Company, Chicago, Ill. Filed Apr. 18, 1966.

GOLD BOND

For Printing Rollers.
First use Mar. 28, 1966.

SN 244,920. Robert D. Newman, d.b.a. Specialty Products, Lee's Summit, Mo. Filed May 4, 1966.

MR. LONG-ARM

For Telescopic Extension Poles.
First use Sept. 1, 1960.

SN 245,468. Feed-A-Matic Corp., Melville, N.Y. Filed May 12, 1966.

Feed-A-MATIC

For Semi-Automatic Machinery for Threading Electric Wire Through Lamp Arms.
First use June 1965.

SN 250,674. New Jersey Machine Corporation, Hoboken, N.J. Filed July 20, 1966.

PAKA

For Liquid Container Filling Machines.
First use on or about May 5, 1966.

SN 252,075. Cubb-Pac Corporation, Pittsburgh, Pa. Filed Aug. 10, 1966.

CUBB-PAC

For Machinery and Parts Thereof for Packaging Meat Products and the Like.
First use Sept. 13, 1965.

SN 261,515. Peer Bearing Company, Chicago, Ill. Filed Dec. 27, 1966.



For Ball Bearings.
First use Nov. 14, 1966.

SN 261,734. Kershaw Manufacturing Company, Inc., Montgomery, Ala. Filed Dec. 30, 1966.



For Railway Maintenance Equipment—Namely, Brush Cutters; Cranes; Ballast Handling Machines, Namely, Regulators, Tampers, Scarifiers, Brooms, Cribbers, Undercutters, and Cleaners; Tie Removers and Inserters; Tie Saws and Adzers; Track Raising Apparatus; Spike Handling Apparatus, Namely, Drivers, Setters and Pullers; Track Liners; Track Cleaners; Snow Switch Cleaners; and Snow Plows.
First use Sept. 10, 1966.

SN 262,980. Tyrone Hydraulics, Inc., Corinth, Miss. Filed Jan. 20, 1967.

TYRONE MOBIL-MASTER

For Gear Pumps, Hydraulic Motors, and Parts Thereof.
First use Sept. 19, 1966.

SN 263,039. European Trade Specialists, Inc., Westlake, Ohio. Filed Jan. 23, 1967.

ETSC.

For Engine Powered Vacuum Cleaners, Scrubbing Machines, Wall Washing Machines, Steam Cleaning Machines, Pressure Washing Machines (Also Known as Hydro Jet Spray Washing Machines), and Parts and Attachments to the Foregoing Machines.
First use Aug. 1, 1965, on engine powered vacuum cleaners.

SN 267,663. Pope Machinery Corporation, Haverhill, Mass. Filed Mar. 27, 1967.

POPE

Owner of Reg. Nos. 295,432, 431,356, and 586,582.
For Spindles, Vertical High Speed Universal Milling Machines and Precision Spindle Units.
First use May 14, 1940.

SN 268,590. Fawn Engineering Company, Des Moines, Iowa. Filed Apr. 7, 1967.

FLEETWOOD

For Machines for Vending Candy, Cigarettes and Coffee.
First use Dec. 29, 1966.

SN 268,766. Robo-Wash, Inc., Kansas City, Mo. Filed Apr. 10, 1967.

ROBO-Rinse

For Apparatus for Substantially Spotless Rinsing of Washed Vehicles.
First use Mar. 13, 1967.

SN 268,931. Allis-Chalmers Manufacturing Company, Milwaukee, Wis. Filed Apr. 12, 1967.

NO-TIL

For Agricultural Planters.
First use Mar. 6, 1967.

SN 269,921. Oneida Ltd., Oneida, N.Y. Filed Apr. 24, 1967.

SEVEN SEAS

For Stainless Steel Flatware.
First use Apr. 7, 1967.

SN 271,771. Construction Machinery Company, Waterloo, Iowa. Filed May 18, 1967.

CMC

Owner of Reg. No. 600,319.
For Industrial and Commercial Equipment—Namely, Plaster and Mortar Mixers, Utility and Irrigation Pumps, Concrete Mixers, Heavy-Duty Marine and Industrial Hoists, Pipe Pushers and Earth Augers, Concrete Trowels and Fertilizer Mixers.
First use Feb. 1, 1967.

SN 272,144. Rubberset Company, East Newark, N.J. Filed May 10, 1967.

FRE FLO

Owner of Reg. No. 352,490.
For Spray Painting Equipment.
First use Feb. 12, 1964.

SN 279,480. The Vince Hagan Company, Dallas, Tex. Filed Aug. 31, 1967.

HAGANATOR

For Concrete Batching Plants.
First use in or about December 1963.

Class 24 — Laundry Appliances and Machines

SN 267,985. Seymour Industries, Inc., Seymour, Ind. Filed Mar. 30, 1967.

PERMAPRESS

For Ironing Tables.
First use Mar. 14, 1967.

Class 26 — Measuring and Scientific Appliances

SN 249,368. Walco Electric Company, Providence, R.I. Filed June 30, 1966.

AUTAC

For Thermocouple Automatic Temperature Regulator for a Brushless Wire Preheater.
First use July 8, 1965.

SN 250,281. Kimtec, Incorporated, Houston, Tex. Filed July 14, 1966.

KIMTEC

For Scientific Testing Equipment and Reagents Sold as Physical Biochemical Kits, Chromatography Kits and Dental Experimental Kits for Educational and Amusement Purposes.
First use Mar. 15, 1966.

SN 252,491. Quickfit Reeve Angel Incorporated, Clifton, N.J. Filed Aug. 16, 1966.



The mark comprises the letters "QRA" and design.
For Measuring and Scientific Appliances, Such Appliances Consisting of (a) an Electrodecanter for Isolation, Concentration or Purification of Protein From Complex Mixtures; (b) a Fraction Collector for the Collection of Separate Fractions From an Effluent Stream; (c) an Extractor With Interchangeable Components Allowing It To Perform Liquid-Liquid and Solid-Liquid Solvent Extractions and Solvent Recovery; (d) a Circulating Pump To Transfer or Circulate Hot or Highly Corrosive Liquids; (e) a Peristaltic Pump To Transfer or Circulate Liquids, Slurries, Emulsions or Gases Through Peristaltic Action; and (f) a Dispenser To Dispense Accurately and Reproducibly a Measured Volume or a Reagent.
First use on or about Dec. 1, 1965.

SN 256,988. Benjamin W. West, d.b.a. California Controls Company, Berkeley, Calif. Filed Oct. 21, 1966.

ALCON

For Pneumatic Systems for Sensing, Indicating and Controlling Fluid Pressure, Fluid Temperature, Vibration and Engine Speed; Indicators of Fluid Pressure, Fluid Temperature, Vibration and Engine Speed; and Valves Incorporated Into and Sold as Parts of Such Systems and Indicators.
First use December 1959.

SN 270,911. ESB Incorporated, Philadelphia, Pa., assignee of The Electric Storage Battery Company, Philadelphia, Pa. Filed May 8, 1967.

VUE-GUARD

For Plastic Eye Protective Goggles.
First use Mar. 20, 1967.

Class 28 — Jewelry and Precious-Metal Ware

SN 257,985. C.K. Ring Co., Inc., New York, N.Y. Filed Nov. 4, 1966.

DESIGNCRAFT

For Finger Rings Made of Precious Metal.
First use on or about Sept. 28, 1966.

SN 273,263. Coro, Inc., Providence, R.I. Filed June 7, 1967.

MINI-CLIP

For Jewelry.
First use on or about May 10, 1967.

Class 29 — Brooms, Brushes, and Dusters

SN 285,793. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 29, 1967.

SHOWER TO SHOWER

For Powder Puffs.
First use May 12, 1967.

Class 32 — Furniture and Upholstery

SN 251,057. Jim Geurin, d.b.a. Southern Bleacher Construction Co., Graham, Tex. Filed July 26, 1966.



The representation of the bleacher is disclaimed apart from the mark as shown.
For Bleachers Used for Spectators' Seating Such as Stadiums and Grandstands.
First use June 1, 1947.

SN 265,440. Schlumberger Limited, d.b.a. Daystrom Furniture, South Boston, Va. Filed Feb. 24, 1967.



For Bedroom Furniture, Dining Room Furniture, and Kitchen Furniture.
First use January 1965.

SN 274,463. The Salisbury Company, Minneapolis, Minn. Filed June 21, 1967.

VERTICOIL

For Mattresses.
First use May 15, 1967.

SN 274,983. Oravisual Company, Inc., St. Petersburg, Fla. Filed June 28, 1967.

CONFERENCE CENTER

For Display Cabinet Adapted To Be Supported on a Wall and Including a Display Easel, Blackboard, Chartboard, and Movie Projection Screen.
First use Feb. 1, 1967.

SN 275,523. Helps Co., Minneapolis, Minn. Filed July 7, 1967.

HELPS

For Film and Tape Storage Cabinets.
First use May 8, 1967.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 265,784. Borg-Warner Corporation, Chicago, Ill. Filed Mar. 2, 1967.

HELISEAL

For Oil Seals for Rotating Shafts.
First use on or prior to Feb. 16, 1967.

Class 36 — Musical Instruments and Supplies

SN 250,379. Kama Sutra Productions, Inc., New York, N.Y. Filed July 15, 1966.



The words "Kama Sutra," when translated into English, mean "love's dream."
For Phonograph Records.
First use at least as early as September 1965.

SN 264,359. The Total Sound, Inc., New York, N.Y. Filed Feb. 7, 1967.

PROJECT 3

For Phonograph Records.
First use Sept. 22, 1966.

Class 37 — Paper and Stationery

SN 258,839. Rec-O-Tec Co., Park Forest, Ill. Filed Nov. 16, 1966.

REC-O-TEC

For Partially Printed Business Forms.
First use on or about Dec. 5, 1965.

SN 258,984. Eaton Allen Corp., Brooklyn, N.Y. Filed Nov. 18, 1966.



The drawing is lined for the color silver. Owner of Reg. No. 736,991.
For Coated Paper for Masking Erroneous Typed Impressions.
First use Sept. 29, 1966.

SN 265,414. Duro Pen Company, Inc., Brooklyn, N.Y., assignee, by mesne assignment, of Duro Pen Company, Brooklyn, N.Y. Filed Feb. 24, 1967.

PORO-TECH

For Fiber Points for Pens, Sold Only as a Part of Such Pens.
First use Nov. 28, 1966.

SN 265,539. Micropoint, Inc., Sunnyvale, Calif. Filed Feb. 24, 1967.

MICRODRAFT

Owner of Reg. Nos. 652,414 and 820,759.
For Tracing Sets Containing Writing Instruments, Eraser Material, and Ink.
First use Jan. 11, 1967.

SN 268,262. Ben N. Yasutomo, d.b.a. Yasutomo & Co., San Francisco, Calif. Filed Apr. 3, 1967.

DEMI

For Mechanical Pencils, Leads, Telescoping Pointers With Writing Tip.
First use Feb. 25, 1966.

SN 270,782. Harper Engraving and Printing Company, Columbus, Ohio. Filed May 5, 1967.

CHRISTOPHER BOND

No claim is made to the exclusive right to the use of the word "Bond" apart from the mark as shown.
For Stationery Products—Namely, Writing Paper and Envelopes.
First use Dec. 5, 1966.

SN 271,124. Brown Company, Kalamazoo, Mich. Filed May 10, 1967.

KOLD-LOK

For Lightweight Coated Locker Paper.
First use Mar. 23, 1967.

SN 284,965. Deering Milliken, Inc., New York, N.Y. Filed Nov. 16, 1967.

Visi-Rol

For Heat Shrinkable Polyethylene Film for Use in Wrapping Coins.
First use Oct. 15, 1967.

Class 38 — Prints and Publications

SN 215,430. Miss Universe, Inc., New York, N.Y. Filed Mar. 31, 1965.



Owner of Reg. Nos. 568,507, 763,982, and others.
For Program Publications.
First use June 1962.

SN 254,607. Leonard Refineries, Inc., Alma, Mich. Filed Sept. 16, 1966.

GO GUIDE

For Brochures Issued From Time to Time Relating to Travel Information, Current Events, and Outdoor Tips.
First use April 1964.
Subj. to Intf. with SN 257,631 and SN 269,319.

SN 256,924. Clairol Incorporated, New York, N.Y. Filed Oct. 21, 1966.



For Newsletter Issued From Time to Time.
First use Oct. 1, 1963.

SN 257,631. Joyce M. Hunt, d.b.a. Go Publishing Company, Barrington, Ill. Filed Oct. 31, 1966.



For Travel Activity Newsletter Issued Periodically.
First use June 1, 1966.
Subj. to Intf. with SN 254,607 and SN 269,319.

SN 260,849. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Dec. 15, 1966.

GUYS AND DOLLS

For Memoranda Calendars.
First use June 1, 1966.

SN 265,324. Norcross, Inc., New York, N.Y. Filed Feb. 23, 1967.

FUNNY-COMB

For Greeting Cards.
First use Jan. 6, 1967.

SN 269,319. Mrs. Marion H. Jackson, Washington, D.C. Filed Apr. 17, 1967.



For Travel Magazine Published Annually.
First use June 1952.
Subj. to Intf. with SN 254,607 and SN 257,631.

SN 269,624. Bill Brothers Publishing Corp., New York, N.Y. Filed S.R. Apr. 20, 1967; Am. P.R. Dec. 4, 1967.

PLASTICS TECHNOLOGY

For Magazine.
First use February 1955.

SN 282,007. Safety Sign Company, Cleveland, Ohio. Filed Oct. 6, 1967.

STALAR

For Printed Decalcomania Type Industrial and Safety Signs.
First use at least as early as September 1966.

Class 39 — Clothing

SN 237,805. Buckley & Mann, Inc., Norfolk, Mass. Filed Feb. 2, 1966.

BROWN'S

For Jackets and Vests.
First use at least as early as 1907.

SN 252,369. Fashion Park, Inc., New York, N.Y. Filed Aug. 15, 1966.

LITECOTE

Owner of Reg. No. 422,503.
For Men's Suits, Topcoats, Overcoats, and Sport Coats.
First use Jan. 3, 1945.

SN 255,071. T. O. Dey Service Corp., New York, N.Y. Filed Sept. 26, 1966.

SECRET INNERMOULD

The word "Innermould" is disclaimed apart from the mark as shown.
For Men's and Women's Shoes.
First use July 1960.

SN 255,720. The Puritan Sportswear Corp., Altoona, Pa. Filed Oct. 4, 1966.

THE RIBBER

For Men's Knit Shirts.
First use Sept. 2, 1966.

SN 258,306. The Green Shoe Manufacturing Company, Boston, Mass. Filed Nov. 9, 1966.

MINNI by Weber

For Shoes for Misses, Girls, Children, and Infants.
First use Oct. 6, 1966.

SN 265,388. C. W. Anderson Hosiery Company, Clinton, S.C. Filed Feb. 24, 1967.

LA TEDO

Owner of Reg. No. 597,435.
For Ladies' Hosiery.
First use Jan. 13, 1954.

SN 277,476. Rudin & Roth, Inc., New York, N.Y. Filed Aug. 3, 1967.

TOESTERS

For Men's Hosiery.
First use Apr. 17, 1967.

SN 285,704. Originala Incorporated, New York, N.Y. Filed Nov. 28, 1967.

AQUANALA

For Raincoats, Rain Suits, and Rain Dresses.
First use on or about Aug. 1, 1967.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 251,997. Fashion Wigs, Inc., South Hackensack, N.J. Filed Aug. 9, 1966.

BIEN JOLIE

The French words "Bien Jolie" mean "very pretty."
For Wigs, Wiglets, Pony Tails, and Switches.
First use June 24, 1966.

SN 263,541. Continental Wig Shoppe, Inc., Bedford, Ohio. Filed Jan. 30, 1967.

HAIRLON

For Wigs.
First use Dec. 15, 1966.
Subj. to Intf. with SN 278,626.

SN 267,819. David and David, Inc., Long Island City, N.Y. Filed Mar. 29, 1967.

COUTURE COLLECTION

The word "Collection" is disclaimed apart from the mark as shown.
For Wigs and Hairpieces.
First use Feb. 1, 1967.

SN 270,434. Temptress Wigs Inc., Philadelphia, Pa. Filed May 1, 1967.

DESIREE

For Wigs.
First use Apr. 18, 1967.

SN 270,435. Temptress Wigs Inc., Philadelphia, Pa. Filed May 1, 1967.

ELLIE

For Wigs.
First use Apr. 18, 1967.

SN 270,436. Temptress Wigs Inc., Philadelphia, Pa. Filed May 1, 1967.

LORELEI

For Wigs.
First use Apr. 18, 1967.

SN 270,559. Famous Beauty Salons, Inc., Chicago, Ill. Filed May 3, 1967.

Style Crest

For Ladies' Hair Wigs and Wiglets.
First use Mar. 24, 1967.

SN 273,005. Toyo International Corporation, Los Angeles, Calif. Filed June 5, 1967.

Minnie

For Wigs and Wiglets.
First use Apr. 1, 1967.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 264,550. Jakob Schlapfer & Co. AG, St. Gall, Switzerland. Filed Feb. 13, 1967.



For Schiffli Embroideries.
First use Mar. 20, 1962; in commerce Mar. 20, 1962.

SN 265,476. A.B. Ludvig Svensson, Kinna, Sweden. Filed Feb. 27, 1967.

SCALON

Owner of Swedish Reg. No. 111,418, dated Nov. 20, 1964.
For Home Textile Products—Namely, Drapes and Curtains Which Are Flame-Retardant.

SN 273,483. Concord Fabrics Inc., New York, N.Y. Filed June 9, 1967.

POLISHED APPLE

For Textile Fabrics Made of Cotton and/or Synthetic Fibers and Blends Thereof.
First use May 1, 1967.

SN 273,781. The Kendall Company, Walpole, Mass. Filed June 13, 1967.

CURITY

Owner of Reg. Nos. 133,720, 804,726, and others.
For Baby Blankets.
First use June 22, 1966.

SN 281,158. Cone Mills Corporation, Greensboro, N.C. Filed Sept. 26, 1967.

HYTEX

For Warp Knit and Filled Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combination Thereof.
First use Sept. 19, 1967.

SN 285,619. Deering Milliken, Inc., New York, N.Y. Filed Nov. 27, 1967.

RAMSFORD

Owner of Reg. No. 500,323.
For Textile Fabrics Made of Wool, Cotton, and Synthetic Fibers and Combinations Thereof.
First use Nov. 8, 1967.

SN 285,620. Deering Milliken, Inc., New York, N.Y. Filed Nov. 27, 1967.

RAMS HEAD

Owner of Reg. No. 500,185.
For Textile Fabrics Made of Wool, Cotton, and Synthetic Fibers and Combinations Thereof.
First use Nov. 10, 1967.

Class 44—Dental, Medical, and Surgical Appliances

SN 250,106. Rodana Research Corporation, Bethesda, Md. Filed July 12, 1966.

VITASHIELD

For Automatic Hypodermic Injectors.
First use Mar. 17, 1966.

SN 255,314. Harmony Dental Products Corporation, South Pasadena, Calif. Filed Sept. 28, 1966.

HARMONY

For Dental Products—Namely, Facings, Pontips, Core Pins, and Glaze.
First use on or prior to Dec. 3, 1956.

SN 256,683. Rexall Drug and Chemical Company, d.b.a. Seamless Rubber Company, Los Angeles, Calif. Filed Oct. 18, 1966.

PROCEDURE PAK

Applicant disclaims the term "Pak" apart from the mark as shown. Owner of Reg. No. 785,672.
For Pre-Surgical Shaving Kit.
First use July 12, 1966.

SN 257,299. Metro Wholesale Corporation, New York, N.Y. Filed Oct. 26, 1966.

DURACREST

Owner of Reg. Nos. 716,061, 811,624, and others.
For Bed Boards, Electric Hair Drier With Curler Caddies, and Electric Cold Steam Vaporizers.
First use June 1961 on bed boards.

SN 265,437. Ritter Pfaudler Corporation, Rochester, N.Y. Filed Feb. 24, 1967.

BOVIE

Owner of Reg. Nos. 396,370 and 507,917.
For Liquid Conductor Used With Electrosurgical Units.
First use Jan. 10, 1967.

SN 266,196. Brother International Corporation, New York, N.Y. Filed Mar. 8, 1967.

MADEMOISELLE

For Electrical Hair Dryers.
First use Dec. 15, 1966.

SN 270,140. Kimberly-Clark Corporation, Neenah, Wis. Filed Apr. 27, 1967.

FEMS-ULTRA

Owner of Reg. No. 716,562.
For Sanitary Tampons and Belts and Holders for Sanitary Napkins.
First use Apr. 21, 1967.

SN 270,807. Pilling Co., Fort Washington, Pa. Filed May 5, 1967.

TRACHALLOY

For Tracheotomy Tubes.
First use Apr. 11, 1967.

Class 45—Soft Drinks and Carbonated Waters

SN 257,670. Topee, Inc., Corona, N.Y. Filed Oct. 31, 1966.

TOPPEE

For Non-Alcoholic Preparation Used in Minor Amounts as an Additive for Producing a Froth in Alcoholic Cocktails.
First use on or about Sept. 22, 1966.

SN 261,162. Societe Anonyme des Eaux Minerales d'Evian-les-Bains, Paris, France. Filed Dec. 20, 1966.

EAU MINERALE NATURELLE
evian
source Cachat

Priority claimed under Sec. 44(d) on French Reg. No. 710,003, dated June 21, 1966. The drawing is lined for pink and red. The applicant disclaims the terms "Eau Minerale Naturelle" and "Source," separate and apart from the mark as shown, reserving unto itself all common law rights which it may have or acquire in said term. Owner of U.S. Reg. No. 585,990.
For Natural Mineral Waters.

SN 261,328. The Southland Corporation, Dallas, Tex. Filed Dec. 22, 1966.

FULLA BULLA

For Fruit Flavored, Semi-Frozen Soft Drinks.
First use at least as early as Dec. 16, 1966.

SN 280,842. Stokely-Van Camp, Inc., Indianapolis, Ind. Filed Sept. 21, 1967.

GATORADE

For Fruit Flavored Soft Drinks and Powder for Making the Same.
First use Mar. 1, 1967.

SN 284,066. Foodmaker, Inc., San Diego, Calif. Filed Nov. 3, 1967.

JACK IN THE BOX

Owner of Reg. Nos. 819,307 and 826,546.
For Syrups for Making Soft Drinks.
First use at least as early as 1964.

Class 46—Foods and Ingredients of Foods

SN 239,987. Mary C. Forester, Georgetown, Conn. Filed Mar. 2, 1966.

MUCH 'UP

For Food Sauces.
First use Dec. 15, 1965.

SN 245,452. American Home Products Corporation, New York, N.Y. Filed May 12, 1966.

HEFT

For Dietary Protein Supplement of a Food Nature.
First use Apr. 13, 1966.

SN 246,745. Balanced Foods, Inc., New York, N.Y. Filed May 27, 1966.

BALANCED

Owner of Reg. Nos. 651,530, 791,925, and others.
For Noodles, Spaghetti, and Macaroni.
First use Apr. 29, 1966.

SN 246,780. General Mills, Inc., Minneapolis, Minn. Filed May 27, 1966.

GIGGLES

For Cereal Derived Ready To Eat Snacks.
First use Apr. 25, 1966.

SN 249,756. SCM Corporation, New York, N.Y., assignee of The Glidden Company, Cleveland, Ohio. Filed July 7, 1966.

GRANDEE

Owner of Reg. Nos. 160,576 and 326,719.
For Canned Onions.
First use September 1945.

SN 250,632. Berger and Son, Fort Worth, Tex. Filed July 20, 1966.

AUNT SHIRLEY'S

For Packaged Foods—Namely, Pickles, Pickle Relishes, Salad Dressings, Fruit, Preserves, Jellies, and Honey.
First use Jan. 1, 1963.

SN 250,988. Midwest Biscuit Company, Burlington, Iowa. Filed July 25, 1966.



The person represented on the drawing is only a fictitious representation and is not an actual living person. The applicant disclaims the term "Cheese," separate and apart from the mark as shown, reserving unto itself all common law rights which it may have or acquire in said term.
For Cheese Crackers.
First use Oct. 31, 1963.

SN 251,042. Armour and Company, d.b.a. Pfaelzer Brothers, Chicago, Ill. Filed July 26, 1966.

pfaelzer BROTHERS

For Fresh Meats, Poultry, Sea Foods, Cheeses, and Precooked Frozen Poultry.
First use on or prior to Dec. 31, 1954.

SN 251,377. Carnation Company, Los Angeles, Calif. Filed Aug. 1, 1966.

CONTADINA

Owner of Reg. Nos. 124,937, 585,012, and others.
For Dry Bread Crumbs and Dry Meat Loaf Mix.
First use at least as early as January 1960.

SN 251,394. American Dairy Queen Corporation, Minneapolis, Minn., assignee of Dairy Queen National Development Company, St. Louis, Mo. Filed Aug. 1, 1966.

CURLY TOP CONES

Applicant disclaims the word "Cones" apart from the mark as shown. Owner of Reg. No. 571,812.
For Ice Cream and Ice Milk in a Cone.
First use March 1957.

SN 251,395. American Dairy Queen Corporation, Minneapolis, Minn., assignee of Dairy Queen National Development Company, St. Louis, Mo. Filed Aug. 1, 1966.

BUSTER BAR

Applicant disclaims the word "Bar" apart from the mark as shown.
For Ice Cream and Ice Milk in Bar Form.
First use Sept. 15, 1962.

SN 252,012. Kasanof's Model Bakery, Inc., Boston, Mass. Filed Aug. 9, 1966.

BULKIE

For Rolls.
First use 1951.

SN 252,108. John Krauss, Incorporated, Jamaica, N.Y. Filed Aug. 10, 1966.

OUR OLD TYME

For Liverwurst.
First use April 1965.

SN 252,435. Vejle og Omegns Andels-Svineslagteri, Vejle, Tulip Brand Factory, Vejle, Denmark. Filed Aug. 15, 1966.



Owner of U.S. Reg. Nos. 638,863 and 756,988.
For Canned Cooked Hams, Canned Cooked Pork Shoulder Picnics, Canned Sliced Smoked Bacon, Canned Pork and Beef Luncheon Meat, Canned Pork Luncheon Meat, Canned Canadian Style Bacon (Pork Loins), Canned Sausages, Dry Salami Sausages, Canned Back Bacon, Canned Chopped Ham, Sliced Pre-Packed Meats.
First use Mar. 1, 1966; in commerce Mar. 1, 1966.

SN 253,647. General Chip Corporation, Washington, D.C. Filed Sept. 1, 1966.



For Puffed, Chip-Like Snack Product Containing, as an Ingredient, Processed Shellfish.
First use on or about June 24, 1966.

SN 254,136. Idaho Supreme Potatoes, Inc., Firth, Idaho, assignee of Afton E. Crofts, d.b.a. Crofts & Hone, Firth, Idaho. Filed Sept. 9, 1966.



"Top Quality" is disclaimed apart from the mark as shown.
For Fresh Potatoes.
First use on or about Oct. 1, 1945.

SN 255,408. Beatrice Foods Co., Chicago, Ill. Filed Sept. 29, 1966.

FLAV-O-DOE

For Biologically Fermented Cottage Cheese Whey.
First use on or about Aug. 23, 1966.

SN 256,732. Foodland, Inc., Cleveland, Ohio. Filed Oct. 19, 1966.

FOODLAND

Owner of Reg. Nos. 326,478, 614,558, and 785,369.
For Frozen Vegetables; Cheese Spread, Natural Cheese and Processed Cheese; Canned Meats; Dressings for Salads; Pie Crust Mixes; Cheese Curls; Corn and Potato Chips; Macaroni, Spaghetti, and Egg Noodles; Bread, Buns, Sweet Rolls and Crackers; Ice Cream, Fresh Milk, and Cream; Fresh Vegetables and Fruits; Frozen Fish, Fresh and Frozen Poultry; Fresh, Frozen and Processed Meats; Butter; Vegetable Shortening; and Cooking Oil.
First use at least as early as January 1966.

SN 258,187. Keebler Company, Elmhurst, Ill. Filed Nov. 7, 1966.

REDI-SERVE

For Crackers.
First use Sept. 27, 1966.

SN 258,464. Agri-Franchising, Inc., Bristol, Wis. Filed Nov. 14, 1966.

COUNTRY HEN HOUSE

For Fresh Eggs.
First use on or about June 9, 1966.

SN 260,978. Vet-A-Mix, Inc., Shenandoah, Iowa. Filed Dec. 16, 1966.

VETA-LAC

For Formula Food With Vitamins and Minerals for Animal Pets Dispensed Only by Veterinarians.
First use on or about Sept. 1, 1962.

SN 262,329. SCM Corporation, New York, N.Y., assignee of The Glidden Company, d.b.a. Durkee Famous Foods, Cleveland, Ohio. Filed Jan. 11, 1967.

MARVIC

For Organic Esters of Fatty Acids for Use as Food Additives.
First use Apr. 10, 1963.

SN 263,005. Armour and Company, Chicago, Ill. Filed Jan. 23, 1967.

ARMOUR DELUXE

The word "Deluxe" is disclaimed apart from the mark as shown. Owner of Reg. No. 655,574.
For Fresh, Uncooked Frozen and Cooked Frozen Meats.
First use on or prior to Dec. 22, 1966.

SN 263,852. The Southland Corporation, Dallas, Tex. Filed Feb. 2, 1967.

MR. FUN

For Ice Cream and Frozen Confections, in Bar and Sandwich Form.
First use Aug. 20, 1966.

SN 264,618. Unital—Uniao Agro-Industrial de Concentrados Limitada, Lisbon, Portugal. Filed Feb. 13, 1967.



The translation of "Leziria" is "river meadowland." The figure shown in the drawing is fanciful and not a representation of a particular individual.
For Canned Peeled Plum Tomatoes and Tomato Concentrate.
First use August 1965; in commerce October 1965.

SN 264,619. Unital—Uniao Agro-Industrial de Concentrados Limitada, Lisbon, Portugal. Filed Feb. 13, 1967.

LEZIRIA

The English translation for the Portuguese word "Leziria" is "river meadowland."
For Canned Peeled Plum Tomatoes and Tomato Concentrate.
First use August 1965; in commerce October 1965.

SN 266,264. Standard Brands Incorporated, d.b.a. Clinton Corn Processing Company, New York, N.Y. Filed Mar. 8, 1967.

ISOMEROSE

For Liquid Corn Syrups for Food Purposes.
First use Feb. 15, 1967.

SN 266,444. National Tea Co., d.b.a. Del Farm Foods and Del Farm Food Stores, Chicago, Ill. Filed Mar. 10, 1967.

DEL FARM

For Fresh Milk, Ice Cream of Various Flavors, and Fresh Eggs.
First use Dec. 22, 1961.

SN 266,475. Wyandot Popcorn Company, Marion, Ohio. Filed Mar. 10, 1967.

SUPER X

Owner of Reg. No. 741,006.
For Raw Unpopped Popcorn.
First use Dec. 21, 1966.

SN 266,725. R. C. Bigelow, Inc., Norwalk, Conn. Filed Mar. 15, 1967.

CHINESE FORTUNE

The word "Chinese" is disclaimed apart from the mark as shown.
For Tea.
First use Feb. 23, 1967.

SN 267,916. Cache Valley Dairy Association, Smithfield, Utah. Filed Mar. 30, 1967.

JACK-HORN-ER CHEESE

The word "Cheese" is disclaimed.
For Swiss, Cheddar, and Monterey Jack Cheese.
First use Mar. 15, 1967.

SN 268,476. Crown Meat & Provision Co., Inc., Minneapolis, Minn. Filed Apr. 6, 1967.

ROYAL TREAT

The word "Treat" is disclaimed apart from the mark as shown.
For Fresh Meats.
First use 1958.

SN 269,276. American Potato Company, San Francisco, Calif. Filed Apr. 17, 1967.

RUSSET FARMS

Applicant disclaims the word "Russet" except as used in combination with "Farms." Owner of Reg. No. 823,478.
For Fresh or Raw Potatoes.
First use Jan. 14, 1967.

SN 270,044. T. J. Brown and J. D. Brown (firm), Fyffe, Ala. Filed Apr. 26, 1967.

RACCOON MOUNTAIN

For Corn and Sorghum Table Syrup for Food Purposes.
First use on or about Nov. 1, 1966.
Subj. to Intf. with SN 272,375.

SN 270,087. Standard Brands Incorporated, d.b.a. Clinton Corn Processing Company, New York, N.Y. Filed Apr. 26, 1967.

LIQUI-DEX

For Liquid Dextrin for Use in Food Applications.
First use Mar. 16, 1967.

SN 270,588. Loyola Beach Vegetable Company, Riviera, Tex. Filed May 3, 1967.

LOYOLA SURF

For Fresh Vegetables—Namely, Carrots, Cucumbers, Cauliflower, Cabbage, Lettuce, Turnips, Beets, Broccoli, and Fresh Melons—Namely, Cantaloupes, Muskmelons, Casaba Melons, Honeydew Melons, and Watermelons.
First use Apr. 20, 1967.

SN 272,375. Louis Farmer, Section, Ala. Filed May 25, 1967.

RACCOON MOUNTAIN

For Table Syrup Made of Sorghum, Cane, Corn or Mixtures of the Same.
First use Feb. 19, 1963.
Subj. to Intf. with SN 270,044.

SN 272,693. Carnation Company, Los Angeles, Calif. Filed May 31, 1967.

EASE

For Dehydrated Table Syrup.
First use Jan. 10, 1964.

SN 273,982. Ralston Purina Company, St. Louis, Mo. Filed June 15, 1967.

6

For Canned Cat Food.
First use Apr. 13, 1966.

SN 274,085. National Starch and Chemical Corporation, New York, N.Y. Filed June 16, 1967.

HI-SET

For Dry Food Starch for Use in the Manufacture of Confections.
First use Apr. 21, 1967.

SN 274,329. Maplecrest Sausage Company, Inc., Rochester, N.Y. Filed June 20, 1967.

SEA BREEZE

For Sauces Containing Meat—Namely, Beef and Pork.
First use March 1967.

SN 274,573. Valley Packing Company of California, d.b.a. Valley Packing Co., Salinas, Calif. Filed June 23, 1967.

VALLEY GOLD

For Fresh Vegetables and Fresh Melons.
First use at least as early as 1959.

SN 275,087. Tid-Bit Products Co., Cleveland, Ohio. Filed June 29, 1967.

MINI LUNCH

For Packaged, Ready-To-Eat Snack Foods Consisting of a Meat and Breadstick Combination.
First use June 6, 1967.

SN 279,060. Franck Alimentare Italiana S.p.A., Milan, Italy. Filed Aug. 25, 1967.

...togo

The drawing is lined for red.
For Instant Mix, Comprised, in Part, of Malt and Barley for Use in Making a Hot or Cold Food Beverage.
First use Mar. 25, 1967; in commerce Mar. 25, 1967.

SN 279,345. P. Ferrero & C. S.p.A., Alba, Cuneo, Italy. Filed Aug. 30, 1967.

KINDER

"Kinder" is a German word meaning "children." Owner of Italian Reg. No. 168,843, dated Jan. 28, 1965.
For Chocolate Candy Bars.

SN 280,626. Penn Dairies, Inc., Lancaster, Pa. Filed Sept. 18, 1967.

delecto

For Ice Cream, Ice Milk, Sherbets, and Ices, in Various Packages, and in Various Novelty Forms.
First use August 1965; 1933 as to "Delecto."

SN 282,956. Gro-Pak, Inc., Tacoma, Wash. Filed Oct. 20, 1967.

Medallion

Owner of Reg. No. 645,204.
For Fresh Vegetables.
First use July 3, 1956.

SN 283,064. Kal Kan Foods, Inc., Los Angeles, Calif. Filed Oct. 23, 1967.

Meatime

For Canned Pet Food for Cats.
First use Sept. 25, 1967.

SN 283,065. Kal Kan Foods, Inc., Los Angeles, Calif. Filed Oct. 23, 1967.

WHEL-PUP

For Pet Food for Puppies and Small Breeds of Dogs.
First use Sept. 25, 1967.

SN 284,969. Jils Company, Long Island City, N.Y. Filed Nov. 16, 1967.

M'GIN-TEA

For Instant Powdered Tea.
First use Nov. 8, 1967.

SN 285,090. General Mills, Inc., Minneapolis, Minn. Filed Nov. 17, 1967.

FRIENDS OF ALICE

For Cereal Derived Snack Product.
First use on or prior to Jan. 9, 1967.

SN 285,093. Los Angeles Smoking & Curing Co., Los Angeles, Calif. Filed Nov. 17, 1967.

Tasco

Owner of Reg. Nos. 315,277, 793,022, and others.
For Canned, Bottled, or Plastic Wrapped Food Products—Namely, Sliced Smoked Salmon; Sliced Smoked Shad; Spiced Cut Herring; Sour Cream Herring Fillet; Spiced Anchovies; Pickled English Sardines; Wine Herring Snacks; Imported Bismarck Herring; Shrimp Cocktail, Consisting of Shrimp and a Sauce; Crab Cocktail, Consisting of Crab and a Sauce; Sugar Cured Schmaltz Herring; Boned Codfish; Anchovy Paste Packed in Tubes; Mackerel Fillet; Roll Mop Herring; Old Fashioned Fat Fillet Herring; Barbecued Halibut; Smoked Cocktail Oysters; Barbecued Salmon; Barbecued Alaska Cod; Smoked Cod Fillet, Finnan Haddie Style; Imported Canadian Kippers; Salt Mackerel Fillet in Brine; Imported-Boned Lutefish; Imported Norwegian Herring in Brine; Smoked Herring; Barbecue-Smoked White Meat Albacore Tuna; and Caviar.
First use Dec. 1, 1922.

SN 285,290. General Mills, Inc., Minneapolis, Minn. Filed Nov. 21, 1967.

POOH CORNERS

For Cereal Derived Snack Product.
First use on or prior to Jan. 9, 1967.

SN 285,493. General Foods Corporation, White Plains, N.Y. Filed Nov. 24, 1967.

MAX-PAX

Owner of Reg. Nos. 102,050, 776,293, and others.
For Coffee.
First use May 15, 1967.

SN 285,503. Santa Cruz Farms, Eloy, Ariz. Filed Nov. 24, 1967.

IRON HORSE

For Fresh Vegetables.
First use Nov. 6, 1967.

Class 48 — Malt Beverages and Liquors

SN 242,142. Molson Breweries Limited, Montreal, Quebec, Canada. Filed Mar. 29, 1966.

An honest brew makes its own friends . . . John Molson 1786

Applicant disclaims the word "Brew" apart from the mark as shown. John Molson, now deceased, was the founder of applicant company. Owner of U.S. Reg. Nos. 570,348, 748,162, and others.
For Beer.
First use 1786; in commerce Nov. 3, 1959.

SN 256,056. Beecham Group Limited, d.b.a. H. W. Carter & Company, Brentford, Middlesex, England. Filed Oct. 10, 1966.

TOP DECK

For Beverage Consisting of Lemonade and Beer.
First use June 1, 1966; in commerce June 1, 1966.

SN 260,275. Peter Hand Importers, Inc., Chicago, Ill. Filed Dec. 7, 1966.



For Beer.
First use Nov. 21, 1966.

SN 269,988. The Grand Union Company, East Paterson, N.J. Filed Apr. 25, 1967.

GRAND UNION

Owner of Reg. Nos. 622,390 and 801,972.
For Beer and Ale.
First use on or about Apr. 1, 1967.

Class 49 — Distilled Alcoholic Liquors

SN 255,090. Heaven Hill Distilleries, Inc., d.b.a. National Reserve Distilling Co. of Kentucky, Bardstown, Ky. Filed Sept. 26, 1966.

NATIONAL RESERVE

The word "Reserve" is disclaimed apart from the mark as shown.
For Bottled Whiskey.
First use Mar. 25, 1958.

SN 269,214. Puerto Rico Distillers, Inc., d.b.a. Barcelo Marques & Co., Arecibo, Puerto Rico. Filed Apr. 14, 1967.

GRANADO



The Spanish word "Granado" may be translated as "finest." Reserving all common law rights, applicant disclaims the word "Granado" apart from the mark as shown. Owner of Reg. No. 818,826.

For Alcoholic Beverages—Namely, Rum.

First use Mar. 13, 1967.

SN 269,504. Canadian Schenley Distilleries, Ltd., Montreal, Quebec, Canada. Filed Apr. 19, 1967.

FORMULA ONE

Applicant disclaims the word "Formula" apart from the mark as shown. Owner of Canadian Reg. No. 147,568, dated Oct. 14, 1966.

For Canadian Whisky.

SN 272,899. Puerto Rico Distillers, Inc., Arecibo, Puerto Rico. Filed June 2, 1967.

RON OLIVER

The Spanish word "Ron" means "rum." Applicant disclaims the word "Ron." The drawing is lined for green and red, but no color is claimed.

For Alcoholic Beverages—Namely, Rum.

First use in 1944.

SN 279,908. W. A. Taylor & Company, New York, N.Y. Filed Sept. 8, 1967.

CANADIAN FORUM

Without waiver of common law rights, the word "Canadian" is disclaimed as used on Canadian whisky.

For Canadian Whisky.

First use Aug. 18, 1967.

Class 50—Merchandise Not Otherwise Classified

SN 245,735. Frank P. Mitten, d.b.a. Mitten's Display Letters, Redlands, Calif. Filed May 16, 1966.

MITTEN DESIGNER

Owner of Reg. Nos. 535,594 and 610,181.

For Fonts and Assortments of Letters and Figures and Illustrating Accessories for Use in Making Up Changeable or Permanent Signs.

First use 1959.

SN 257,694. Consolidated Foods Corporation, Chicago, Ill., assignee of Consolidated Stamp Manufacturing Company, Spring Valley, N.Y. Filed Nov. 1, 1966.

MULTI MARX

For Price Marking Kit Which Includes Price Markers, Price Marking Ink, Conditioner Fluid, Tray Racks, Ink Pads for Tray Racks, Size Adapter Rings, and Insert Plugs.

First use March 1965.

SN 260,082. Rexall Drug and Chemical Company, d.b.a. The Art Foundry, Los Angeles, Calif. Filed Dec. 5, 1966.

THE ART FOUNDRY

For Home Furnishings—Namely, Cast Reproduction of Works of Art.

First use Sept. 23, 1966.

SN 261,020. American Biltrite Rubber Co., Inc., Chelsea, Mass. Filed Dec. 19, 1966.

POLY-TURF

Owner of Reg. No. 776,905.

For Artificial Grass Turf Fabricated of Plastic Material and Sold in Sheet Form for Use as a Covering for Floors, Covering for Outdoor and Indoor Sports Areas, Covering for Indoor Tennis Courts, etc.

First use Nov. 18, 1966.

SN 261,641. The Colad Company, Inc., Buffalo, N.Y. Filed Dec. 29, 1966.

POP-EASEL

For Easels Made of Foldable Sheet Material.

First use Sept. 6, 1966.

SN 262,718. Sternco Industries, Inc., Harrison, N.J. Filed Jan. 17, 1967.

DELTA-MATIC

For Aquarium Tank Acessory—Namely, a Dip Tube for Removing Waste Matter From Aquariums.

First use Oct. 3, 1966.

SN 266,197. Canvas Products Company, Oak Park, Mich. Filed Mar. 8, 1967.

HELPFUL HENRY

For All-Purpose Moisture Resistant Cloth or Tarpaulin.

First use Dec. 9, 1966.

SN 269,067. Eptex Mfg. Corp., Chicago, Ill. Filed Apr. 13, 1967.

All-A-Board

For Magnetic Bulletin Board and Permanent Magnets for Holding Memos, Cards, and the Like Thereon, Sold as a Unit.

First use Jan. 12, 1967.

SN 269,771. Metalcraft Engineering Company, Lincoln, Nebr. Filed Apr. 21, 1967.

Travel Ad

For Car-Top Sign.

First use July 1954.

SN 285,518. Auto-Gram, Inc., Miami, Fla. Filed Nov. 24, 1967.

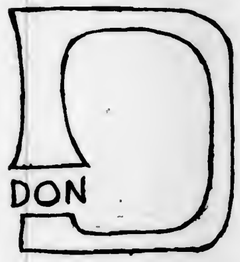
VAC-KROME

For Plated Self-Sticking Letters and Plated License Tag Frames.

First use Nov. 10, 1966.

Class 51—Cosmetics and Toilet Preparations

SN 237,678. Don and Partners, Wilmslow, England. Filed Feb. 1, 1966.



Priority claimed under Sec. 44(d) on British Reg. No. B882,503, dated July 30, 1965.

For Perfumes.

SN 248,565. Yardley of London, Inc., Totowa, N.J. Filed June 20, 1966.

SIZZLERS

For Lipstick, Mascara, and Eye Shadow.

First use June 14, 1966.

SN 250,074. Ed. Geistlich Söhne A.G. für Chemische Industrie, Wolhusen, Lucerne, Switzerland. Filed July 12, 1966.

QUIK FRESH

Owner of Swiss Reg. No. 199,246, dated July 26, 1963.

For Personal Deodorant Sprays.

SN 251,561. Noxell Corporation, Baltimore, Md., by change of name from Noxzema Chemical Company, Baltimore, Md. Filed Aug. 2, 1966.

DELICATE DUSTERS

For Pressed Powder Compacts.

First use June 13, 1966.

SN 253,793. South Bend Beauty Supply Co., Inc., South Bend, Ind. Filed Sept. 2, 1966.

HI-SHEEN

For Hair Rinses, Hair Sprays, Hair Peroxide, Hair Conditioners, Hair Dressing, Hair Cream, and Bubble Bath Preparations.

First use July 18, 1956.

SN 254,054. Irish Toiletries, Inc., Van Nuys, Calif. Filed Sept. 8, 1966.

IRISH MIST

Applicant disclaims the exclusive right to the word "Mist" apart from the mark as shown.

For Men's After-Shave Lotion and Cologne.

First use June 30, 1965.

SN 254,257. Helene Curtis Industries, Inc., d.b.a. Helene Curtis, Chicago, Ill. Filed Sept. 12, 1966.

SHEER COLOR

Applicant disclaims rights to the word "Color" apart from the mark as shown. Owner of Reg. Nos. 694,677, 778,617, and 781,134.

For Hair Color Rinse.

First use on or about Aug. 10, 1966.

SN 255,319. Hood's Hair Products, Inc., Madrid, Iowa. Filed Sept. 28, 1966.

HOODS

For Hair Coloring Preparation.

First use Dec. 31, 1962; about 1900 in a different form.

SN 255,617. Dorian Granowski, d.b.a. Dorian Aromessences, New York, N.Y. Filed Oct. 3, 1966.



The applicant disclaims the tradename and address for purposes of registration.
For Perfumes.
First use Aug. 26, 1966.

SN 255,671. Yardley of London, Inc., Totowa, N.J. Filed Oct. 3, 1966.

ENGLISH ROSE

Applicant disclaims any exclusive rights in the word "Rose" apart from the mark as shown.
For Cologne and Perfume.
First use Sept. 14, 1966.

SN 255,673. Yardley of London, Inc., Totowa, N.J. Filed Oct. 3, 1966.

WILDCAT

For After Shave Lotion, All Purpose Powder, and Hair Tonic.
First use Sept. 14, 1966.

SN 257,385. Harland E. Moon, d.b.a. H & L Products, Crystal Lake, Ill. Filed Oct. 27, 1966.

NU BUTY

For Hair Conditioner and Dandruff Rinse.
First use Sept. 2, 1966.

SN 260,517. Beauty Counselors, Inc., Grosse Pointe, Mich. Filed Dec. 12, 1966.

SPRING LOVE

For Cologne.
First use Sept. 27, 1966.

SN 261,012. Daggett and Ramsdell International Corporation, New York, N.Y. Filed Dec. 19, 1966.

DEBUTANTE DE VERSAILLES

Owner of Reg. No. 738,349.
For Perfume Sprays.
First use in October 1965.

SN 262,070. Carroll Shelby Enterprises, Inc., Los Angeles, Calif. Filed Jan. 6, 1967.

PIT STOP

For Personal Deodorant.
First use Nov. 22, 1966.
Subj. to Intf. with SN 264,870.

SN 263,306. Yardley of London, Inc., Totowa, N.J. Filed Jan. 25, 1967.

MINI

For Fluid Foundation and Lipstick.
First use Jan. 3, 1967.

SN 264,870. John L. Vollbrecht, d.b.a. The John Vollbrecht Company, Chicago, Ill. Filed Feb. 16, 1967.

PIT STOP

For Personal Deodorant.
First use Dec. 28, 1966.
Subj. to Intf. with SN 262,070.

SN 266,226. Goubaud de Paris, Inc., New York, N.Y. Filed Mar. 8, 1967.

GOUBETTE

For Lipstick.
First use Oct. 1, 1966.

SN 267,024. Faberge, Inc., New York, N.Y. Filed Mar. 17, 1967.

MOSHI MOSHI

The term "Moshi Moshi" is a word of greeting in Japanese which in its English translation means "hello."
For Cologne.
First use Feb. 8, 1967.

SN 267,733. Deluxol Laboratories, Inc., Chicago, Ill. Filed Mar. 28, 1967.

HONOR GUARD

For Creme Hair Culture for Straightening Curly Hair.
First use Mar. 13, 1967.

SN 269,517. Clairol Incorporated, New York, N.Y. Filed Apr. 19, 1967.

THE GREAT ESCAPE KIT

Applicant disclaims the word "Kit" apart from the mark as shown.
For Kit Containing Lip Colors.
First use Nov. 14, 1966.

SN 271,423. American Pharmaceutical Company, New York, N.Y. Filed May 15, 1967.

PERTINEX

Owner of Reg. No. 717,441.
For Foot Deodorant.
First use in or about April 1965.

Class 52—Detergents and Soaps

SN 252,305. Stamp and Coin City, Inc., Los Angeles, Calif., assignee of Jay Teli and Allen Van Vliet, d.b.a. Stamp & Coin City, Los Angeles, Calif. Filed Aug. 15, 1966.

COIN MAGIC

Applicant disclaims the word "Coin" apart from the mark as shown.
For Cleaner in Cream and Liquid Form for Cleaning Coins.
First use Jan. 1, 1965.

SN 253,177. Studio Girl-Hollywood, Inc., d.b.a. Studio Girl, North Hollywood, Calif. Filed Aug. 25, 1966.

Mr.

Owner of Reg. No. 697,292.
For Toilet Soap With Deodorant Action.
First use on or about Aug. 14, 1962.

SN 255,823. Shaklee Products, Hayward, Calif. Filed Oct. 5, 1966.



For Biodegradable Organic Cleanser for Use in Pipe Lines and Automatic Machines.
First use Sept. 15, 1963.

SN 255,994. Mary Carter Paint Co., Tampa, Fla. Filed Oct. 7, 1966.



The name "Mary Carter" is fanciful and is not the name of any particular living individual. No exclusive claim is made to the design of the paint brush apart from the mark as shown in the drawing. Owner of Reg. Nos. 615,094, 802,878, and others.
For Paint Brush and Roller Cleaner.
First use October 1955.

SN 257,300. Metro Wholesale Corporation, New York, N.Y. Filed Oct. 26, 1966.



Owner of Reg. Nos. 716,061, 811,624, and others.
For Laundry Detergent.
First use July 1961.

SN 258,563. Mem Company, Inc., Northvale, N.J. Filed Nov. 14, 1966.

English Leather

Owner of Reg. No. 672,943.
For Cleansers—Namely, Toilet Soaps and Hair Shampoos.
First use in 1951.

SN 263,964. Tom Cat, New York, N.Y. Filed Feb. 3, 1967.
Owner of Reg. No. 831,194.

TOM CAT

For Face and Bath Soaps and Hair Shampoos.
First use Mar. 2, 1966.

SN 265,418. Gas Consumers Association, Scarsdale, N.Y. Filed Feb. 24, 1967.

GCS 731

For Cleaner for Commercial Cooking Equipment.
First use May 2, 1966.

SN 265,700. Clairol Incorporated, New York, N.Y. Filed Mar. 1, 1967.

FIGHTER

Owner of Reg. Nos. 827,667 and 827,668.
For Hair Shampoo.
First use Oct. 24, 1966.

SN 267,800. John H. Breck, Inc., Springfield, Mass. Filed Mar. 29, 1967.

LEMON LIGHTS

The word "Lemon" is disclaimed apart from the mark as shown.
For Hair Shampoo.
First use Mar. 16, 1967.

SN 268,684. American Aniline Products, Inc., Paterson, N.J. Filed Apr. 10, 1967.

AMASTRIP

Owner of Reg. Nos. 334,944, 782,644, and others.
For Textile Dyeing Assistant—Namely, a Stripping Agent.
First use Oct. 12, 1965.

SN 271,359. Entronic Industries, Inc., Kingston, N.Y. Filed May 12, 1967.

Greylock Electronics

The applicant disclaims the word "Electronics" apart from the mark.
For Combined Tuner-Control-Cleaner-Lubricant Preparation for Use on All Electrical Contacts.
First use Feb. 1, 1967.

SN 271,877. Yardley of London, Inc., d.b.a. Yardley, Totowa, N.J. Filed May 18, 1967.

STRAWBERI 'N CREAME

For Hair Shampoo.
First use May 11, 1967.
Subj. to Intf. with SN 284,991.

SN 272,198. Miller-Stephenson Chemical Co., Inc., Danbury, Conn. Filed May 23, 1967.

CONTACT RE-NU

For Aerosol Packaged Fluid Cleaner for Electrical Contacts and Other Moving Parts in Electrical and Mechanical Apparatus.
First use Oct. 1, 1965.

SN 273,049. Economics Laboratory, Inc., St. Paul, Minn. Filed June 5, 1967.

SCORE

Owner of Reg. No. 505,072.
For Dishwashing Compound for Use in Dishwashing Machines.
First use Mar. 14, 1958.

SN 277,309. Sterling Drug Inc., New York, N.Y. Filed Aug. 1, 1967.

BRUSH OFF

For Aerosol Spot Remover.
First use June 21, 1967.
Subj. to Intf. with SN 285,294.

SN 283,386. Alberto-Culver Company, Melrose Park, Ill. Filed Oct. 26, 1967.

SINCERELY YOURS

For Dishwashing and Laundry Detergent.
First use July 24, 1967.

SN 284,991. Carolina Company, Inc., d.b.a. The Carolina Soap & Candle Makers, Southern Pines, N.C. Filed Nov. 16, 1967.

STRAWBERRIES AND CREAM

For Toilet Soap.
First use January 1956.
Subj. to Intf. with SN 271,877.

SN 285,294. Precision Papers, Inc., Brooklyn, N.Y. Filed Nov. 21, 1967.

BRUSH-OFF

For Spot Remover Packaged in an Aerosol Container.
First use June 20, 1967.
Subj. to Intf. with SN 277,309.

SN 285,502. Purex Corporation, Ltd., Lakewood, Calif. Filed Nov. 24, 1967.

DERMADANE-9

For Combination of Deodorant and Cleansing Agents Incorporated as an Ingredient in Toilet Soaps.
First use Oct. 24, 1967.

SERVICE MARKS

Class 100 — Miscellaneous

SN 210,365. The Rustler, Inc., Glen Burnie, Md. Filed Jan. 21, 1965.



For Restaurant Services.
First use Dec. 17, 1964.

SN 269,525. The Fatted Calf, Inc., St. Louis, Mo. Filed Apr. 19, 1967.

The Fatted Calf



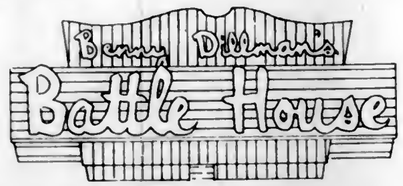
For Restaurant Services.
First use Nov. 29, 1965.

SN 271,584. Bahama Steak House International, Inc., d.b.a. Bahama Steak House, Miami, Fla. Filed May 16, 1967.



For Restaurant Services.
First use July 1949.

SN 278,841. Benny R. Dillman, d.b.a. Benny Dillman's Battle House Restaurant Cafeteria, Anniston, Ala. Filed Aug. 21, 1967.



The drawing is lined for red, blue, and silver.
For Restaurant Services; and Cafeteria Services.
First use Jan. 12, 1964.

Class 101 — Advertising and Business

SN 252,900. Sieber & McIntyre, Inc., Chicago, Ill. Filed Aug. 22, 1966.



For Promotion of the Sale of Products of Others to the Medical Profession.
First use Feb. 28, 1966.

SN 251,429. Income Tax Service Company, Flint, Mich. Filed Aug. 1, 1966.

ITS

The drawing is lined for green.
For Preparing Income Tax Statements.
First use Dec. 1, 1965.

SN 266,534. Glendinning Companies, Inc., Westport, Conn. Filed Mar. 13, 1967.

SHARE AMERICANA

For Services Related to Promotional Game Programs of the Public-Participation Type, for Retail Businesses of Others—Namely, Originating, Planning, Devising Materials for, and Implementing Such Programs.
First use Nov. 11, 1966.

SN 266,796. Star Stations, Inc., Omaha, Nebr. Filed Mar. 15, 1967.

TURN YOUR WIFE ON

For Promoting the Sale of Goods and Services of Others Through the Medium of Newspaper and Radio Advertising Services.
First use on or about Feb. 10, 1965.

SN 266,897. Jack Lindrup, d.b.a. Miss Wings Pageant, New York, N.Y. Filed Mar. 16, 1967.

MISS WINGS

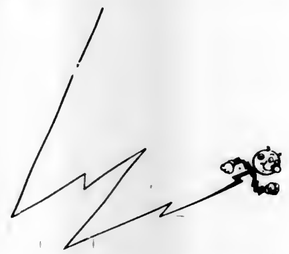
For Promoting Sale of the Goods and Services of Others by Means of a Beauty Contest Conducted Over Television.
First use Dec. 15, 1966.

SN 267,361. Thompson Printing Company, Clifton, N.J. Filed Mar. 22, 1967.

FLASH
O-PRINT

For Printing Services.
First use Dec. 12, 1966.

SN 267,847. Reddy Kilowatt, Inc., New York, N.Y. Filed Mar. 29, 1967.



Owner of Reg. Nos. 566,392 and 769,300.
For Design and Formulation of Advertising and Public Relations Material To Be Used in Promoting the Sale of the Services of Investor-Owned Public Utilities.
First use Oct. 31, 1966; Mar. 14, 1926, as to the animated figure.

SN 278,562. Administrative Systems Inc., Mineola, N.Y. Filed Aug. 18, 1967.

COMPUTICKET

For Printing Tickets for Entertainment Services of Others.
First use Aug. 11, 1967.

Class 102 — Insurance and Financial

SN 269,240. Virginia Commonwealth Bankshares, Inc., Richmond, Va. Filed Apr. 14, 1967.



For Banking Services.
First use at least as early as Oct. 24, 1966.

SN 269,494. Allstate Insurance Company, Skokie, Ill. Filed Apr. 19, 1967.



Owner of Reg. Nos. 577,757, 751,044, and others.
For Making, Writing and Underwriting of Insurance.
First use Mar. 1, 1967.

SN 269,495. Allstate Insurance Company, Skokie, Ill. Filed Apr. 19, 1967.



Owner of Reg. Nos. 577,757, 751,044, and others.
For Making, Writing and Underwriting of Insurance.
First use Sept. 9, 1966.

Class 103 — Construction and Repair

SN 251,636. Knafel Pontiac Inc., Akron, Ohio. Filed Aug. 3, 1966.

TIN INDIAN

For Construction and Maintenance of Cars, Particularly Intended for Racing Competition.
First use in or about July 1961.

SN 267,660. The Polymer Corporation, Reading, Pa. Filed Mar. 27, 1967.

COR-BOND

For Applying Protective Coatings to Pipe.
First use Jan. 3, 1967.

SN 268,054. Midas, Inc., Chicago, Ill. Filed Mar. 31, 1967.



The word "Transmissions" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 620,322, 803,614, and others.
For Inspection, Adjustment, Repair, and Installation of Automotive Transmissions, and Parts Therefor.
First use on or about July 25, 1966.

SN 268,055. Midas, Inc., Chicago, Ill. Filed Mar. 31, 1967.



The word "Transmissions" is disclaimed apart from the mark as shown. The drawing is lined for the color yellow, and the color is claimed as an integral part of the mark. Owner of Reg. Nos. 620,322, 803,614, and others.
For Inspection, Adjustment, Repair, and Installation of Automotive Transmissions, and Parts Therefor.
First use on or about July 25, 1966.

Class 105 — Transportation and Storage

SN 266,091. R-W Service System, Inc., Dearborn, Mich. Filed Mar. 6, 1967.



The drawing is lined for blue and gold.
For Trucking and Warehousing Services.
First use Jan. 16, 1967.

Class 106 — Material Treatment

SN 259,137. McDaniel Pharmacy, Inc., Overland Park, Kans. Filed Nov. 21, 1966.

ECONOREX

For Pharmaceutical Prescription Filling Services.
First use on or about Oct. 13, 1966.

TM 847 O.G.—5

Class 107 — Education and Entertainment

SN 259,379. Screen Gems, Inc., New York, N.Y. Filed Nov. 25, 1966.

THE MONKEES

For Television Program Series Consisting of Drama, Comedy, and Popular Music.
First use Jan. 13, 1966.

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

843,903. TERRANOVA. Andersons Seeds Limited. SN 252,066. Pub. 11–28–67. Filed 8–10–66.

843,904. SHOEFOU AND DESIGN. Belle Fabric Division Corporation. SN 254,225. Pub. 11–28–67. Filed 9–12–66.

843,905. FD–100. H. W. Walcott & Co., Inc. SN 258,183. Pub. 11–28–67. Filed 11–7–66.

843,906. GOLDEN WEST. Germain's, Inc. SN 259,098. Pub. 11–28–67. Filed 11–21–66.

Class 2 — Receptacles

843,907. PATRYS AND DESIGN. F.D.G.M. Fabrication et Diffusion des Grandes Marques. MUTIPLE CLASS (Classes 2, 32, 40, and 44). SN 223,655. Pub. 11–28–67. Filed 7–19–65.

843,908. FRIDAY PACK. Keyes Fibre Company, assignee of Great Northwest Fibre Company. SN 236,593. Pub. 11–28–67. Filed 1–17–66.

843,909. POLY SHUR PAK. Bennett Industries, Inc. SN 237,651. Pub. 6–13–67. Filed 2–1–66.

843,910. CHAT POLY PAK. The Mead Corporation. SN 245,838. Pub. 6–13–67. Filed 5–17–66.

843,911. ACTIMIZED. Globe Rubber Products Corp. SN 247,223. Pub. 11–28–67. Filed 6–3–66.

843,912. CHEMIX. Weed-Master (Western) Ltd. SN 249,459. Pub. 11–28–67. Filed 7–1–66.

843,913. R AND DESIGN. Reynolds Metals Company. SN 255,818. Pub. 11–28–67. Filed 10–5–66.

843,914. MISCELLANEOUS DESIGN. International Paper Company, assignee of The Lord Baltimore Press, Incorporated. SN 256,749. Pub. 11–28–67. Filed 10–19–66.

843,915. POLYMATIC. Inland Container Corporation. SN 257,277. Pub. 11–28–67. Filed 10–26–66.

843,916. GEN-WAY. The General Tire & Rubber Company. SN 258,691. Pub. 11–28–67. Filed 11–15–66.

843,917. CUSHION RIDE AND DESIGN. David N. Jones. SN 270,789. Pub. 11–28–67. Filed 5–5–67.

843,918. SEN-GLAS. Sentinel Plastics, Inc. SN 270,817. Pub. 11–28–67. Filed 5–5–67.

843,919. SEN-PLAS. Sentinel Plastics, Inc. SN 270,818. Pub. 11–28–67. Filed 5–5–67.

843,920. HERITAGE HOUSE AND DESIGN. Diamond Alkali Company. MULTIPLE CLASS (Classes 2, 13, 20, and 50). SN 279,249. Pub. 11–28–67. Filed 8–29–67.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

843,921. SHE-NANIGANS. College Hall, Inc. SN 254,375. Pub. 11–28–67. Filed 9–13–66.

843,922. CAMP TRAILS AND DESIGN. Jack C. Abert, d.b.a. Mechanical Products Company. SN 259,998. Pub. 11–28–67. Filed 12–5–66.

Class 4 — Abrasives and Polishing Materials

843,923. AREXONS. S.I.P.A.L. Arexons Societa Italiana Prodotti Auto e Locomosione S.p.A. MULTIPLE CLASS (Classes 4, 6, and 52). SN 208,115. Pub. 11–28–67. Filed 12–14–64.

843,924. PIK. S.I.P.A.L. Arexons Societa Italiana Prodotti Auto e Locomozione S.p.A. MULTIPLE CLASS (Classes 4, 6, and 12). SN 208,116. Pub. 11–28–67. Filed 12–14–64.

843,925. RED TOP AND DESIGN. Red Top Maintenance Service, Inc. SN 252,416. Pub. 11–28–67. Filed 8–15–66.

843,926. PUMIE. United States Pumice Company. SN 262,646. Pub. 11–28–67. Filed 1–16–67.

843,927. CURTAIL. Bristol-Myers Company. SN 264,901. Pub. 11–28–67. Filed 2–17–67.

843,928. ON-GUARD. Epic Chemicals, Inc. SN 267,511. Pub. 11–28–67. Filed 3–24–67.

843,929. SIR BUTLER. Pathfinder Industries, Inc. SN 268,990. Pub. 11–28–67. Filed 4–12–67.

843,930. KRSTL PLATE. W. R. Grace & Co. SN 269,987. Pub. 11–28–67. Filed 4–25–67.

843,931. TETRAFORM. Minnesota Mining and Manufacturing Company. SN 279,514. Pub. 11–28–67. Filed 9–1–67.

Class 5 — Adhesives

843,932. BULLDOG FIRETARD AND DESIGN. Templar Oil Products Company, Inc. SN 193,306. Pub. 12–15–64. Filed 5–12–64.

843,933. SUNKEM. Sun Chemical Corporation. SN 251,754. Pub. 11–28–67. Filed 8–4–66.

843,934. PRO-PERFECT. B & P Distributors, Inc. SN 268,143. Pub. 11–28–67. Filed 4–3–67.

843,935. PRO-TECT-ALL. Hampton Manufacturing Company, Inc. SN 268,408. Pub. 11–28–67. Filed 4–5–67.

Class 6 — Chemicals and Chemical Compositions

843,923. (See Class 4 for this trademark.)

843,924. (See Class 4 for this trademark.)

843,936. COLCOAT. Mitsubishi Rayon Co., Ltd. SN 225,051. Pub. 11–28–67. Filed 8–5–65.

843,937. POLAR. Geigy Chemical Corporation (New York corporation), by merger from Geigy Chemical Corporation (Delaware corporation). SN 249,232. Pub. 11–28–67. Filed 6–29–66.

843,938. FPG. A. E. Staley Manufacturing Company. SN 250,866. Pub. 11–28–67. Filed 7–22–66.

843,939. RAYVAN. Rayonier Incorporated. SN 256,971. Pub. 11–28–67. Filed 10–21–66.

843,940. FISH (DESIGN). Sternco Industries, Inc. SN 257,525. Pub. 11–28–67. Filed 10–28–66.

843,941. REVERT. Universal Oil Products Company. SN 262,222. Pub. 11–28–67. Filed 1–9–67.

843,942. D. Big 'D' Chemical Company. SN 263,249. Pub. 11–28–67. Filed 1–25–67.

843,943. CYLCAP. Denver Fireclay Company. SN 263,820. Pub. 11–28–67. Filed 2–2–67.

843,944. CHROMIX. L. M. Scofield Company. SN 264,251. Pub. 11–28–67. Filed 2–8–67.

843,945. IMIDEX. General Electric Company. SN 266,029. Pub. 11–28–67. Filed 3–6–67.

843,946. WEED-BAN. Daly-Herring Company. SN 267,507. Pub. 11–28–67. Filed 3–24–67.

843,947. MONOSPOT. Ortho Pharmaceutical Corporation, d.b.a. Ortho Diagnostics. SN 274,565. Pub. 11–28–67. Filed 6–23–67.

843,948. DURAMIR BK. Diamond Alkali Company. SN 280,912. Pub. 11–28–67. Filed 9–22–67.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

843,949. MAGNA-MOUNT. Edward J. Desimone, Jr., d.b.a. Magna-Mount. SN 267,407. Pub. 11–28–67. Filed 3–23–67.

Class 10 — Fertilizers

843,950. AGREG. Blackstone Industries, Inc. (California corporation), by merger and change of name from Blackstone Industries, Inc. (Delaware corporation). SN 245,059. Pub. 11–28–67. Filed 5–6–66.

843,951. FERTI FLOW. Agway, Inc. SN 251,866. Pub. 11–28–67. Filed 8–8–66.

843,952. DUET. International Minerals & Chemical Corporation. SN 280,510. Pub. 11–28–67. Filed 9–18–67.

Class 11 — Inks and Inking Materials

843,953. ACTINIC. Phillips Process Co., Inc. SN 264,679. Pub. 11–28–67. Filed 2–14–67.

843,954. MERRITONE. Phillips Process Co., Inc. SN 264,680. Pub. 11–28–67. Filed 2–14–67.

843,955. OPACODE. Colorcon, Inc. SN 265,799. Pub. 11–28–67. Filed 3–2–67.

Class 12 — Construction Materials

843,924. (See Class 4 for this trademark.)

843,956. O AND DESIGN. Harbison-Walker Refractories Company. SN 257,387. Pub. 11–28–67. Filed 10–27–66.

843,957. THINWALL. Adamlock Jamestown Corporation. SN 257,744. Pub. 11–28–67. Filed 11–2–66.

843,958. BAYOU. Pascagoula Veneer Company. SN 259,146. Pub. 11–28–67. Filed 11–21–66.

843,959. TOMCO T AND DESIGN. Tomkins Brothers. SN 259,984. Pub. 11–28–67. Filed 12–2–66.

843,960. BLACK LITE. The Alumiline Corporation. SN 260,002. Pub. 11–28–67. Filed 12–5–66.

843,961. ATLAS AND DESIGN. McCulley-Cook, Inc. SN 261,868. Pub. 11–28–67. Filed 1–3–67.

843,962. SPIRAL-UNI-SEAM. Associated Pipe & Fitting Corp. SN 265,152. Pub. 11–28–67. Filed 2–21–67.

843,963. CUSH-N-CLIP. National Gypsum Company. SN 265,548. Pub. 11–28–67. Filed 2–27–67.

843,964. TOGANY. Johns-Manville Corporation. SN 265,636. Pub. 11–28–67. Filed 2–28–67.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

843,920. (See Class 2 for this trademark.)

843,965. H (DESIGN). Hünnebeck G.m.b.H. MULTIPLE CLASS (Classes 13, 14, and 23). SN 232,784. Pub. 6–27–67. Filed 11–16–65.

843,966. AERO RIB. Kenlin Enterprises, Inc. SN 257,784. Pub. 11–28–67. Filed 11–2–66.

843,967. J/G. Researched Products, Inc. SN 258,585. Pub. 11–28–67. Filed 11–14–66.

843,968. FIX-ANCHORS. Sileps, Inc. MULTIPLE CLASS (Classes 13 and 23). SN 259,034. Pub. 11–28–67. Filed 11–18–66.

843,969. SMITH BEST BY TEST AND DESIGN. Jay R. Smith Mfg. Co. SN 261,687. Pub. 11–28–67. Filed 12–29–66.

843,970. BEVEL-GARD. Sumitomo Metal Industries, Ltd. SN 262,816. Pub. 11–28–67. Filed 1–18–67.

843,971. PRE-TYE WIRE TIES. Products Diversification Corporation of America. SN 264,160. Pub. 11–28–67. Filed 2–7–67.

843,972. READY-TYE WIRE TIES. Products Diversification Corporation of America. SN 264,161. Pub. 11–28–67. Filed 2–7–67.

843,973. MISCELLANEOUS DESIGN. Garlock Inc. MULTIPLE CLASS (Classes 13, 16, and 26). SN 264,470. Pub. 11–28–67. Filed 2–13–67.

843,974. TEMP FLEX. Associated Piping & Engineering Corp. SN 264,641. Pub. 11–28–67. Filed 2–14–67.

843,975. UNI-FLEX. Associated Piping & Engineering Corp. SN 264,643, Pub. 11–28–67. Filed 2–14–67.

843,976. SINOX. Schoeller Werk K.G. SN 266,102. Pub. 11–28–67. Filed 3–6–67.

Class 14 — Metals and Metal Castings and Forgings

843,965. (See Class 13 for this trademark.)

843,977. FALCONBRIDGE AND DESIGN. Falconbridge Nickel Mines Limited. SN 244,579. Pub. 11–28–67. Filed 4–29–66.

843,978. SELBY. American Smelting and Refining Company. SN 245,804. Pub. 11–28–67. Filed 5–17–66.

843,979. MARINE. Compagnie Metallurgique de la Campine. SN 248,426. Pub. 11–28–67. Filed 6–20–66.

843,980. TRANSALLOYS AND DESIGN. Transalloys (Proprietary) Limited. SN 250,414. Pub. 11–28–67. Filed 7–15–66.

843,981. ANCORMET. Hoeganaes Corporation, by change of name from Hoeganaes Sponge Iron Corporation. SN 258,540. Pub. 11–28–67. Filed 11–14–66.

843,982. ATLAS. Dana Corporation. SN 265,706. Pub. 11–28–67. Filed 3–1–67.

Class 16 — Protective and Decorative Coatings

843,973. (See Class 13 for this trademark.)

843,983. GLIDFLAKE. SCM Corporation, assignee of The Glidden Company. SN 259,723. Pub. 11–21–67. Filed 11–30–66.

Class 17 — Tobacco Products

843,984. KINGS FLAKE AND DESIGN. Gallaher Limited. SN 257,850. Pub. 11–28–67. Filed 11–3–66.

843,985. COMPANION. Havatampa Cigar Corporation. SN 259,316. Pub. 11–28–67. Filed 11–23–66.

Class 18 — Medicines and Pharmaceutical Preparations

843,986. COUGH FOAM. Bristol-Myers Company. SN 228,879. Pub. 5–31–66. Filed 9–29–65.

843,987. SYLVASUN. Sylvachem (Proprietary) Limited. SN 254,951. Pub. 11–28–67. Filed 9–22–66.

843,988. GIATIN. Bristol-Myers Company. SN 262,762. Pub. 11–28–67. Filed 1–18–67.

843,989. DERMA-5. Mundo Products, Inc. SN 263,767. Pub. 11–28–67. Filed 2–1–67.

843,990. AARANE. Syntex Laboratories, Inc. SN 265,446. Pub. 11–28–67. Filed 2–24–67.

843,991. HYDROCELL. Ciba Corporation, d.b.a. The Gland-O-Lac Company. SN 265,693. Pub. 11–28–67. Filed 3–1–67.

843,992. MAGNOLAX. Henry K. Wampole & Company Limited. SN 265,755. Pub. 11–21–67. Filed 3–1–67.

843,993. DYNAPEN. Bristol-Myers Company. SN 265,973. Pub. 11–28–67. Filed 3–6–67.

843,994. STAPHCILLIN. Bristol-Myers Company. SN 265,974. Pub. 11–28–67. Filed 3–6–67.

843,995. BRONCOBAR. Laboratorio Mauricio Villela S.A. SN 266,051. Pub. 11–28–67. Filed 3–6–67.

843,996. PALOCILLIN. Palmedico, Inc. SN 266,069. Pub. 11–28–67. Filed 3–6–67.

843,997. G–2. Palmedico, Inc. SN 266,072. Pub. 11–28–67. Filed 3–6–67.

843,998. KANDY KOAT. Vylactos Laboratories, Inc. SN 266,609. Pub. 11–28–67. Filed 3–13–67.

843,999. MACRODANTIN. The Norwich Pharmacal Company. SN 280,521. Pub. 11–28–67. Filed 9–18–67.

Class 19—Vehicles

844,000. HALMATIC. Halmatic Limited. SN 237,113. Pub. 11–28–67. Filed 1–24–66.

844,001. CANTER. Mitsubishi Jukogyo Kabushiki Kaisha. SN 243,796. Pub. 11–28–67. Filed 4–19–66.

844,002. FUSO. Mitsubishi Jukogyo Kabushiki Kaisha. SN 243,797. Pub. 11–28–67. Filed 4–19–66.

844,003. HELLO DOLLY. Pullman Incorporated. SN 262,286. Pub. 11–28–67. Filed 1–10–67.

844,004. RAYMOLD BONDED. Raybestos-Manhattan, Inc. SN 262,507. Pub. 11–28–67. Filed 1–13–67.

844,005. CCA AND DESIGN. Camper Corporation of America. SN 276,794. Pub. 11–28–67. Filed 7–26–67.

844,006. KEENLINE. Camper Corporation of America. SN 276,795. Pub. 11–28–67. Filed 7–26–67.

844,007. STROKER. D. P. Harris Hardware & Manufacturing Co., Inc. SN 278,853. Pub. 11–28–67. Filed 8–23–67.

Class 20—Linoleum and Oiled Cloth

843,920. (See Class 2 for this trademark.)

Class 21—Electrical Apparatus, Machines, and Supplies

844,008. STERLING. The Sterling Manufacturing Company. MULTIPLE CLASS (Classes 21 and 26). SN 238,458. Pub. 11–28–67. Filed 2–9–66.

844,009. ASTRO-SONIC. The Magnavox Company. SN 243,148. Pub. 11–28–67. Filed 4–11–66.

844,010. VERSALOCK. Blonder-Tongue Laboratories, Inc. SN 244,563. Pub. 5–9–67. Filed 4–29–66.

844,011. PHASE CHEK AND DESIGN. Hi-G Incorporated. SN 253,530. Pub. 11–28–67. Filed 8–31–66.

844,012. SUPERING. The W. L. Jenkins Company. SN 261,900. Pub. 11–28–67. Filed 1–3–67.

844,013. TELAN. General Instrument Corporation (Delaware corporation), by merger from General Instrument Corporation (New Jersey corporation). SN 262,581. Pub. 11–28–67. Filed 1–16–67.

844,014. PLUG-O-MATIC. Fedtro, Inc. SN 264,732. Pub. 11–28–67. Filed 2–15–67.

844,015. ORATOR. International Telephone and Telegraph Corporation. SN 265,192. Pub. 11–28–67. Filed 2–21–67.

844,016. TRON. McGraw-Edison Company, d.b.a. Bussmann Manufacturing Division. SN 265,544. Pub. 11–28–67. Filed 2–27–67.

844,017. IXF. Piezo Technology, Inc. SN 265,651. Pub. 11–28–67. Filed 2–28–67.

844,018. DYNAFORM. Amphenol Corporation. SN 265,782. Pub. 11–28–67. Filed 3–2–67.

844,019. ISOLITHIC. George A. Philbrick Researches, Inc. SN 265,842. Pub. 11–28–67. Filed 3–2–67.

844,020. TRANS-FLASH. Lehigh Valley Industries, Inc. SN 272,664. Pub. 11–28–67. Filed 5–31–67.

844,021. MICROEYE. Teledyne, Inc. SN 276,400. Pub. 11–28–67. Filed 7–20–67.

844,022. CHUCK-MATE. Continental Machines, Inc. SN 280,671. Pub. 11–28–67. Filed 9–19–67.

Class 22—Games, Toys, and Sporting Goods

844,023. ROSEMOUNT. Rosemount Engineering Company. MULTIPLE CLASS (Classes 22 and 39). SN 252,807. Pub. 11–28–67. Filed 8–15–66.

844,024. PALMER AND DESIGN. Palmer Plastics, Inc. SN 259,145. Pub. 11–28–67. Filed 11–21–66.

844,025. *CONTROLLED ACTION. Kent Sporting Goods Co. SN 260,436. Pub. 11–28–67. Filed 12–9–66.

844,026. CINDICO. Cindico Products Limited. SN 261,462. Pub. 11–28–67. Filed 12–27–66.

844,027. CANADIAN ACE. Brookfield Athletic Shoe Company, Inc. SN 262,850. Pub. 11–28–67. Filed 1–19–67.

844,028. MARTEENIE DOLL AND DESIGN. J. Swedlin, Inc., d.b.a. Gund Manufacturing Company. SN 264,770. Pub. 11–28–67. Filed 2–15–67.

844,029. HOOCHY. Weber Tackle Company. SN 264,772. Pub. 11–28–67. Filed 2–15–67.

844,030. TRUE TEMPER. True Temper Corporation. SN 265,450. Pub. 11–28–67. Filed 2–24–67.

844,031. X–31. Wilson Sporting Goods Co., assignee of Wilson Sporting Goods Co. SN 266,270. Pub. 11–28–67. Filed 3–8–67.

844,032. SPORTKING SK AND DESIGN. A.M.S. Distributing Co., d.b.a. American Sport Company. SN 269,490. Pub. 11–28–67. Filed 4–19–67.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

843,965. (See Class 13 for this trademark.)

843,968. (See Class 13 for this trademark.)

844,033. FINISHER. John Oster Manufacturing Co. SN 166,212. Pub. 12–3–63. Filed 4–5–63.

844,034. SEIBERT. Seibert & Sons, Inc. SN 243,180. Pub. 11–28–67. Filed 4–11–66.

844,035. SEIBERT AND DESIGN. Seibert & Sons, Inc. SN 243,181. Pub. 11–28–67. Filed 4–11–66.

844,036. EARTHCAVATOR. Gannon Manufacturing Co., Inc., by change of name from Earthcavator Company, Inc. SN 246,895. Pub. 11–28–67. Filed 5–31–66.

844,037. STEEPLE JENNY. The Timberland Ellicott Limited. SN 251,968. Pub. 11–28–67. Filed 8–8–66.

844,038. RAM AND DESIGN. Ram Tool Corporation. SN 254,942. Pub. 11–28–67. Filed 9–22–66.

844,039. MONTVALE AND DESIGN. Zayre Corp. SN 255,742. Pub. 11–28–67. Filed 10–4–66.

844,040. FIX-RAMMER. Sileps, Inc. SN 259,031. Pub. 11–28–67. Filed 11–18–66.

844,041. FIX-HIT. Sileps, Inc. SN 259,032. Pub. 11–28–67. Filed 11–18–66.

844,042. C AND DESIGN. The Cleveland Twist Drill Company. MULTIPLE CLASS (Classes 23 and 26). SN 259,717. Pub. 11–28–67. Filed 11–30–66.

844,043. TUDOR. Griffon Cutlery Corp. SN 260,250. Pub. 11–28–67. Filed 12–7–66.

844,044. HURRICANE AND DESIGN. Hurricane Car Wash Systems, Inc. SN 260,551. Pub. 11–28–67. Filed 12–12–66.

844,045. BLUE DIAMOND. Borg-Warner Corporation. SN 261,192. Pub. 11–28–67. Filed 12–21–66.

844,046. BONANZA. General Appliance Manufacturing Co. SN 261,369. Pub. 11–28–67. Filed 12–23–66.

844,047. GEOMETRIC DESIGN. Fibreboard Corporation. SN 261,653. Pub. 11–28–67. Filed 12–29–66.

844,048. TANGLEWOOD. Textron, Inc., assignee of Gorham Corporation. SN 261,729. Pub. 11–21–67. Filed 12–30–66.

844,049. BOBST. Bobst Champlain, Inc. SN 261,970. Pub. 11–28–67. Filed 1–5–67.

844,050. ROTO-VAC. FMC Corporation. SN 261,983. Pub. 11–28–67. Filed 1–5–67.

844,051. STAR PARTS. Powers & Eaton Industries, Inc. SN 262,058. Pub. 11–28–67. Filed 1–6–67.

844,052. LINECASTING STAR PARTS AUTOMATION AND DESIGN. Powers & Eaton Industries, Inc. SN 262,504. Pub. 11–28–67. Filed 1–13–67.

844,053. SNO-EE AND DESIGN. BDP-Vending Company, d.b.a. Sno-Co. MULTIPLE CLASS (Classes 23 and 45). SN 262,539. Pub. 11–28–67. Filed 1–16–67.

844,054. SCO. Reed Rolled Thread Die Co. SN 262,711. Pub. 11–28–67. Filed 1–17–67.

844,055. VARI-CROWN. Sier Bath Gear Co., Inc. SN 262,975. Pub. 11–28–67. Filed 1–20–67.

844,056. SHUCKMASTER. Shuckmaster, Inc. SN 263,407. Pub. 11–28–67. Filed 1–26–67.

844,057. PBI AND DESIGN. Plane Bearings, Incorporated. SN 264,228. Pub. 11–28–67. Filed 2–8–67.

844,058. ROTO-FINISH. Roto-Finish Company. SN 264,854. Pub. 11–28–67. Filed 2–16–67.

Class 26—Measuring and Scientific Appliances

843,973. (See Class 13 for this trademark.)

844,008. (See Class 21 for this trademark.)

844,042. (See Class 23 for this trademark.)

844,059. CY (DESIGN). Les Fabriques d'Assortiments Réunies. SN 233,432. Pub. 11–28–67. Filed 11–29–65.

844,060. MONOVIAL. Empire Level Manufacturing Co. SN 245,465. Pub. 11–28–67. Filed 5–12–66.

844,061. SCINTI/FLOW. Picker X-Ray Corporation. SN 248,734. Pub. 11–28–67. Filed 6–22–66.

844,062. MRL AND DESIGN. Monterey Research Laboratory, Inc. SN 249,172. Pub. 11–28–67. Filed 6–28–66.

844,063. CANON. Canon Camera Kabushiki Kaisha. SN 259,803. Pub. 11–28–67. Filed 12–1–66.

844,064. AOPA NAVAID. Aircraft Owners and Pilots Association. SN 264,181. Pub. 11–28–67. Filed 2–8–67.

844,065. PHOTOHELIC. F. W. Dwyer Mfg. Co., Inc. SN 266,148. Pub. 11–28–67. Filed 3–7–67.

844,066. ISITAR. Agfa-Gevaert Aktiengesellschaft. SN 268,856. Pub. 11–28–67. Filed 4–11–67.

844,067. SUPER-RECEIVER. Ametek, Inc. SN 273,559. Pub. 11–28–67. Filed 6–12–67.

844,068. CASEL AND DESIGN. Rozinsky's Incorporated. SN 275,722. Pub. 11–28–67. Filed 7–11–67.

844,069. RESIMETER. Clack Corporation. SN 277,002. Pub. 11–28–67. Filed 7–28–67.

844,070. WATER WATCHER. Bellco Glass, Inc. SN 280,744. Pub. 11–28–67. Filed 9–20–67.

844,071. ROYAL. Litton Business Systems, Inc. SN 280,750. Pub. 11–28–67. Filed 9–20–67.

Class 27—Horological Instruments

844,072. SCIENTIST. Movado Watch Agency, Inc. SN 255,914. Pub. 11–28–67. Filed 10–6–66.

Class 28—Jewelry and Precious-Metal Ware

844,073. BOWLES AND DESIGN. Bowles Watch Band Co. SN 253,720. Pub. 11–28–67. Filed 9–2–66.

844,074. TRANSVAAL AND DESIGN. Stuckey & Speer, Inc. SN 257,662. Pub. 8–22–67. Filed 10–31–66.

Class 29—Brooms, Brushes, and Dusters

844,075. COPAL. Gulf & West Indies Company, Inc. SN 249,984. Pub. 11–28–67. Filed 7–11–66.

844,076. BEAUTY LEAVES AND DESIGN. Richard A. Kaskey, d.b.a. Jenard Company. SN 257,280. Pub. 11–28–67. Filed 10–26–66.

844,077. LUSTER CARE. The Las-Stik Manufacturing Company. SN 263,925. Pub. 11–28–67. Filed 2–3–67.

Class 31—Filters and Refrigerators

844,078. FUNDA. Chemap AG. SN 251,516. Pub. 11–28–67. Filed 8–2–66.

844,079. TOPP AND DESIGN. Topp Import & Export, Inc. MULTIPLE CLASS (Classes 31 and 34). SN 251,667. Pub. 11–28–67. Filed 8–3–66.

844,080. GRAD-DUAL. Nefco Filter Corporation. SN 262,188. Pub. 11–28–67. Filed 1–9–67.

844,081. AQUAPEL. Millipore Corporation, by change of name from Millipore Filter Corporation. SN 262,494. Pub. 11–28–67. Filed 1–13–67.

844,082. SOLVINERT. Millipore Corporation, by change of name from Millipore Filter Corporation. SN 262,495. Pub. 11–28–67. Filed 1–13–67.

844,083. PHOROSLIDE. Millipore Corporation, by change of name from Millipore Filter Corporation. SN 262,496. Pub. 11–28–67. Filed 1–13–67.

Class 32—Furniture and Upholstery

843,907. (See Class 2 for this trademark.)

844,084. MISCELLANEOUS DESIGN. H. Robert Industries, Inc. SN 229,292. Pub. 1–17–67. Filed 10–4–65.

844,085. "KISSIN STOOL" AND DESIGN. Novel Products Manufacturers, Inc. SN 239,169. Pub. 11–28–67. Filed 2–18–66.

844,086. RESTRON. Restronics, Inc. SN 255,021. Pub. 11–28–67. Filed 9–23–66.

844,087. ASTROMATIC AND DESIGN. Acme Visible Records, Inc. SN 264,488. Pub. 11–28–67. Filed 2–13–67.

844,088. AGENA. Congoleum-Nairn Inc. SN 268,866. Pub. 11–28–67. Filed 4–11–67.

844,089. ROMANTIQUE. Congoleum-Nairn Inc. SN 269,401. Pub. 11–28–67. Filed 4–18–67.

Class 33 — Glassware

844,090. GOLD BAND (DESIGN). Wheaton Glass Company. SN 201,771. Pub. 6-21-66. Filed 9-11-64.

Class 34 — Heating, Lighting, and Ventilating Apparatus

844,079. (See Class 31 for this trademark.)

844,091. HT AND DESIGN. Hafstrom-Thompson Associates, d.b.a. Hafstrom Technical Products, Inc. SN 235,666. Pub. 11-28-67. Filed 1-3-66.

844,092. VIS-CON. Gray Company, Inc. SN 248,615. Pub. 11-28-67. Filed 6-21-66.

844,093. REAL-PIT. Alfred G. B. Prather. SN 250,514. Pub. 11-28-67. Filed 7-18-66.

844,094. AXIFLEX. Westinghouse Electric Corporation. SN 252,438. Pub. 11-28-67. Filed 8-15-66.

844,095. MCCULLOCH. McCulloch Corporation. SN 252,742. Pub. 11-28-67. Filed 8-19-66.

844,096. SUNNYFLO. Crane Co. SN 257,695. Pub. 11-28-67. Filed 11-1-66.

844,097. FIRE SEAL ETC. AND DESIGN. Air Balance Inc. SN 258,656. Pub. 11-28-67. Filed 11-15-66.

844,098. SOLAR FLAME. Crane Co. SN 258,786. Pub. 11-28-67. Filed 11-16-66.

844,099. DIFFUSITRON. Sola Basic Industries. SN 260,091. Pub. 11-28-67. Filed 12-5-66.

844,100. BEE VEE. Bernhard Vihl, d.b.a. Industrial Copper & Metal Works. SN 260,898. Pub. 11-28-67. Filed 12-15-66.

844,101. THERMO-DUSTER. Oglevee Floral Co., Inc. SN 262,610. Pub. 11-28-67. Filed 1-16-67.

844,102. BUDDY L AND DESIGN. Glaser Products Corporation. SN 280,367. Pub. 11-28-67. Filed 9-15-67.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

844,103. THE SAFETY MINDED COMPANY. The Goodyear Tire & Rubber Company. SN 251,628. Pub. 11-28-67. Filed 8-3-66.

844,104. VEE-BAND. Dayco Corporation. SN 278,195. Pub. 11-28-67. Filed 8-14-67.

Class 36 — Musical Instruments and Supplies

844,105. VERSATONE. Magnetic Products. SN 223,563. Pub. 11-28-67. Filed 7-16-65.

844,106. POLYCHORD. Emenee Industries, Inc. SN 232,199. Pub. 11-28-67. Filed 11-5-65.

844,107. MATHIAS THOMA MT AND DESIGN. Martin Tolchin Music, Inc. SN 238,018. Pub. 11-28-67. Filed 2-3-66.

844,108. EL GLOBO. Synthetic Plastics Company. SN 241,604. Pub. 11-28-67. Filed 3-22-66.

844,109. TOTAL TONE AND DESIGN. The Wurlitzer Company. SN 242,081. Pub. 11-28-67. Filed 3-28-66.

844,110. KUSTOM. Ross, Inc. SN 247,256. Pub. 11-28-67. Filed 6-3-66.

844,111. FIVE SPOT. Broadcast Electronics, Inc. SN 253,725. Pub. 11-28-67. Filed 9-2-66.

844,112. TEN SPOT. Broadcast Electronics, Inc. SN 253,726. Pub. 11-28-67. Filed 9-2-66.

844,113. FUZZ-TONE AND DESIGN. Chicago Musical Instrument Co. SN 255,514. Pub. 11-28-67. Filed 9-30-66.

844,114. MISCELLANEOUS DESIGN. National Gramophon Works Corporation. SN 258,136. Pub. 11-28-67. Filed 11-7-66.

844,115. ROGERS. Columbia Broadcasting System, Inc. SN 270,185. Pub. 11-28-67. Filed 4-28-67.

844,116. JAZZMASTER. Columbia Broadcasting System, Inc. SN 270,191. Pub. 11-28-67. Filed 4-28-67.

844,117. MISCELLANEOUS DESIGN. F.E.L. Church Publications, Ltd. MULTIPLE CLASS (Classes 36 and 38). SN 271,400. Pub. 11-28-67. Filed 5-15-67.

844,118. BUENA VISTA RECORDS FANTA SOUND AND DESIGN. Buena Vista Distribution Co., Inc. SN 278,058. Pub. 11-28-67. Filed 8-11-67.

844,119. CG (DESIGN). Colgems Records, Inc. SN 278,448. Pub. 11-28-67. Filed 8-17-67.

Class 37 — Paper and Stationery

844,120. BIBBERO SYSTEMS AND DESIGN. Med-Dent Publishing Co. SN 249,028. Pub. 11-28-67. Filed 6-27-66.

844,121. MONAPOINT. Monadnock Paper Mills, Inc. SN 249,348. Pub. 11-28-67. Filed 6-30-66.

844,122. SCOTT. Scott Paper Company. SN 249,879. Pub. 11-28-67. Filed 7-8-66.

844,123. REC-CHEK. Rec-Chek, Inc. MULTIPLE CLASS (Classes 37 and 101). SN 252,509. Pub. 11-28-67. Filed 8-17-66.

844,124. BRONCO. Duro Pen Company, Inc., assignee, by mesne assignment, of Duro Pen Company, Inc. SN 254,438. Pub. 11-28-67. Filed 9-14-66.

844,125. DENT-A-COUNTING. Med-Dent Publishing Co. SN 256,572. Pub. 11-28-67. Filed 10-17-66.

844,126. STAFF. Staff Supermarket Associates, Inc. SN 258,265. Pub. 11-28-67. Filed 11-8-66.

844,127. RAP-A-WAY. International Paper Company. SN 258,545. Pub. 11-28-67. Filed 11-14-66.

844,128. IP INTERNATIONAL PAPER COMPANY. International Paper Company. SN 259,430. Pub. 11-28-67. Filed 11-25-66.

844,129. QUARTET. Kimberly-Clark Corporation. SN 266,238. Pub. 11-28-67. Filed 3-8-67.

844,130. UCAR. Union Carbide Corporation. SN 266,268. Pub. 11-28-67. Filed 3-8-67.

844,131. PRIMAVERA. The C. R. Gibson Company. SN 266,320. Pub. 11-28-67. Filed 3-9-67.

844,132. FERN. The Northwest Paper Company. SN 266,350. Pub. 11-28-67. Filed 3-9-67.

844,133. ARBOND AND DESIGN. Arnold Cellophane Corporation. SN 266,719. Pub. 11-28-67. Filed 3-15-67.

844,134. CASTELL MICROLETTE. A. W. Faber-Castell Pencil Co., Inc. SN 266,984. Pub. 11-28-67. Filed 3-17-67.

844,135. CURRENCY. Graphic Controls Corporation. SN 267,034. Pub. 11-28-67. Filed 3-17-67.

844,136. BONDTEX. Graphic Controls Corporation. SN 267,036. Pub. 11-28-67. Filed 3-17-67.

844,137. RINGEROOS. Mattel, Inc. SN 271,413. Pub. 11-28-67. Filed 5-15-67.

844,138. LEWIS. Lewis Business Forms, Inc. SN 280,133. Pub. 11-28-67. Filed 9-12-67.

844,139. LEWIS BUSINESS FORMS, INC. AND DESIGN. Lewis Business Forms, Inc. SN 280,134. Pub. 11-28-67. Filed 9-12-67.

844,140. TIARA. The Parker Pen Company. SN 280,375. Pub. 11-28-67. Filed 9-15-67.

844,141. CORONET. The Parker Pen Company. SN 280,376. Pub. 11-28-67. Filed 9-15-67.

844,142. SWINGER. Polaroid Corporation. SN 280,752. Pub. 11-28-67. Filed 9-20-67.

Class 38 — Prints and Publications

844,117. (See Class 36 for this trademark.)

844,143. TRANSIT-WIZE. General Signal Corporation. SN 235,130. Pub. 11-28-67. Filed 12-22-65.

844,144. B GOLF AND TRAVEL. The Oklahoma Publishing Company, assignee of B Golf and Travel Co., Inc. SN 242,662. Pub. 11-28-67. Filed 4-4-66.

844,145. WASHINGTON REPORT ON THE MEDICAL SCIENCES. Washington Report on the Medical Sciences, Inc. SN 244,634. Pub. 11-28-67. Filed 4-29-66.

844,146. COLLEGE-RATER. College-Rater, Inc., assignee of Abram Samuels, d.b.a. College-Rater. SN 245,795. Pub. 11-28-67. Filed 5-16-66.

844,147. WILFRED FUNK. The Reader's Digest Association, Inc. SN 246,606. Pub. 11-28-67. Filed 5-25-66.

844,148. EMBASSY. Sydney Levitt, d.b.a. Embassy Greetings. SN 248,347. Pub. 11-28-67. Filed 6-17-66.

844,149. EE EVALUATION ENGINEERING. A. Verner Nelson, d.b.a. A. Verner Nelson Associates. SN 248,924. Pub. 11-28-67. Filed 6-24-66.

844,150. BUGNION. Pierre Bugnion. SN 249,116. Pub. 11-28-67. Filed 6-28-66.

844,151. AIR-AGE NEWS. Ag . Aviation Academy. SN 253,408. Pub. 11-28-67. Filed 8-30-66.

844,152. QUICK FROZEN FOODS AND DESIGN. E. W. Williams Publications, Inc. SN 254,958. Pub. 11-28-67. Filed 9-22-66.

844,153. YOUNG YEARS LIBRARY. Parents' Magazine Enterprises, Inc., assignee of Home Library Press, Inc. SN 255,002. Pub. 11-28-67. Filed 9-23-66.

844,154. SKI WORLD. Anderson & Thompson Ski Co., Inc. SN 255,687. Pub. 11-28-67. Filed 10-4-66.

844,155. LEAD LINE LIBRARY AND DESIGN. Elsmo, Inc., d.b.a. Elsmo Bros. Publishers. SN 257,597. Pub. 11-28-67. Filed 10-31-66.

844,156. MOD-O-LITE. Modern School Supply Co. Inc. SN 262,185. Pub. 11-28-67. Filed 1-9-67.

844,157. INDUSTRIAL CONSUMER. Technical Publishing Company. SN 264,113. Pub. 11-28-67. Filed 2-6-67.

844,158. THE PET LIBRARY LTD AND DESIGN. Pet Needs, Inc. SN 266,356. Pub. 11-28-67. Filed 3-9-67.

844,159. TOMORROW AND DESIGN. Research Institute of America, Inc. SN 272,676. Pub. 11-28-67. Filed 5-31-67.

Class 39 — Clothing

844,023. (See Class 22 for this trademark.)

844,160. CHAMPEZE. Champion Pants Manufacturing Co., Inc., by assignment and change of name from Champion Pants Manufacturing Co., Inc. SN 210,646. Pub. 8-3-65. Filed 1-26-65.

844,161. GAMMA-GARD. Bard-Parker Company, Inc. SN 243,767. Pub. 11-28-67. Filed 4-19-66.

844,162. MYSTIC. Chappell Allen & Co., Limited. SN 244,299. Pub. 7-11-67. Filed 4-26-66.

844,163. SIDEWINDER. Trøll Inc. SN 254,329. Pub. 11-28-67. Filed 9-12-66.

844,164. DUNE-DECK. American Dune-Deck Sportswear Corporation. SN 257,344. Pub. 11-28-67. Filed 10-27-66.

844,165. JOE FRANK OF HOUSTON. Joe Frank, Inc. SN 258,802. Pub. 11-28-67. Filed 11-16-66.

844,166. LOOK-MAKERS. Munsingwear, Inc. SN 263,768. Pub. 11-28-67. Filed 2-1-67.

844,167. HIPNIPPERS. Munsingwear, Inc. SN 263,769. Pub. 11-28-67. Filed 2-1-67.

844,168. JHC. Rapid-American Corporation. SN 263,778. Pub. 11-28-67. Filed 2-1-67.

844,169. MISTER LAZY BONES. The Juvenile Shoe Corporation of America. SN 264,063. Pub. 11-28-67. Filed 2-6-67.

844,170. WAGS AND DESIGN. Shoe Corporation of America. SN 264,252. Pub. 11-28-67. Filed 2-8-67.

844,171. MIGHTY MATES. The Williams Manufacturing Company. SN 264,268. Pub. 11-28-67. Filed 2-8-67.

844,172. SLIPCOVERS. Dudley Casuals Incorporated. SN 264,658. Pub. 11-28-67. Filed 2-14-67.

844,173. FLYING POINT. Russ Togs, Inc. SN 265,213. Pub. 11-28-67. Filed 2-21-67.

844,174. LADY OF PARIS. Virginia Maid Hosiery Mills, Inc. SN 269,242. Pub. 11-28-67. Filed 4-14-67.

844,175. DOWNTOWNER. William F. Niemi Company. SN 269,682. Pub. 11-28-67. Filed 4-20-67.

844,176. CLANMOOR. Stephens Brothers Limited. SN 269,804. Pub. 11-28-67. Filed 4-21-67.

844,177. PANTOUCHE. Fairfield Knitwear, Inc. SN 277,247. Pub. 11-28-67. Filed 8-1-67.

Class 40 — Fancy Goods, Furnishings, and Notions

843,907. (See Class 2 for this trademark.)

844,178. MUSTANG AND DESIGN. Joyal and Van Dale Co. SN 202,274. Pub. 1-4-66. Filed 9-21-64.

844,179. SWINGER. Hair Fashions, Inc. SN 264,738. Pub. 11-28-67. Filed 2-15-67.

844,180. MARIE ANTOINETTE. Cosmetically Yours, Inc. SN 278,632. Pub. 11-28-67. Filed 8-21-67.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

844,181. CLOUD (DESIGN). Mobay Chemical Company, assignee of Calfoam Corporation of America. SN 240,254. Pub. 11-28-67. Filed 3-7-66.

844,182. PURR-FECT. Ack-Ti-Lining, Inc., assignee of Ackerman Associates, Inc. SN 242,781. Pub. 11-28-67. Filed 4-6-66.

844,183. AERFAB. The Aerfab Corporation. SN 245,050. Pub. 1-10-67. Filed 5-6-66.

844,184. MISCELLANEOUS DESIGN. Niedieck AG. SN 256,468. Pub. 11-28-67. Filed 10-14-66.

844,185. TYPAR. E. I. du Pont de Nemours and Company. SN 261,562. Pub. 11-28-67. Filed 12-28-66.

844,186. JUTTAH. Blends, Inc. SN 262,847. Pub. 11-28-67. Filed 1-19-67.

844,187. BIT O' GRASS. Collins & Aikman Corporation. SN 264,806. Pub. 11-28-67. Filed 2-16-67.

844,188. MOSS ROSE. Moss Rose Manufacturing Company. SN 265,321. Pub. 11-28-67. Filed 2-23-67.

844,189. THE CLASSIC TOUCH. M. Lowenstein & Sons, Inc. SN 265,936. Pub. 11-28-67. Filed 3-3-67.

844,190. ORCOTUFT. Eagle-Picher Industries, Inc. SN 266,205. Pub. 11-28-67. Filed 3-8-67.

844,191. QUEEN-MARIE. J. P. Stevens & Co., Inc. SN 266,697. Pub. 11-28-67. Filed 3-14-67.

844,192. RICHPRESS. Crompton Company. SN 268,032. Pub. 11-28-67. Filed 3-31-67.

844,193. CHANDEAU. Fieldcrest Mills, Inc. SN 268,300. Pub. 11-28-67. Filed 4-4-67.

844,194. COQUILLE. Fieldcrest Mills, Inc. SN 268,301. Pub. 11-28-67. Filed 4-4-67.

844,195. MAJOREAU. Fieldcrest Mills, Inc. SN 268,302. Pub. 11-28-67. Filed 4-4-67.

844,196. EUROPA. Fieldcrest Mills, Inc. SN 268,304. Pub. 11-28-67. Filed 4-4-67.

844,197. ERNST. Ernst, Inc. SN 273,720. Pub. 11-28-67. Filed 6-13-67.

Class 44 — Dental, Medical, and Surgical Appliances

843,907. (See Class 2 for this trademark.)

844,198. CORET. Anton F. Burkardt, d.b.a. Burkardt Electronics. SN 239,879. Pub. 11–28–67. Filed 3–1–66.

844,199. FAICHNEY. Faichney Instrument Corporation. SN 260,325. Pub. 11–28–67. Filed 12–8–66.

844,200. ANTI-EM. Jobst Institute, Inc. SN 263,073. Pub. 11–28–67. Filed 1–23–67.

844,201. SELECTED. Popper & Sons, Inc. SN 264,230. Pub. 11–28–67. Filed 2–8–67.

844,202. DEFENDER. Popper & Sons, Inc. SN 264,231. Pub. 11–28–67. Filed 2–8–67.

844,203. RECORDER. Popper & Sons, Inc. SN 264,232. Pub. 11–28–67. Filed 2–8–67.

844,204. BLUE DOT. Popper & Sons, Inc. SN 264,233. Pub. 11–28–67. Filed 2–8–67.

Class 45 — Soft Drinks and Carbonated Waters

844,053. (See Class 23 for this trademark.)

844,205. SUBURBAN. Suburban Club Carbonated Beverage Company, Inc. SN 259,864. Pub. 11–28–67. Filed 12–1–66.

844,206. CRANICOT. Ocean Spray Cranberries, Inc. SN 260,447. Pub. 11–28–67. Filed 12–9–66.

844,207. COUNTRY-MUSIC AND DESIGN. Robert L. McRee, d.b.a. Country Music Beverage Co. SN 261,666. Pub. 11–28–67. Filed 12–29–66.

844,208. CHOCOLATE SOLDIER AND DESIGN. Monarch Citrus Products Company. MULTIPLE CLASS (Classes 45 and 46). SN 265,007. Pub. 11–28–67. Filed 2–20–67.

844,209. FROSH. Feigenson, Incorporated, d.b.a. Faygo Beverage Company. SN 267,823. Pub. 11–28–67. Filed 3–29–67.

844,210. MIRINDA DRY. PepsiCo, Inc. SN 278,528. Pub. 11–28–67. Filed 8–17–67.

Class 46 — Foods and Ingredients of Foods

844,208. (See Class 45 for this trademark.)

844,211. MRS. WEAVER'S SALADS. Dean Foods Company. SN 226,224. Pub. 11–28–67. Filed 8–23–65.

844,212. HOOSIER PRIDE. Weidner Canning Company, Inc., d.b.a. R-Way Canning Co. SN 227,088. Pub. 11–28–67. Filed 9–2–65.

844,213. PONDEROSA RANCH BREAD. Bread Franchising, Inc., assignee of Bread Marketing, Inc. SN 231,666. Pub. 11–28–67. Filed 10–27–65.

844,214. DAYLIGHT DONUTS MMMMMMM GOOD AND DESIGN. William T. Day, d.b.a. Daylight Donut Flour Company. SN 239,604. Pub. 11–28–67. Filed 2–25–66.

844,215. CROWN'S. Crown Food Products, Inc. SN 246,280. Pub. 11–28–67. Filed 5–23–66.

844,216. CORNY COBS. General Mills, Inc. SN 246,775. Pub. 11–28–67. Filed 5–27–66.

844,217. BOGDON'S PARTI-CONFETTI. Bogdon Candies, Inc. SN 252,536. Pub. 11–28–67. Filed 8–17–66.

844,218. WAGNER'S FRENCH OLIVE OIL AND DESIGN. John Wagner & Sons Inc. SN 252,606. Pub. 11–28–67. Filed 8–17–66.

844,219. STAFF. Staff Supermarket Associates, Inc. SN 256,775. Pub. 11–28–67. Filed 10–19–66.

844,220. CHOCOLAT LINDT AND DESIGN. Chocoladefabriken Lindt & Sprungli AG. SN 258,044. Pub. 11–28–67. Filed 11–7–66.

844,221. ME. Strohmeyer & Arpe Company, d.b.a. United Pure Food Company. SN 259,182. Pub. 11–28–67. Filed 11–21–66.

844,222. CHOWS. Ralston Purina Company. SN 260,883. Pub. 11–28–67. Filed 12–15–66.

844,223. KRAFTEEN. National Dairy Products Corporation. SN 261,939. Pub. 11–28–67. Filed 1–4–67.

844,224. SQUEENUTS. Products Distributing Corporation. SN 262,347. Pub. 11–28–67. Filed 1–11–67.

844,225. NURS-ETTE. K & K Manufacturing, Inc. SN 265,532. Pub. 11–28–67. Filed 2–27–67.

844,226. HIDDEN VALLEY RANCH AND DESIGN. Kenneth B. Hensen, d.b.a. Hidden Valley Ranch. SN 265,628. Pub. 11–28–67. Filed 2–28–67.

844,227. THE BIG 'O.' Consolidated Foods Corporation. SN 265,704. Pub. 11–28–67. Filed 3–1–67.

844,228. CONEY ISLAND. Taterstate Frozen Foods. SN 265,853. Pub. 11–28–67. Filed 3–2–67.

844,229. SUPERBASE. Florasynth, Inc. SN 266,026. Pub. 11–28–67. Filed 3–6–67.

844,230. BEAUTY. Specialty Bakers' Services, Inc. SN 266,263. Pub. 11–28–67. Filed 3–8–67.

844,231. GOLIATH. Breaker Confections, Inc. SN 266,301. Pub. 11–28–67. Filed 3–9–67.

844,232. SPRUCE. The Wickes Corporation, d.b.a. Michigan Bean Company. SN 267,209. Pub. 11–28–67. Filed 3–20–67.

844,233. ROOSTER AND DESIGN. The Wickes Corporation, d.b.a. Michigan Bean Company. SN 267,210. Pub. 11–28–67. Filed 3–20–67.

844,234. PAN-O-GOLD. Pan-O-Gold Baking Co. SN 267,217. Pub. 5–16–67. Filed 3–24–67.

844,235. BARONESS. Mount Olive Pickle Company, Inc. SN 267,344. Pub. 11–28–67. Filed 3–22–67.

844,236. DESIGN OF A BOAT. Riviana Foods Inc. SN 272,407. Pub. 11–28–67. Filed 5–25–67.

844,237. CANDICE. Keebler Company. SN 272,495. Pub. 11–28–67. Filed 5–26–67.

844,238. NORICA. Deutsche Lebensmittelwerke, G.m.b.H. SN 272,888. Pub. 11–28–67. Filed 6–2–67.

844,239. BANG-UP. Valley Packing Company of California. SN 275,356. Pub. 11–28–67. Filed 7–5–67.

844,240. KITCHEN READY. Oceans of the World, Inc. SN 277,107. Pub. 11–28–67. Filed 7–31–67.

844,241. FRUIT OF GOLD. Toru Kitahara. SN 278,167. Pub. 11–28–67. Filed 8–14–67.

844,242. NICE-ICE. The Harlee Company. SN 278,634. Pub. 11–28–67. Filed 8–21–67.

Class 47 — Wines

844,243. OLIVIER. Julius Wile Sons & Co., Inc. SN 257,118. Pub. 7–25–67. Filed 10–24–66.

844,244. SANT'GRIA OF YAGO AND DESIGN. Bodegas Rioja Santiago, S.A., d.b.a. Rioja Santiago S.A. SN 264,795. Pub. 11–28–67. Filed 2–16–67.

844,245. WAWEL AND DESIGN. Przedsiebiorstwo Handlu Zagranicznego "Agros." SN 266,173, Pub. 11–28–67. Filed 3–7–67.

844,246. LOUIS THE EIGHTH. Fransia Brothers Winery, d.b.a. Old Chateau Wine Co. SN 270,913. Pub. 11–28–67. Filed 5–8–67.

Class 49 — Distilled Alcoholic Liquors

844,247. CASTAWAYS. David Sherman Corporation. SN 209,202. Pub. 10–19–65. Filed 12–31–64.

Class 50 — Merchandise Not Otherwise Classified

843,920. (See Class 2 for this trademark.)

844,248. KANTSLIP. American Garment Hanger Company, Incorporated. SN 256,509. Pub. 11–28–67. Filed 10–17–66.

844,249. FIVE STARS (DESIGN). General Felt Industries, Inc. SN 271,983. Pub. 11–28–67. Filed 5–22–67.

Class 51 — Cosmetics and Toilet Preparations

844,250. TAMBOUR DE JUNGLE. Jean Eymond, Inc. SN 241,045. Pub. 11–28–67. Filed 3–15–66.

844,251. BODY MAGIC. Sarong, Inc. SN 242,504. Pub. 5–9–67. Filed 4–1–66.

844,252. MARGARETE ASTOR. Margarete Astor AG. SN 246,009. Pub. 11–28–67. Filed 5–11–66.

844,253. BODY MAGIC AND DESIGN. Sarong, Inc. SN 247,412. Pub. 5–9–67. Filed 6–6–66.

844,254. ELLEN OF HOLLYWOOD. Ellen of Hollywood, Inc. SN 249,518. Pub. 11–28–67. Filed 7–5–66.

844,255. TURN BLONDE. Helena Rubinstein, Inc. SN 250,300. Pub. 11–28–67. Filed 7–14–66.

844,256. HOFFMAN. Hoffman Barber & Beauty Supply Co. SN 251,304. Pub. 11–28–67. Filed 7–29–66.

844,257. JACQUES ESTEREL. Charles Martin. MULTIPLE CLASS (Classes 51 and 52). SN 253,226. Pub. 11–28–67. Filed 8–26–66.

844,258. STAR BRIGHT. The Fleetwood Company. SN 253,866. Pub. 12–20–66. Filed 9–6–66.

844,259. JUMP. Clairol Incorporated. SN 254,244. Pub. 11–28–67. Filed 9–12–66.

844,260. AVOCADOL. Sybil Ives Incorporated. SN 261,334. Pub. 11–28–67. Filed 12–22–66.

844,261. SANCTUARY. Armour and Company. SN 262,307. Pub. 11–28–67. Filed 1–11–67.

844,262. AMAZING. Bishop Industries Inc., by change of name from Hazel Bishop Inc. SN 262,869. Pub. 11–28–67. Filed 1–19–67.

844,263. THE ENGLISH INFLUENCE. Yardley of London, Inc. SN 263,310. Pub. 11–28–67. Filed 1–25–67.

844,264. VSP. Samuel Bonat & Bro., Inc. SN 263,443. Pub. 11–28–67. Filed 1–27–67.

844,265. MASKIT. Associated Luxuries, Inc. SN 264,789. Pub. 11–28–67. Filed 2–16–67.

844,266. SEVEN STARS OF HOLLYWOOD AND DESIGN. Victor Mamak. SN 265,078. Pub. 11–28–67. Filed 2–20–67.

844,267. PAT-A-BLUSH. Helena Rubinstein, Inc. SN 266,883. Pub. 11–28–67. Filed 3–16–67.

844,268. THE HOUSE OF DANILOV. The House of Danilov, Inc. SN 272,453. Pub. 11–28–67. Filed 5–26–67.

844,269. GREAT LOOK. Charmaceuticals, Inc. SN 273,368. Pub. 11–28–67. Filed 6–8–67.

844,270. RK AND DESIGN. Redken Laboratories, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 276,064. Pub. 11–28–67. Filed 7–17–67.

844,271. PRETTY LIGHT. Alberto-Culver Company. MULTIPLE CLASS (Classes 51 and 52). SN 276,274. Pub. 11–28–67. Filed 7–19–67.

844,272. EASY DOES IT. Alberto-Culver Company. MULTIPLE CLASS (Classes 51 and 52). SN 276,277. Pub. 11–28–67. Filed 7–19–67.

844,273. BEAUTY MAKER. Charmaceuticals, Inc. SN 280,669. Pub. 11–28–67. Filed 9–19–67.

844,274. F-T. Gem, Incorporated. SN 280,747. Pub. 11–28–67. Filed 9–20–67.

Class 52 — Detergents and Soaps

843,923. (See Class 4 for this trademark.)

844,257. (See Class 51 for this trademark.)

844,270. (See Class 51 for this trademark.)

844,271. (See Class 51 for this trademark.)

844,272. (See Class 51 for this trademark.)

844,275. NO-DOUBT. Colgate-Palmolive Company. SN 212,503. Pub. 7–13–65. Filed 2–23–65.

844,276. SPEED-E-CLEAN. Speedrite Products, Inc. SN 235,349. Pub. 11–28–67. Filed 12–27–65.

844,277. RED TOP AND DESIGN. Red Top Maintenance Service Inc. SN 252,419. Pub. 11–28–67. Filed 8–15–66.

844,278. EVERYDAY. Standard International Corporation. SN 261,236. Pub. 11–28–67. Filed 12–21–66.

844,279. SPUNK. Ranco Industrial Products Corporation. SN 263,201. Pub. 11–28–67. Filed 1–24–67.

844,280. HYDROPEL. Pennsalt Chemicals Corporation. SN 264,273. Pub. 11–28–67. Filed 1–27–67.

844,281. VEDRA. Johnson Industries, Inc. SN 264,422. Pub. 11–28–67. Filed 2–10–67.

844,282. COME ON STRONG. B & L Sales Associates. SN 265,485. Pub. 11–28–67. Filed 2–27–67.

844,283. SERVE. W. R. Grace & Co. SN 270,058. Pub. 11–28–67. Filed 4–26–67.

844,284. THE HOUSE OF DANILOV. The House of Danilov, Inc. SN 272,454. Pub. 11–28–67. Filed 5–26–67.

844,285. MR. DUCK. Alberto-Culver Company. SN 276,279. Pub. 11–28–67. Filed 7–19–67.

844,286. LONCOTERGE. London Chemical Company, Inc. SN 279,146. Pub. 11–28–67. Filed 8–28–67.

Service Marks

Class 100 — Miscellaneous

844,287. KIDDER, PEABODY ETC. AND DESIGN. Kidder, Peabody & Co. Incorporated. MULTIPLE CLASS (Classes 100, 101, and 102). SN 219,997. Pub. 4–4–67. Filed 5–28–65.

844,288. TUDOR ROOM. Sheraton Corporation of America. SN 243,352. Pub. 11–28–67. Filed 4–13–66.

844,289. PYROMATICS. H. E. Moore. SN 249,550. Pub. 11–28–67. Filed 7–5–66.

844,290. GROSSINGER'S. S. & H. Grossinger, Inc. SN 255,313. Pub. 11–28–67. Filed 9–28–66.

844,291. TEAM. The Evangelical Alliance Mission. SN 260,540. Pub. 11–28–67. Filed 12–12–66.

844,292. TEAM WORKERS TOGETHER AND DESIGN. The Evangelical Alliance Mission. SN 260,541. Pub. 11–28–67. Filed 12–12–66.

844,293. A FAMILY ADVENTURE IN EATIN' OUT! Buffalo Bill's Steak Village, Inc. SN 265,467. Pub. 11–28–67. Filed 2–27–67.

844,294. CIT CERTIFIED BUILDINGS AND DESIGN. C.I.T. Financial Corporation. MULTIPLE CLASS (Classes 100 and 103). SN 272,336. Pub. 11–28–67. Filed 5–25–67.

844,295. KLEEN-ALL CENTER. Sterling Equipment Corporation. SN 274,123. Pub. 11–28–67. Filed 12–27–66.

Class 101 — Advertising and Business

844,123. (See Class 37 for this trademark.)

844,287. (See Class 100 for this trademark.)

844,296. PAY-LESS. Pay-Less Drug Stores, Inc. SN 199,482. CONCURRENT USE. Pub. 11–9–65. Filed 8–7–64.

844,297. CAMBRIDGE RESEARCH INSTITUTE. Cambridge Research Institute. SN 243,092. Pub. 11–28–67. Filed 4–11–66.

844,298. THE HOUSE OF PFAFF AND DESIGN. George Pfaff, Incorporated. SN 248,927. Pub. 11-28-67. Filed 6-24-66.

844,299. SO-FRO. House of Fabrics, Inc. SN 254,285. Pub. 11-28-67. Filed 9-12-66.

844,300. ALPHA-BUCKS. Bradfute Corporation. SN 255,413. Pub. 11-28-67. Filed 9-29-66.

844,301. COBAN. University of Miami. SN 255,559. Pub. 11-28-67. Filed 9-30-66.

844,302. PROJECT SEARCH, INC. AND DESIGN. Project Search, Inc. SN 258,582. Pub. 11-28-67. Filed 11-14-66.

844,303. SKYCENTER. The Hertz Corporation, by assignment and change of name from The Hertz Corporation. SN 268,451. Pub. 11-28-67. Filed 4-6-67.

Class 102 — Insurance and Financial

844,287. (See Class 100 for this trademark.)

844,304. FIGURE "1" AND DESIGN. First National Bank of Oregon. SN 247,212. Pub. 11-28-67. Filed 6-3-66.

844,305. FIRSTBANK CARD. Seattle-First National Bank. SN 247,626. Pub. 8-8-67. Filed 6-8-66.

844,306. MISCELLANEOUS DESIGN. The Educators Company for Insurance on Lives and Granting Annuities. SN 276,285. Pub. 11-28-67. Filed 7-19-67.

844,307. C/UA AND DESIGN. The College/University Insurance Company of America. SN 279,983. Pub. 11-28-67. Filed 9-11-67.

Class 103 — Construction and Repair

844,294. (See Class 100 for this trademark.)

844,308. HAYES AND DESIGN. Hayes International Corporation. SN 255,621. Pub. 11-28-67. Filed 10-3-66.

844,309. RANNEY SELECTOR. Ranney Water Systems, Inc. SN 261,517. Pub. 11-28-67. Filed 12-27-66.

Class 105 — Transportation and Storage

844,310. K (DESIGN). Kinney National Service, Inc., by merger and change of name from Kinney Service Corporation. SN 234,828. Pub. 2-14-67. Filed 12-17-65.

844,311. AU AND DESIGN. Advance United Expressways, Inc. SN 243,291. Pub. 11-28-67. Filed 4-13-66.

844,312. ROTEL. Rotel-Internationale Begegnungsfahrten Anhanger- und Omnibusentwicklungen Georg Holtl OHG. SN 249,800. Pub. 11-28-67. Filed 7-7-66.

844,313. WELCOME TO THE WORLD OF TRANS WORLD AIRLINES. Trans World Airlines, Inc. SN 255,030. Pub. 11-28-67. Filed 9-23-66.

Class 106 — Material Treatment

844,314. CAR-BE-QUE. Hyman-Michaels Company. SN 251,217. Pub. 11-28-67. Filed 7-28-66.

Class 107 — Education and Entertainment

844,315. GUIDING EYES. Guide Dog Foundation for the Blind, Inc. SN 119,125. Pub. 3-26-63. Filed 5-2-61.

844,316. INDUSTRIAL TIMESTUDY INSTITUTE AND DESIGN. Technological Management, Inc., d.b.a. Industrial Timestudy Institute. SN 244,438. Pub. 11-28-67. Filed 4-27-66.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

844,317. Aktiebolaget, Norma Projektilfabrik, Amotfors, Sweden. SN 259,385. Filed P.R. 11-25-66; Am. S.R. 12-11-67.

SUPERFLASH

For Primers for Use in Rifle Ammunition.
First use Sept. 9, 1966; in commerce Sept. 9, 1966.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

844,318. Wilton Brass Company, Columbia, Pa. SN 241,008. Filed P.R. 2-28-66; Am. S.R. 11-21-67.

TAPER TIPPER

For Tool for Shaping the Butt Ends of Candles.
First use Aug. 11, 1964.

844,319. Hospital Specialty Company, Cleveland, Ohio. SN 250,376. Filed P.R. 7-15-66; Am. S.R. 11-30-67.

DUAL VENDOR

For Vending Machines.
First use about Dec. 15, 1964.

844,320. New Plastic Corporation, Los Angeles, Calif. SN 253,232. Filed P.R. 8-26-66; Am. S.R. 11-22-67.

PRICE IS NOT COST!

For Hammers and Mallets, and Holders and Tips Therefor.
First use June 10, 1965.

Class 32 — Furniture and Upholstery

844,321. Metalcraft Engineering Co., Lincoln, Nebr. SN 248,824. Filed P.R. 6-23-66; Am. S.R. 11-1-67.

BOOK-KADDIE

For Desk-Top Adjustable Book Shelf.
First use November 1965.

844,322. Ortho Mattress Company of Illinois, Markham, Ill. SN 257,506. Filed P.R. 10-28-66; Am. S.R. 11-30-67.

ORTHO MATTRESS

For Mattresses and Box Springs.
First use Feb. 1, 1965.

844,323. Ortho Mattress Company of Illinois, Markham, Ill. SN 257,507. Filed P.R. 10-28-66; Am. S.R. 11-30-67.

ORTHO MATTRESS

For Mattresses and Box Springs.
First use Feb. 1, 1965.

844,324. N. Sumergrade & Sons, New York, N.Y. SN 269,232. Filed P.R. 4-14-67; Am. S.R. 11-28-67.

Custom Slim Line

For Pillows.
First use Feb. 1, 1966.

Class 37 — Paper and Stationery

844,325. Lake Chemical Co., Chicago, Ill. SN 244,227. Filed P.R. 4-25-66; Am. S.R. 12-4-67.

TYRE MARQUE

For Crayon-Like Marking Implement for Marking Tires.
First use on or about Oct. 16, 1963.

Class 38 — Prints and Publications

844,326. Geyer-McAllister Publications, Inc., New York, N.Y. SN 244,101. Filed P.R. 4-22-66; Am. S.R. 12-7-67.

Gifts & Decorative Accessories

For Magazine.
First use Dec. 4, 1964.

844,327. Miller and Fink Publishing Corporation, Stamford, Conn. SN 264,360. Filed P.R. 2-9-67; Am. S.R. 12-1-67.

PATIENT CARE

For Magazine Published Monthly.
First use November 1966.

844,328. Educational Service Bureau, Inc., Arlington, Va. SN 265,182. Filed P.R. 2-21-67; Am. S.R. 12-4-67.

PERSONNEL NEWS FOR SCHOOL SYSTEMS

For Newsletter.
First use May 10, 1965.

844,329. Educational Service Bureau, Inc., Arlington, Va. SN 265,183. Filed P.R. 2-21-67; Am. S.R. 12-4-67.

THE RHODES REPORT

For Newsletter Published and Sold on a Subscription Basis to Educators Throughout the World.
First use Jan. 31, 1966.

Class 39 — Clothing

844,330. Raymond W. Bush and Theresa E. Bush (firm), Denver, Colo. SN 188,952. Filed P.R. 3-18-64; Am. S.R. 10-28-65.

STAY ON

For Cloth Bootees for Infants and Children.
First use on or about Jan. 15, 1954.

844,331. The Asher Company, Fitchburg, Mass. SN 259,215. Filed P.R. 11-22-66; Am. S.R. 11-22-67.

SHAPED SLACK

For Men's and Boys' Slacks and Ladies' Slacks.
First use Nov. 2, 1966.

844,332. Ansley, Incorporated, Shelby, N.C. SN 261,187. Filed P.R. 12-21-66; Am. S.R. 12-14-67.

Ansley

For Ladies', Girls' and Children's Blouses and Panties, and Football-Type Jerseys for Adults and Children.
First use Nov. 2, 1966.

844,333. Ansley, Incorporated, Shelby, N.C. SN 261,188. Filed P.R. 12-21-66; Am. S.R. 12-14-67.

ANSLEY

For Ladies', Girls' and Children's Blouses and Panties, and Football-Type Jerseys for Adults and Children.
First use Nov. 2, 1966.

TRADEMARK REGISTRATIONS RENEWED

62,774. "NOX-'EM-ALL." Cl. 12. 5–28–07.
63,314. RIPOLIN AND DESIGN. Cl. 16. 6–11–07.
66,700. K IN CIRCLE DESIGN. Cl. 46. 12–24–07.
69,102. TORSION BALANCE. Cl. 26. 5–19–08.
147,494. IRONBEER. Cl. 45. 10–18–21.
232,197. "BALLY" AND HEAVY UNDERLINE. Cl. 39. 9–6–27.
232,503. TWEEDMOOR. Cl. 39. 9–13–27.
235,026. SLIPSHEEN. Cl. 42. 11–8–27.
235,709. PHEN-O-CEL. Cl. 18. 11–22–27.
235,803. ROYAL HAWAIIAN. Cl. 51. 11–29–27.
236,488. DICTAGRAM. Cl. 37. 12–13–27.
237,035. LLAMANDO. Cl. 39. 1–3–28.
237,041. FASTEETH. Cl. 51. 1–3–28.
237,216. TIPO. Cl. 45. 1–3–28.
238,254. CALBRODEIN. Cl. 18. 1–31–28.
238,640. ANACHLORIC. Cl. 18. 2–14–28.
240,113. "WENOKA" AND REPRESENTATION OF AN INDIAN'S HEAD. Cl. 46. 3–20–28.
240,479. LAKELAND. Cl. 39. 3–27–28.
241,380. "SEAL SKIN" AND DESIGN. Cl. 46. 4–24–28.
429,370. ENZEX. Cl. 18. 4–29–47.
430,583. DUOTONE AND DESIGN. Cl. 36. 6–17–47.
433,787. ERKENBRECHER. Cl. 6. 10–28–47.
433,974. ELITE. Cl. 6. 11–4–47.
434,149. LOVE LACE. Cl. 51. 11–11–47.
434,633. ROSAN. Cl. 13. 11–25–47.
434,648. WHILE I LIVE I'LL CROW AND DESIGN. Cl. 21. 12–2–47.
434,665. LEXATOL. Cl. 18. 12–2–47.
434,773. FERRANIA. Cl. 26. 12–9–47.
434,799. DESIGN. Cl. 44. 12–9–47.
434,867. UFORMITE. Cl. 1. 12–9–47.
434,928. DYNALUBE. Cl. 15. 12–9–47.
435,290. K IN CIRCLE. Cl. 14. 12–16–47.
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436,711. HAVACUP. Cl. 46. 2–17–48.
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725,475. FIRESTIX. Cl. 1.
725,483. KAY-EL THE VAULT WITHOUT A FAULT AND DESIGN. Cl. 2.
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725,501. OAK'S. Cl. 6.
725,505. CEL-O-TYPE. Cl. 6.
725,506. DICKORY DOCK. Cl. 6.
725,507. JIGS-UP. Cl. 6.
725,510. HX-U. Cl. 6.
725,511. RESISTERM. Cl. 6.
725,512. GOLDEN GLO. Cl. 6.
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725,551. ORABILEX. Cl. 18.
725,556. MUCOLYSIN. Cl. 18.
725,561. DIPATE. Cl. 18.
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725,594. SMITTY'S ETC. AND DESIGN. Cl. 22.
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725,643. INDUSTRIAL ELECTRONIC ENGINEERING & MAINTENANCE. Cl. 38.
725,644. FANCIFUL DESIGN OF A BIRD. Cl. 38.
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725,728. THE IRON HAND IN THE VELVET GLOVE AND DESIGN. Cl. 101.
725,729. AMERICANA. Cl. 102.
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725,756. ELECTRONIC AUDIO RECOGNITION. Cl. 26.
725,760. EE-Z-ON. Cl. 35.

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776,045. PROTECT-O-BACK. Cl. 12. 9–1–64. Crown Aluminum Industries Corporation, Pittsburgh, Pa. Corrected: In the statement, column 1, line 1, "Pennsylvania" should be deleted and *Delaware* should be inserted.

821,385. NATIONAL SERVICE INDUSTRIES INC. AND DESIGN. Cl. 101. 12–27–66. National Service Industries Inc., Atlanta, Ga. Corrected: In the statement, column 1, line 1, "Georgia" should be deleted and *Delaware* should be inserted.

826,544. NEBA ROAST BEEF SANDWICHES. Cl. 100. 3–28–67. Michael Davis Associates, Inc., Albany, N.Y. Corrected: In the statement, column 2, line 3, after "July" 2, should be inserted.

835,077. ELTIGRAPH. Cl. 26. 9–12–67. Kurt Honigmann Industrielle Elektronik, Wuppertal-Barmen, Germany. Corrected: In the statement, column 1, line 1, ", doing business as" should be deleted.

837,290. DORM'AID. Cl. 100. 10–17–67. National Service Industries, Inc., Atlanta, Ga. Corrected: In the statement, column 1, line 1, "Georgia" should be deleted and *Delaware* should be inserted.

839,573. HOLD-EVERYTHING. Cl. 32. 11–28–67. Modern Clock Advertising Co. Inc., Brooklyn, N.Y. Corrected: In the statement, column 2, line 1, after "rack" *for* should be inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

420,111. CLIMAX. Cl. 12. George E. Winborn, doing business as The Climax Specialty Mfg. Co. Alice M. Winborn. 3–26–46. New Cert. Sec. 7(c) to Henry A. Knox, Jr., Houston, Tex.

572,589. HEART O' LEMON. Cl. 46. Harrison's Heart O'Orange, Inc. 3–31–53. New Cert. Sec. 7(c) to Harrison's Heart of Orange, Inc., Melrose Park, Ill.

724,936. DATAMAN. Cl. 101. Arthur J. Girdis, doing business as Dataman Associates. 12–5–61. New Cert. Sec. 7(c) to Helen Girdis, doing business under the name and style of Dataman Associates, Brookline, Mass.

774,301. MRS. GILES. Cl. 46. Harry M. Giles. 7–28–64. New Cert. Sec. 7(c) to Mrs. Giles Salad Kitchen, Inc., Lynchburg, Va.

814,600. MRS. GILES AND DESIGN. Cl. 46. Harry M. Giles. 9–6–66. New Cert. Sec. 7(c) to Mrs. Giles Salad Kitchen, Inc., Lynchburg, Va.

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Aaron, Robert C., d.b.a. C. R. Aaron Co., Tupelo, Miss. 725,691, canc. Cl. 46.
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Abril Corp. (Great Britain) Ltd., to Abril Industrial Waxes Ltd., London, England. 438,219, ren. 2–13–68. Cl. 6.
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Dakota Engineering, Inc., Culver City, Calif. 725,505, canc. Cl. 6.
Daly-Herring Co., Kinston, N.C. 843,946, pub. 11–28–67. Cl. 6.
Dana Corp., Toledo, Ohio. 843,982, pub. 11–28–67. Cl. 14.
Davis, Michael, Associates, Inc., Albany, N.Y. 826,544, cor. Cl. 100.
Day, William T., d.b.a. Daylight Donut Flour Co., Tulsa, Okla. 844,214, pub. 11–28–67. Cl. 46.
Daylight Donut Flour Co.: *See*— Day, William T.
Daystrom, Inc., Murray Hill, N.J. 725,577, canc. Cl. 21.
Dean Foods Co., Franklin Park, Ill. 844,211, pub. 11–28–67. Cl. 46.
Denver Fireclay Co., Denver, Colo. 843,943, pub. 11–28–67. Cl. 6.
De Pasquale, Patrick J., d.b.a. De Pasquale Spumoni Co., Hartford, Conn. 725,689, canc. Cl. 46.
De Pasquale Spumoni Co.: *See*— De Pasquale, Patrick J.
Desimone, Edward J., Jr., d.b.a. Magna-Mount, Brooklyn, N.Y. 843,949, pub. 11–28–67. Cl. 9.
Detroit Gasket & Mfg. Co., Detroit, Mich., to Detroit Gasket & Mfg. Co., New York, N.Y. 437,810–11, ren. 2–13–68. Cl. 35.
Deutsche Lebensmittelwerke, G.m.b.H., Hamburg, Germany. 844,238, pub. 11–28–67. Cl. 46.
Diamond Alkali Co., Cleveland, Ohio. 843,920, pub. 11–28–67. Multiple Class (Classes 2, 13, 20, and 50).
Diamond Alkali Co., Cleveland, Ohio. 843,948, pub. 11–28–67. Cl. 6.
Dictaphone Corp., Rye, N.Y. 236,488, ren. 2–13–68. Cl. 37.
Diener Knitting Mills, Inc.: *See*— Royal Underwear Co., Inc.
Don's Baits: *See*— Boone, Donald F.
Dorann Foods, Inc., Rye, N.Y. 725,685, canc. Cl. 46.
Dudley Casuals Inc., New York, N.Y. 844,172, pub. 11–28–67. Cl. 39.
Duotone Co., New York, N.Y., to Duotone Co. Inc., Miami, Fla. 430,583, ren. 2–13–68. Cl. 36.
Duotone Co., Inc.: *See*— Duotone Co.
Du Pont de Nemours, E. I., & Co., Wilmington, Del. 844,185, pub. 11–28–67. Cl. 42.
Duro Pen Co., Inc., from Duro Pen Co., Inc., Brooklyn, N.Y. 844,124, pub. 11–28–67. Cl. 37.
Dwyer, F. W., Mfg. Co., Inc., Michigan City, Ind. 844,065, pub. 11–28–67. Cl. 26.
Eagle-Picher Industries, Inc, Cincinnati, Ohio. 844,190, pub. 11–28–67. Cl. 42.
Earthcavator Co., Inc.: *See*— Gannon Mfg. Co., Inc.
Eastern Research Corp., Philadelphia, Pa. 725,490, canc. Cl. 4.
Educational Service Bureau, Inc., Arlington, Va. 844,328–9. Cl. 38.
Educators Co. for Insurance on Lives & Granting Annuities, The, Denver, Colo. 844,306, pub. 11–28–67. Cl. 102.
Eilen of Hollywood, Inc., Denver, Colo. 844,254, pub. 11–28–67. Cl. 51.
Elsmo Bros. Publishers: *See*— Elsmo, Inc.
Elsmo, Inc., d.b.a. Elsmo Bros. Publishers, Racine, Wis. 844,155, pub. 11–28–67. Cl. 38.
Embassy Greetings: *See*— Levitt, Sydney.
Emenee Industries, Inc., New York, N.Y. 844,106, pub. 11–28–67. Cl. 36.
Emmermann, Walter, Hamburg, Germany. 725,631, canc. Cl. 37.
Empire Level Mfg. Co., Milwaukee, Wis. 844,060, pub. 11–28–67. Cl. 26.
Epic Chemicals, Inc., Brooklyn, N.Y. 843,928, pub. 11–28–67. Cl. 4.
Erica Shoes, Inc.: *See*— Newton Elkin Shoe Co.
Ernst, Inc., San Francisco, Calif. 844,197, pub. 11–28–67. Cl. 42.
Evangelical Alliance Mission, The, Wheaton, Ill. 844,291–2, pub. 11–28–67. Cl. 100.
Executive Publications, Inc., Greensboro, N.Y. 725,655, canc. Cl. 38.
Eymond, Jean, Inc., Miami, Fla. 844,250, pub. 11–28–67. Cl. 51.
F.D.G.M. Fabrication et Diffusion des Grandes Marques, Paris, France. 843,907, pub. 11–28–67. Multiple Class (Classes 32, 40, 42, and 44).
F.E.L. Church Publications, Ltd., Chicago, Ill. 844,117, pub. 11–28–67. Multiple Class (Classes 36 and 38).
FMC Corp., San Jose, Calif. 844,050, pub. 11–28–67. Cl. 23.
Faber-Castell, A. W., Pencil Co., Inc., Newark, N.J. 844,134, pub. 11–28–67. Cl. 37.
Faichney Instrument Corp., Watertown, N.Y. 844,199, pub. 11–28–67. Cl. 44.
Fairfield Knitwear, Inc., New York, N.Y. 844,177, pub. 11–28–67. Cl. 39.
Falconbridge Nickel Mines Ltd., Toronto, Ontario, Canada. 843,977, pub. 11–28–67. Cl. 14.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 725,511, canc. Cl. 6.
Faygo Beverage Co.: *See*— Feigenson, Inc.
Fedtro, Inc., Rockville Centre, N.Y. 844,014, pub. 11–28–67. Cl. 21.
Feigenson, Inc., d.b.a. Faygo Beverage Co., Detroit, Mich. 844,209, pub. 11–28–67. Cl. 45.
Fibreboard Corp., San Francisco, Calif. 844,047, pub. 11–28–67. Cl. 23.
Fieldcrest Mills, Inc., Spary, N.C. 844,193–6, pub. 11–28–67. Cl. 42.
Firestix Co., The, Vernon, Tex. 725,475, canc. Cl. 1.
First National Bank of Oregon, Portland, Oreg. 844,304, pub. 11–28–67. Cl. 102.
Fitzsimmons, W. V., d.b.a. Muco-Lyte Drug & Chemical Co., Oak Park, Ill. 725,556, canc. Cl. 18.

Fleetwood Co., The, Chicago, Ill. 844,258, pub. 12–20–66. Cl. 51.
Floraaynth, Inc., Bronx, N.Y. 844,229, pub. 11–28–67. Cl. 46.
Fougera, E., & Co., Inc., Hicksville, N.Y. 725,551, canc. Cl. 18.
Frank, Joe, Inc., Houston, Tex. 844,165, pub. 11–28–67. Cl. 39.
Franzia Brothers Winery, d.b.a. Old Chateau Wine Co., Ripon, Calif. 844,246, pub. 11–28–67. Cl. 47.
Gallaher Ltd., Belfast, Northern Ireland. 843,984, pub. 11–28–67. Cl. 17.
Gannon Mfg. Co., Inc., from Earthcavator Co., Inc., Buena Park, Calif. 844,036, pub. 11–28–67. Cl. 23.
Garden Protector Corp., The, Revere, Mass. 725,506–7, canc. Cl. 6.
Garlock Inc., Palmyra, N.Y. 843,973, pub. 11–28–67. Multiple Class (Classes 13, 16, and 26).
Geigy Chemical Corp., from Geigy Chemical Corp., Ardsley, N.Y. 843,937, pub. 11–28–67. Cl. 6.
Gem, Inc., Byhalia, Miss. 844,274, pub. 11–28–67. Cl. 51.
General Appliance Mfg. Co., Omaha, Nebr. 844,046, pub. 11–28–67. Cl. 23.
General Electric Co., Schenectady, N.Y. 843,945, pub. 11–28–67. Cl. 6.
General Felt Industries, Inc., Los Angeles, Calif. 844,249, pub. 11–28–67. Cl. 50.
General Instrument Corp., from General Instrument Corp., Newark, N.J. 844,013, pub. 11–28–67. Cl. 21.
General Mills, Inc., Minneapolis, Minn. 725,611, canc. Cl. 26.
General Mills, Inc., Minneapolis, Minn. 725,688, canc. Cl. 46.
General Mills, Inc., Minneapolis, Minn. 844,216, pub. 11–28–67. Cl. 46.
General Motors Corp., Detroit, Mich. 725,587, canc. Cl. 21.
General Preserve Co., Inc., Brooklyn, N.Y. 725,690, canc. Cl. 46.
General Signal Corp., Rochester, N.Y. 844,143, pub. 11–28–67. Cl. 38.
General Tape Corp., St. Paul, Minn. 725,496, canc. Cl. 5.
General Tire & Rubber Co., The, Akron, Ohio. 843,916, pub. 11–28–67. Cl. 2.
Germain's, Inc., Los Angeles, Calif. 843,906, pub. 11–28–67. Cl. 1.
Geyer-McAllister Publications, Inc., New York, N.Y. 844,326. Cl. 38.
Gibson, C. R., Co., The, Norwalk, Conn. 844,131, pub. 11–28–67. Cl. 37.
Giles, Harry M., to Mrs. Giles Salad Kitchen, Inc., Lynchburg, Va. 774,301, new cert. Cl. 46.
Giles, Harry M., to Mrs. Giles Salad Kitchen, Inc., Lynchburg, Va. 814,600, new cert. Cl. 46.
Girdis, Arthur, d.b.a. Datama Associates, to H. Girdis, d.b.a. Dataman Associates, Brookline, Mass. 724,936, new cert. Cl. 101.
Gland-O-Lac Co., The: *See*— Ciba Corp.
Glaser Products Corp., St. Louis, Mo. 844,102, pub. 11–28–67. Cl. 34.
Glidden Co., The: *See*— SCM Corp.
Globe Rubber Products Corp., Philadelphia, Pa. 843,911, pub. 11–28–67. Cl. 2.
Goodyear Tire & Rubber Co., Akron, Ohio. 844,103, pub. 11–28–67. Cl. 35.
Gorham Corp.: *See*— Textron, Inc.
Grace, W. R., & Co., New York, N.Y. 843,930, pub. 11–28–67. Cl. 4.
Grace, W. R., & Co., New York, N.Y. 844,283, pub. 11–28–67. Cl. 52.
Grandpa Brands Co.: *See*— Lehman-Rosenfeld Co., The.
Graphic Controls Corp., Buffalo, N.Y. 844,135–6, pub. 11–28–67. Cl. 37.
Gray Co., Inc., Minneapolis, Minn. 844,092, pub. 11–28–67. Cl. 34.
Great Northwest Fibre Co.: *See*— Keyes Fibre Co.
Greig, Thelma, d.b.a. Larkline Publishing Co., Porterville, Calif. 725,644–5, canc. Cl. 38.
Griffon Cutlery Corp., New York, N.Y. 844,043, pub. 11–28–67. Cl. 23.
Grossinger, S. & H., Inc., Grossinger, N.Y. 844,290, pub. 11–28–67. Cl. 100.
Guide Dog Foundation for the Blind, Inc., Forest Hills, N.Y. 844,315, pub. 3–26–63. Cl. 107.
Gulf & West Indies Co., Inc., New York, N.Y. 844,075, pub. 11–28–67. Cl. 29.
Gund Mfg. Co.: *See*— Swedlin, J., Inc.
Hafstrom Technical Products, Inc.: *See*— Hafstrom-Thompson Associates.
Hafstrom-Thompson Associates, d.b.a. Hafstrom Technical Products, Inc., San Diego, Calif. 844,091, pub. 11–28–67. Cl. 34.
Hair Fashions, Inc., Philadelphia, Pa. 844,179, pub. 11–28–67. Cl. 40.
Hall Bros., Snow Shoe, Pa. 725,671, canc. Cl. 39.
Halmatic Ltd., London, England. 844,000, pub. 11–28–67. Cl. 19.
Hampton Mfg. Co., Inc., New Rochelle, N.Y. 843,935, pub. 11–28–67. Cl. 5.
Harbison-Walker Refractories Co., Pittsburgh, Pa. 843,956, pub. 11–28–67. Cl. 12.
Harburt, Inc., Boston, Mass. 725,679, canc. Cl. 42.
Harlee Co., The, Chicago, Ill. 844,242, pub. 11–28–67. Cl. 46.
Harris, D. P., Hardware & Mfg. Co., Inc., New York, N.Y. 844,007, pub. 11–28–67. Cl. 19.
Harrison's Heart O'Orange, Inc., to Harrison's Heart of Orange, Inc., Melrose Park, Ill. 572,589, new cert. Cl. 46.
Harvard Yearbook Publications, Inc., Cambridge, Mass. 725,659, canc. Cl. 38.
Harvill Corp., Los Angeles, Calif. 725,579, canc. Cl. 21.
Havatampa Cigar Corp., Tampa, Fla. 843,985, pub. 11–28–67. Cl. 17.
Hayes International Corp., Birmingham, Ala. 844,308, pub. 11–28–67. Cl. 103.
Hedwin Corp., Baltimore, Md. 725,712, canc. Cl. 50.
Hensen, Kenneth B., d.b.a. Hidden Valley Ranch, Santa Barbara, Calif. 844,226, pub. 11–28–67. Cl. 46.
Hertz Corp., The, from The Hertz Corp., New York, N.Y. 844,303, pub. 11–28–67. Cl. 101.
Hickey-Freeman Co., to Hickey-Freeman Co., Inc., Rochester, N.Y. 237,035, ren. 2–13–68. Cl. 39.
Hickey-Freeman Co., Inc.: *See*— Hickey-Freeman Co.
Hidden Valley Ranch: *See*— Hensen, Kenneth B.
Hi-G Inc., Windsor Locks, Conn. 844,011, pub. 11–28–67. Cl. 21.
Hoeganaes Corp., from Hoeganaes Sponge Iron Corp., New York, N.Y. 843,981, pub. 11–28–67. Cl. 14.
Hoeganaes Sponge Iron Corp.: *See*— Hoeganaes Corp.
Hoffman Barber & Beauty Supply Co., Los Angeles, Calif. 844,256, pub. 11–28–67. Cl. 51.
Holman, H. J., & Sons Inc., to Lakeland Mfg. Co., Sheboygan, Wis. 240,479, ren. 2–13–68. Cl. 39.
Home Library Press, Inc.: *See*— Parents' Magazine Enterprises, Inc.
Home Security Life Insurance Co., Durham, N.C. 725,731, canc. Cl. 102.
Hospital Specialty Co., Cleveland, Ohio. 844,319. Cl. 23.
House of Danilov, Inc., The, New York, N.Y. 844,268, pub. 11–28–67. Cl. 51.
House of Danilov, Inc., The, New York, N.Y. 844,284, pub. 11–28–67. Cl. 52.
House of Fabrics, Inc., North Hollywood, Calif. 844,299, pub. 11–28–67. Cl. 101.
Huber, J. M., Corp., Borger, Tex. 725,510, canc. Cl. 6.
Hunnebeck G.m.b.H., Dusseldorf, Germany. 843,965, pub. 6–27–67. Multiple Class (Classes 13, 14, and 23).
Hurricane Car Wash Systems, Inc., Phoenix, Ariz. 844,044, pub. 11–28–67. Cl. 23.
Hygrade Food Products Corp.: *See*— Kingan & Co., Ltd.
Hyman-Michaels Co., Chicago, Ill. 844,314, pub. 11–28–67. Cl. 106.
Industrial Copper & Metal Works: *See*— Vihl, Bernhard.
Industrial Electronic Publications, Inc., New York, N.Y. 725,643, canc. Cl. 38.
Industrial Timestudy Institute: *See*— Technological Management, Inc.
Inland Container Corp., Indianapolis, Ind. 843,915, pub. 11–28–67. Cl. 2.
International Minerals & Chemical Corp., Skokie, Ill. 843,952, pub. 11–28–67. Cl. 10.
International Paper Co., New York, N.Y. 725,740–1, canc. Cl. 2.
International Paper Co., New York, N.Y., from The Lord Baltimore Press, Inc., Baltimore, Md. 843,914, pub. 11–28–67. Cl. 2.
International Paper Co., New York, N.Y. 844,127–8, pub. 11–28–67. Cl. 37.
International Telephone & Telegraph Corp., New York, N.Y. 844,015, pub. 11–28–67. Cl. 21.
Internationale Fernseh Agentur G.m.b.H., Wiesbaden, Germany. 725,608, canc. Cl. 26.
Irwin, Neisler, & Co., Decatur, Ill. 725,545, canc. Cl. 18.
Italian-Swiss Colony, to United Vintners, Inc., San Francisco, Calif. 237,216, ren. 2–13–68. Cl. 45.
Ives, Sybil, Inc., White Plains, N.Y. 844,260, pub. 11–28–67. Cl. 51.
Jenard Co.: *See*— Kaskey, Richard A.
Jenkins, W. L., Co., The, Canton, Ohio. 844,012, pub. 11–28–67. Cl. 21.
Jobst Institute, Inc., Toledo, Ohio. 844,200, pub. 11–28–67. Cl. 44.
Johns-Manville Corp., New York, N.Y. 843,964, pub. 11–28–67. Cl. 12.
Johnson, Chauncel D., d.b.a. Neychau Co., Santa Ana, Calif. 725,683, canc. Cl. 46.
Johnson Industries, Inc., Menlo Park, N.J. 844,281, pub. 11–28–67. Cl. 52.
Jones, David N., Granite City, Ill. 843,917, pub. 11–28–67. Cl. 2.
Joyal and Van Dale Co., Pawtucket, R.I. 844,178, pub. 11–28–67. Cl. 40.
Juvenile Shoe Corp. of America, The, Aurora, Mo. 844,169, pub. 11–28–67. Cl. 39.
K & K Mfg., Inc., Rogers, Minn. 844,225, pub. 11–28–67. Cl. 46.
Kartane, Inc., Marshall, Mich. 725,747, canc. Cl. 15.
Kaskey, Richard A., d.b.a. Jenard Co., Narberth, Pa. 844,076, pub. 11–28–67. Cl. 29.
Kay-El Mfg. Co., Chicago, Ill. 725,483, canc. Cl. 2.
Keebler Co., Elmhurst, Ill. 844,237, pub. 11–28–67. Cl. 46.
Kemp, E. F., Corp.: *See*— Kemp, Edward F.
Kemp, Edward F., d.b.a. Radio Nut Co., to E. F. Kemp Corp., Somerville, Mass. 241,380, ren. 2–13–68. Cl. 46.
Kenlin Enterprises, Inc., Highland Park, Ill. 843,966, pub. 11–28–67. Cl. 13.
Kent Sporting Goods Co., Ashland, Ohio. 844,025, pub. 11–28–67. Cl. 22.

Keyes Fibre Co., Waterville, Maine, from Great Northwest Fibre Co., Wenatchee, Wash. 843,908, pub. 11–28–67. Cl. 2.
Kidder, Peabody & Co. Inc., New York, N.Y. 844,287, pub. 4–4–67. Multiple Class (Classes 100, 101, and 102).
Kimberly-Clark Corp., Neenah, Wis. 844,129, pub. 11–28–67. Cl. 37.
Kingan & Co., Ltd., Belfast, Ireland, and Indianapolis, Ind., to Hygrade Food Products Corp., Detroit, Mich. 66,700, ren. 2–13–68. Cl. 46.
Kinney, G. R., Co. Inc., to Kinney Shoe Corp., New York, N.Y. 435,458, ren. 2–13–68. Cl. 39.
Kinney National Service, Inc., from Kinney Service Corp., New York, N.Y. 844,310, pub. 2–14–67. Cl. 105.
Kinney Service Corp.: *See*—
Kinney National Service, Inc.
Kinney Shoe Corp.: *See*—
Kinney, G. R., Co. Inc.
Kitahara, Toru, Thermal, Calif. 844,241, pub. 11–28–67. Cl. 46.
Klauer Mfg. Co., Dubuque, Iowa. 435,290, ren. 2–13–68. Cl. 14.
Kritsidimas, Mary, d.b.a. Athens Restaurant, Washington, D.C. 725,723, canc. Cl. 100.
Kurt Konigmann Industrielle Elektronik, Wuppertal-Barmen, Germany. 835,077, cor. Cl. 26.
Laboratorio Mauricio Villela S.A., Rio De Janeiro, Brazil. 843,995, pub. 11–28–67. Cl. 18.
Lake Chemical Co., Chicago, Ill. 844,325. Cl. 37.
Lakeland Mfg. Co.: *See*—
Holman, H. J., & Sons Inc.
Larkline Publishing Co.: *See*—
Greig, Thelma.
Lea-Stik Mfg. Co., The, Hamilton, Ohio. 844,077, pub. 11–28–67. Cl. 29.
Lehigh Valley Industries, Inc., New York, N.Y. 844,020, pub. 11–28–67. Cl. 21.
Lehman-Rosenfeld Co., The, to Grandpa Brands Co., Cincinnati, Ohio. 147,494, ren. 2–13–68. Cl. 45.
"Le Ripolin," (Societe Anonyme Francaise de Peintures Laquees et d'Enduits Sous-Marins, Procedes Lefranc & Briegleb Reunis), to Ripolin-Georget, Paris, France. 63,314, ren. 2–13–68. Cl. 16.
Les Fabriques d'Assortiments Reunies, Le Locle, Switzerland. 844,059, pub. 11–28–67. Cl. 26.
Levitt, Sydney, d.b.a. Embassy Greetings, Van Nuys, Calif. 844,148, pub. 11–28–67. Cl. 38.
Lewis Business Forms, Inc., Jacksonville, Fla. 844,138–9, pub. 11–28–67. Cl. 37.
Lilly, Eli, & Co., Indianapolis, Ind. 725,561, canc. Cl. 18.
Litton Business Systems, Inc., New York, N.Y. 844,071, pub. 11–28–67. Cl. 26.
London Chemical Co., Inc., Melrose Park, Ill. 844,286, pub. 11–28–67. Cl. 52.
Lord Baltimore Press, Inc., The: *See*—
International Paper Co.
Lowenstein, M., & Sons, Inc., New York, N.Y. 844,189, pub. 11–28–67. Cl. 42.
Magna-Mount: *See*—
Desimone, Edward J., Jr.
Magnavox Co., The, Fort Wayne, Ind. 844,009, pub. 11–28–67. Cl. 21.
Magnetic Products, Sherman Oaks, Calif. 844,105, pub. 11–28–67. Cl. 36.
Mamak, Victor, Santa Monica, Calif. 844,266, pub. 11–28–67. Cl. 51.
Manchester Knitted Fashions, Inc., to Manchester Knitted Fashions, Inc., Manchester, N.H. 436,976, ren. 2–13–68. Cl. 39.
Martin, Charles, Neuilly (Seine), France. 844,257, pub. 11–28–67. Multiple Class (Classes 51 and 52).
Masland Duraleather Co., Philadelphia, Pa. 725,676, canc. Cl. 42.
Massengill, S. D., Co., The, Bristol, Tenn. 725,547, canc. Cl. 18.
Mattel, Inc., Hawthorne, Calif. 844,137, pub. 11–28–67. Cl. 37.
McCulley-Cook, Inc., Oswego, Kans. 843,961, pub. 11–28–67. Cl. 12.
McCulloch Corp., Los Angeles, Calif. 844,095, pub. 11–28–67. Cl. 34.
McGraw-Edison Co., d.b.a. Bussmann Mfg. Division, St. Louis, Mo. 844,016, pub. 11–28–67. Cl. 21.
McRee, Robert L., d.b.a. Country Music Beverage Co., Jackson, Miss. 844,207, pub. 11–28–67. Cl. 45.
Mead Corp., The, Dayton, Ohio. 843,910, pub. 6–13–67. Cl. 2.
Mechanex Corp., The, Denver, Colo. 725,760, canc. Cl. 35.
Mechanical Products Co.: *See*—
Abert, Jack C.
Med-Dent Publishing Co., San Francisco, Calif. 844,120, pub. 11–28–67. Cl. 37.
Med-Dent Publishing Co., San Francisco, Calif. 844,125, pub. 11–28–67. Cl. 37.
Merchandiser Publishing Co., Inc., New York, N.Y. 725,661, canc. Cl. 38.
Metalcraft Engineering Co., Lincoln, Nebr. 844,321. Cl. 32.
Michigan Bean Co.: *See*—
Wickes Corp., The.
Mierson, Augustus, d.b.a. Mierson Products Co., to Mipro Metal Products Co., San Francisco, Calif. 435,448, ren. 2–13–68. Cl. 2.
Mierson Products Co.: *See*—
Mierson, Augustus.
Miller & Fink Publishing Corp., Stamford, Conn. 844,327. Cl. 38.
Millipore Corp., from Millipore Filter Corp., Bedford, Mass. 844,081–3, pub. 11–28–67. Cl. 31.
Millipore Filter Corp.: *See*—
Millipore Corp.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 843,931, pub. 11–28–67. Cl. 4.
Mipro Metal Products Co.: *See*—
Mierson, Augustus.
Mitchell Products, New York, N.Y. 725,674, canc. Cl. 40.
Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan. 844,001–2, pub. 11–28–67. Cl. 19.
Mitsubishi Rayon Co., Ltd., Tokyo, Japan. 843,936, pub. 11–28–67. Cl. 6.
Mobay Chemical Co., Pittsburgh, Pa., from Califoam Corp. of America, Compton, Calif. 844,181, pub. 11–28–67. Cl. 42.
Modern Clock Advertising Co., Inc., Brooklyn, N.Y. 839,573, cor. Cl. 32.
Modern School Supply Co., Inc., Goshen, Ind. 844,156, pub. 11–28–67. Cl. 38.
Monadnock Paper Mills, Inc., Bennington, N.H. 844,121, pub. 11–28–67. Cl. 37.
Monarch Citrus Products Co., Doraville, Ga. 844,208, pub. 11–28–67. Multiple Class (Classes 45 and 46).
Monterey Research Laboratory, Inc., Monterey, Calif. 844,062, pub. 11–28–67. Cl. 26.
Moore, H. E., Redondo Beach, Calif. 844,289, pub. 11–28–67. Cl. 100.
Morgan Adhesives Co., Stow, Ohio. 725,629, canc. Cl. 37.
Morton Ceramic Tile Co.: *See*—
Morton Pottery Co.
Morton Pottery Co., d.b.a. Morton Ceramic Tile Co., Morton, Ill. 725,514, canc. Cl. 12.
Motloid Co., The, Chicago, Ill. 437,512, ren. 2–13–68. Cl. 44.
Motloid Co., Inc., The, Chicago, Ill. 438,000, ren. 2–13–68. Cl. 44.
Mount Olive Pickle Co., Inc., Mount Olive, N.C. 844,235, pub. 11–28–67. Cl. 46.
Movado Watch Agency, Inc., New York, N.Y. 844,072, pub. 11–28–67. Cl. 27.
Muco-Lyte Drug & Chemical Co.: *See*—
Fitzsimmons, W. V.
Mundo Products, Inc., New York, N.Y. 843,989, pub. 11–28–67. Cl. 18.
Munsingwear, Inc., Minneapolis, Minn. 844,166–7, pub. 11–28–67. Cl. 39.
Myers, Ellis & Poulakidas, Chicago, Ill. 725,491, canc. Cl. 4.
National Biscuit Co., New York, N.Y. 436,711, ren. 2–13–68. Cl. 46.
National Dairy Products Corp., Chicago, Ill. 844,223, pub. 11–28–67. Cl. 46.
National Distillers & Chemical Corp., New York, N.Y., from Bridgeport Brass Co., Bridgeport, Conn. 725,523, canc. Cl. 14.
National Gramophon Works Corp., Mount Kisco, N.Y. 844,114, pub. 11–28–67. Cl. 36.
National Gypsum Co., Buffalo, N.Y. 438,204, ren. 2–13–68. Cl. 12.
National Gupsum Co., Buffalo, N.Y. 843,963, pub. 11–28–67. Cl. 12.
National Service Industries Inc., Atlanta, Ga. 821,385, cor. Cl. 101.
National Service Industries, Inc., Atlanta, Ga. 837,290, cor. Cl. 100.
Nefco Filter Corp., Stoughton, Wis. 844,080, pub. 11–28–67. Cl. 31.
Nelson, A. Verner, d.b.a. Verner Nelson Associates, Chicago, Ill. 844,149, pub. 11–28–67. Cl. 38.
New Plastic Corp., Los Angeles, Calif. 844,320. Cl. 23.
New York Merchandise Co., Inc., New York, N.Y. 725,751, canc. Cl. 19.
Newton Elkin Shoe Co., Philadelphia, Pa., to Erica Shoes, Inc., New York, N.Y. 437,634, ren. 2–13–68. Cl. 39.
Neychau Co.: *See*—
Johnson, Chauncey D.
Niedieck Ag, Lobberich, Krefeld, Germany. 844,184, pub. 11–28–67. Cl. 42.
Niemi, William F., Co., Seattle, Wash. 844,175, pub. 11–28–67. Cl. 39.
North American Brake Center, Inc., Pennsauken, N.J. 725,736, canc. Cl. 103.
Northwest Paper Co., The, Cloquet, Minn. 844,132, pub. 11–28–67. Cl. 37.
Norwich Pharmacal Co., The, Norwich, N.Y. 843,999, pub. 11–28–67. Cl. 18.
Novel Products Manufacturers, Inc., Grand Rapids, Mich. 844,085, pub. 11–28–67. Cl. 32.
Nyssen, Anthony, & Sons Inc., Babylon, N.Y. 725,474, canc. Cl. 1.
Ocean Spray Cranberries, Inc., Hanson, Mass. 844,206, pub. 11–28–67. Cl. 45.
Oceans of the World, Inc., Los Angeles, Calif. 844,240, pub. 11–28–67. Cl. 46.
Oglevee Floral Co., Inc., Connellsville, Pa. 844,101, pub. 11–28–67. Cl. 34.
Oklahoma Publishing, The, Oklahoma City, Okla., from Rx Golf and Travel Co., Inc., Hillsboro, Ill. 844,144, pub. 11–28–67. Cl. 38.
Old Chateau Wine Co.: *See*—
Franzia Brothers Winery.
Ortho Diagnostics: *See*—
Ortho Pharmaceutical Corp.
Ortho Mattress Co. of Illinois, Markham, Ill. 844,322–3. Cl. 32.
Ortho Pharmaceutical Corp., d.b.a. Ortho Diagnostics, Raritan, N.J. 843,947, pub. 11–28–67. Cl. 6.
Oster, John, Mfg. Co., Milwaukee, Wis. 844,033, pub. 12–3–63. Cl. 23.
Palmedico, Inc., Columbia, S.C. 843,996–7, pub. 11–28–67. Cl. 18.
Palmer Plastics, Inc., Brooklyn, N.Y. 844,024, pub. 11–28–67. Cl. 22.
Pan-O-Gold Baking Co., Minneapolis, Minn. 844,234, pub. 5–16–67. Cl. 46.

Parents' Magazine Enterprises, Inc., from Home Library Press, Inc., New York, N.Y. 844,153, pub. 11–28–67. Cl. 38.
Parker Pen Co., The, Janesville, Wis. 844,140–1, pub. 11–28–67. Cl. 37.
Pascagoula Veneer Co., Pascagoula, Miss. 843,958, pub. 11–28–67. Cl. 12.
Pathfinder Industries, Inc., Cold Spring, N.Y. 843,929, pub. 11–28–67. Cl. 4.
Pay-Less Drug Stores, Inc., Kansas City, Mo. 844,296, pub. 11–9–65. Cl. 101.
Pearson Pharmacal Co., Inc., New York, N.Y., to Pearson Pharmacal Co., Inc., Miami, Fla. 434,665, ren. 2–13–68. Cl. 18.
Penney, J. C., Co.: *See*—
Robinson & Golluber.
Pennsalt Chemicals Corp., Philadelphia, Pa. 844,280, pub. 11–28–67. Cl. 52.
PepsiCo, Inc., New York, N.Y. 844,210, pub. 11–28–67. Cl. 45.
Pet Needs, Inc., New York, N.Y. 844,158, pub. 11–28–67. Cl. 38.
Pfaff, George, Inc., Long Island City, N.Y. 844,298, pub. 11–28–67. Cl. 101.
Pfizer, Chas., & Co., Inc., Brooklyn, N.Y. 725,539, canc. Cl. 18.
Phen-O-Cel Co., The: *See*—
Tienken, Albert C.
Philbrick, George A., Researches, Inc., Dedham, Mass. 844,019, pub. 11–28–67. Cl. 21.
Phillips Process Co., Inc., Rochester, N.Y. 843,953–4, pub. 11–28–67. Cl. 11.
Picker X-Ray Corp., White Plains, N.Y. 844,061, pub. 11–28–67. Cl. 26.
Piezo Technology, Inc., Orlando, Fla. 844,017, pub. 11–28–67. Cl. 21.
Pilar River Plate Corp., Newark, N.J. 725,501, canc. Cl. 6.
Plane Bearings, Inc., Ashtabula, Ohio. 844,057, pub. 11–28–67. Cl. 23.
Plastic Applicators, Inc., Houston, Tex. 725,738, canc. Cl. 106.
Polarad Electronics Corp., Long Island City, N.Y. 725,756, canc. Cl. 26.
Polaroid Corp., Cambridge, Mass. 844,142, pub. 11–28–67. Cl. 37.
Popper & Sons, Inc., New York, N.Y. 844,201–4, pub. 11–28–67. Cl. 44.
Potter Drug & Chemical Corp., Malden, Mass., to Purex Corp., Ltd., Lakewood, Calif. 436,973, ren. 2–13–68. Cl. 18.
Povazska Strojarne, Narodny Podnik, Povazska Bystrica, Czechoslovakia. 725,571, canc. Cl. 19.
Powers & Eaton Industries, Inc., South Hackensack, N.J. 844,051–2, pub. 11–28–67. Cl. 23.
Prather, Alfred G. B., Lanham, Md. 844,093, pub. 11–28–67. Cl. 34.
Prince, H. M., Textiles Inc., New York, N.Y. 725,678, canc. Cl. 42.
Products Distributing Corp., Orlando, Fla. 844,224, pub. 11–28–67. Cl. 46.
Products Diversification Corp. of America, Pasadena, Calif. 843,971–2, pub. 11–28–67. Cl. 13.
Professional Nutrition Products, Inc., to The J. B. Williams Co., Inc., New York, N.Y. 429,370, ren. 2–13–68. Cl. 18.
Progressive Publications, Inc., Kenilworth, Ill. 725,641, canc. Cl. 38.
Project Search, Inc., Flushing, N.Y. 844,302, pub. 11–28–67. Cl. 101.
Przedsiebiorstwo Handlu Sabranicznego "Agros," Warsaw, Poland. 844,245, pub. 11–28–67. Cl. 47.
Pullman Inc., Chicago, Ill. 844,003, pub. 11–28–67. Cl. 19.
Purex Corp., Ltd.: *See*—
Potter Drug & Chemical Corp.
Quality Products Co., Inc., New York, N.Y., to John H. Breck, Inc., Wayne, N.J. 434,149, ren. 2–13–68. Cl. 51.
Radio Nut Co.: *See*—
Kemp, Edward F.
Ralston Purina Co., St. Louis, Mo. 844,222, pub. 11–28–67. Cl. 46.
Ram Tool Corp., Chicago, Ill. 844,038, pub. 11–28–67. Cl. 23.
Ranco Industrial Products Corp., Cleveland, Ohio. 844,279, pub. 11–28–67. Cl. 52.
Ranney Water Systems, Inc., Columbus, Ohio. 844,309, pub. 11–28–67. Cl. 103.
Rapid-American Corp., New York, N.Y. 844,168, pub. 11–28–67. Cl. 39.
Raybestos-Manhattan, Inc., Passaic, N.J. 844,004, pub. 11–28–67. Cl. 19.
Rayonier Inc., New York, N.Y. 843,939, pub. 11–28–67. Cl. 6.
Reader's Digest Association, Inc., The, New Castle, N.Y. 844,147 pub. 11–28–67. Cl. 38.
Rec-Chek, Inc., Nevada, Iowa. 844,123, pub. 11–28–67. Multiple Class (Classes 37 and 101).
Red Top Maintenance Service, Inc., Denver, Colo. 843,925, pub. 11–28–67. Cl. 4.
Red Top Maintenance Service, Inc., Denver, Colo. 844,277, pub. 11–28–67. Cl. 52.
Redken Laboratories, Inc., Van Nuys, Calif. 844,270, pub. 11–28–67. Multiple Class (Classes 51 and 52).
Reed Rolled Thread Die Co., Holden, Mass. 844,054, pub. 11–28–67. Cl. 23.
Renault, Inc., New York, N.Y. 725,752–3, canc. Cl. 19.
Research Institute of America, Inc., New York, N.Y. 844,159, pub. 11–28–67. Cl. 38.
Researched Products, Inc., Beverly Hills, Calif. 843,967, pub. 11–28–67. Cl. 13.
Resinous Products & Chemical Co., The, to Rohm & Haas Co., Philadelphia, Pa. 434,867, ren. 2–13–68. Cl. 1.
Restronics, Inc., Jersey City, N.J. 844,086, pub. 11–28–67. Cl. 32.
Reynolds Metals Co., Richmond, Va. 843,913, pub. 11–28–67. Cl. 2.
Ripolin-Georget: *See*—
"Le Ripolin" (Societe Anonyme Francaise de Peintures Laques et d'Enduits Sous-Marins, Procedes Lefranc & Briegleb Reunis).
Riviana Foods, Inc., Houston, Tex. 844,236, pub. 11–28–67. Cl. 46.
Robert, H., Industries, Inc., St. Louis, Mo. 844,084, pub. 1–17–67. Cl. 32.
Robinson & Golluber, to J. C. Penney Co., New York, N.Y. 235,026, ren. 2–13–68. Cl. 42.
Rogers Peet Co., to Rogers Peet Co., New York, N.Y. 232,503, ren. 2–13–68. Cl. 39.
Rohm & Haas Co.: *See*—
Resinous Products & Chemical Co., The.
Rosan, Joseph, San Juan Capistrano, Calif. 434,633, ren. 2–13–68. Cl. 13.
Rose, Moss, Mfg. Co., Philadelphia, Pa. 844,188, pub. 11–28–67. Cl. 42.
Rosemount Engineering Co., Minneapolis, Minn. 844,023, pub. 11–28–67. Multiple Class (Classes 22 and 39).
Ross, Inc., Chanute, Kans. 844,110, pub. 11–28–67. Cl. 36.
Rotel-Internationale Begegnungsfahrten Anhanger- und Omnibusentwicklungen Georg Holtl OHG., Tittling, near Passau, Bavaria, Germany. 844,312, pub. 11–28–67. Cl. 105.
Roto-Finish Co., Kalamazoo, Mich. 844,058, pub. 11–28–67. Cl. 23.
Royal Hawaiian Laboratories: *See*—
Bode, Hans A.
Royal Hawaiian Perfumes, Ltd.: *See*—
Bode, Hans A.
Royal Underwear Co., Inc., to Diener Knitting Mills, Inc., Leesport, Pa. 500,412, ren. 2–13–68. Cl. 39.
Rozinsky's Inc., Hartford, Conn. 844,068, pub. 11–28–67. Cl. 26.
Rubinstein, Helena, Inc., New York, N.Y. 844,255, pub. 11–28–67. Cl. 51.
Rubinstein, Helena, Inc., New York, N.Y. 844,267, pub. 11–28–67. Cl. 51.
Russ Togs, Inc., New York, N.Y. 844,173, pub. 11–28–67. Cl. 39.
R-Way Canning Co.: *See*—
Weidner Canning Co., Inc.
Rx Golf and Travel Co., Inc.: *See*—
Oklahoma Publishing, The.
SCM Corp., New York, N.Y., from The Glidden Co., Cleveland, Ohio. 843,983. pub. 11–21–67. Cl. 16.
S.I.P.A L. Arexons Societa Italiana Prodotti Auto E Locomozione S.p.A., Milan, Italy. 843,923–4, pub. 11–28–67. Multiple Class (Classes 4, 6, and 52).
Saila Societa per Azioni Industria Liquirizia Abruzzese Silvi Marina, Abruzzi, Italy. 725,701, canc. Cl. 46.
Samuels, Abram: *See*—
College-Rater, Inc.
Santiago, Bodegas Rioja, S.A., d.b.a. Rioja Santiago S.A., Haro, Logrono, Spain. 844,244, pub. 11–28–67. Cl. 47.
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Santiago, Bodegas Rioja, S.A.
Sarong, Inc., Dover, Del. 844 251, pub. 5–9–67. Cl. 51.
Sarong, Inc., Dover, Del. 844,253, pub. 5–9–67. Cl. 51.
Sayco Corp., Dayton, Ohio. 844,104, pub. 11–28–67. Cl. 35.
Schoeller Werk K.G., Heilenthal, Eifel, Germany. 843,976, pub. 11–28–67. Cl. 13.
Science & Industry Publishing Corp., Evanston, Ill. 725,654, canc. Cl. 38.
Science Information Bureau, Inc., New York, N.Y. 725,656, canc. Cl. 38.
Scofield, L. M., Co., Los Angeles, Calif. 843,944, pub. 11–28–67. Cl. 6.
Scott Paper Co., Delaware County, Pa. 844,122, pub. 11–28–67. Cl. 37.
Seaboard-Somis Lemon Association: *See*—
Somis Lemon Association.
Seattle-First National Bank, Seattle, Wash. 844,305, pub. 8–8–67. Cl. 102.
Seibert & Sons, Inc., Chenoa, Ill. 844,034–5, pub. 11–28–67. Cl. 23.
Sentinel Plastics, Inc., Bronx, N.Y. 843,918–19, pub. 11–28–67. Cl. 2.
Sheraton Corp. of America, Boston, Mass. 844,288, pub. 11–28–67. Cl. 100.
Sherman, David, Corp., St. Louis, Mo. 844,247, pub. 10–19–65. Cl. 49.
Sherwin-Williams Co., The, Cleveland, Ohio. 725,531, canc. Cl. 16.
Shoe Corp. of America, Columbus, Ohio. 844,170, pub. 11–28–67. Cl. 39.
Shuckmaster, Inc., Tangipahoa Parish, La. 844,056, pub. 11–28–67. Cl. 23.
Siegler Corp., The, Anaheim, Calif. 725,735, canc. Cl. 103.
Sier-Bath Gear Co., Inc., North Bergen, N.J. 844,055, pub. 11–28–67. Cl. 23.
Sileps, Inc., Charlotte, N.C. 843,968, pub. 11–28–67. Multiple Class (Classes 13 and 23).
Sileps, Inc., Charlotte, N.C. 844,040–1, pub. 11–28–67. Cl. 23.
Simpson Logging Co.: *See*—
Simpson Timber Co.
Simpson Timber Co., d.b.a. Simpson Logging Co., Seattle, Wash. 725,742–3, canc. Cl. 12.
Smith, Jay R., Mfg. Co., Piscataway, N.J. 843,969, pub. 11–28–67. Cl. 13.
Smith-Wire Co., Felton, Calif. 725,594, canc. Cl. 22.
Sno-Co: *See*—
BDP-Vending Co.
Societa Anonima Ferrania, Milan, Italy. 434,773, ren. 2–13–68. Cl. 26.

Sola Basic Industries, Chicago, Ill. 844,099, pub. 11–28–67. Cl. 34.
Somis Lemon Assn., to Seaboard-Somis Lemon Assn., Oxnard, Calif. 438,575, ren. 2–13–68. Cl. 46.
Specialty Bakers' Services, Inc., Birmingham, Mich. 844,230, pub. 11–28–67. Cl. 46.
Speedrite Products, Inc., Wichita, Kans. 844,276, pub. 11–28–67. Cl. 52.
Staff Supermarket Associates, Inc., Jericho, N.Y. 844,126, pub. 11–28–67. Cl. 37.
Staff Supermarket Associates, Inc., Jericho, N.Y. 844,219, pub. 11–28–67. Cl. 46.
Staley, A. E., Mfg. Co., Decatur, Ill. 843,938, pub. 11–28–67. Cl. 6.
Standard International Corp., Andover, Mass. 844,278, pub. 11–28–67. Cl. 52.
Standard Oil Co., Whiting, Ind., and Chicago, Ill., to The American Oil Co., Chicago, Ill. 436,150, ren. 2–13–68. Cl. 1.
Standard Plastics, Inc., Fogelsville, Pa. 725,484, canc. Cl. 2.
Stanley Home Products, Inc., Westfield, Mass. 436,078, ren. 2–13–68. Cl. 40.
Stanley Home Products, Inc., Westfield, Mass. 437,287, ren. 2–13–68. Cl. 40.
Stanley Home Products, Inc., Westfield, Mass. 437,307, ren. 2–13–68. Cl. 29.
Stephens Brothers Ltd., London, England. 844,176, pub. 11–28–67. Cl. 39.
Sterling Equipment Corp., Philadelphia, Pa. 844,295, pub. 11–28–67. Cl. 100.
Sterling Mfg. Co., The, Cleveland, Ohio. 844,008, pub. 11–28–67. Multiple Class (Classes 21 and 26).
Sterneo Industries, Inc., Allendale, N.J. 843,940, pub. 11–28–67. Cl. 6.
Stevens, J. P., & Co., Inc., New York, N.Y. 844,191, pub. 11–28–67. Cl. 42.
Strohmeyer & Arpe Co., d.b.a. United Pure Food Co., New York, N.Y. 844,221, pub. 11–28–67. Cl. 46.
Stuckey & Speer, Inc., Houston, Tex. 844,074, pub. 8–22–67. Cl. 28.
Suburban Club Carbonated Beverage Co., Inc., Baltimore, Md. 844,205, pub. 11–28–67. Cl. 45.
Sumergrade, N., & Sons, New York, N.Y. 844,324, Cl. 32.
Sumitomo Metal Industries, Ltd., Osaka, Japan. 843,970, pub. 11–28–67. Cl. 13.
Sun Chemical Corp., New York, N.Y. 843,933, pub. 11–28–67. Cl. 5.
Sun Oil Co., Philadelphia, Pa. 434,928, ren. 2–13–68. Cl. 15.
Swedlin, J., Inc., d.b.a. Gund Mfg. Co., Brooklyn, N.Y. 844,028, pub. 11–28–67. Cl. 22.
Sylvachem (Proprietary) Ltd., Pietermaritzburg, Natal, Republic of South Africa. 843,987, pub. 11–28–67. Cl. 18.
Syntex Laboratories, Inc., Palo Alto, Calif. 843,990, pub. 11–28–67. Cl. 18.
Synthetic Plastic Co., Newark, N.J. 844,108, pub. 11–28–67. Cl. 36.
Taterstate Frozen Foods, Washburn, Maine. 844,228, pub. 11–28–67. Cl. 46.
Technical Publishing Co., Barrington, Ill. 844,157, pub. 11–28–67. Cl. 38.
Technological Management, Inc., d.b.a. Industrial Timestudy Institute, Akron, Ohio. 844,316, pub. 11–28–67. Cl. 107.
Teledyne, Inc., Hawthorne, Calif. 844,021, pub. 11–28–67. Cl. 21.
Templar Oil Products Co., Inc., Brooklyn, N.Y. 843,932, pub. 12–15–64. Cl. 5.
Textron, Inc., from Gorham Corp., Providence, R.I. 844,048, pub. 11–21–67. Cl. 23.
Tienken, Albert C., d.b.a. The Phen-O-Cel Co., to Chester R. Tienken, d.b.a. The Phen-O-Cel Co., Lindsay, Calif. 235,709, ren. 2–13–68. Cl. 18.
Tienken, Chester R.: *See*—
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Timberland Ellicott Ltd., The, Woodstock, Ontario, Canada. 844,037, pub. 11–28–67. Cl. 23.
Tolchin, Martin, Music, Inc., Lynbrook, N.Y. 844,107, pub. 11–28–67. Cl. 36.
Tomkins Brothers, Newark, N.J. 843,959, pub. 11–28–67. Cl. 12.
Topp Import & Export, Inc., Miami, Fla. 844,079, pub. 11–28–67. Multiple Class (Classes 31 and 34).
Torsion Balance Co., The, Clifton, N.J. 69,102, ren. 2–13–68. Cl. 26.
Trans World Airlines, Inc., New York, N.Y. 844,313, pub. 11–28–67. Cl. 105.
Transalloys (Proprietary) Ltd., Johannesburg, Republic of South Africa. 843,980, pub. 11–28–67. Cl. 14.
Troll Inc., St. Louis, Mo. 844,163, pub. 11–28–67. Cl. 39.
True Temper Corp., Cleveland, Ohio. 844,030, pub. 11–28–67. Cl. 22.
Union Carbide Corp., New York, N.Y. 844,130, pub. 11–28–67. Cl. 37.
United Mills, from United Mills Corp., Mount Gilead, N.C. 417,195, canc. Cl. 39.
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United Pure Food Co.: *See*—
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United States Pumice Co., Los Angeles, Calif. 843,926, pub. 11–28–67. Cl. 4.
United States Rubber Co., New York, N.Y. 725,665, canc. Cl. 39.
United Vintners, Inc.: *See*—
Italian-Swiss Colony.
Universal Oil Products Co., Des Plaines, Ill. 843,941, pub. 11–28–67. Cl. 6.
University of Miami, Coral Gables, Fla. 844,301, pub. 11–28–67. Cl. 101.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 238,254, ren. 2–13–68. Cl. 18.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 238,640, ren. 2–13–68. Cl. 18.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 436,656, ren. 2–13–68. Cl. 18.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 436,701, ren. 2–13–68. Cl. 18.
Upjohn Co., The, Kalamazoo, Mich. 698,042, canc. Cl. 18.
Valley Packing Co. of California, Salinas, Calif. 844,239, pub. 11–28–67. Cl. 46.
Vihl, Bernhard, d.b.a. Industrial Copper & Metal Works, Clifton, N.J. 844,100, pub. 11–28–67. Cl. 34.
Virginia Maid Hosiery Mills, Inc., Pulaski, Va. 844,174, pub. 11–28–67. Cl. 39.
Vylactos Laboratories, Inc., Des Moines, Iowa. 843,998, pub. 11–28–67. Cl. 18.
Wagner, John, & Sons Inc., Ivyland, Pa. 844,218, pub. 11–28–67. Cl. 46.
Walcott, H. W., & Co., Inc., San Mateo, Calif. 843,905, pub. 11–28–67. Cl. 1.
Wampole, Henry K., & Co. Ltd., Perth, Ontario, Canada. 843,992, pub. 11–21–67. Cl. 18.
Washington Report on the Medical Sciences, Inc., New York, N.Y. 844,145, pub. 11–28–67. Cl. 38.
Weber Tackle Co., Stevens Point, Wis. 844,029, pub. 11–28–67. Cl. 22.
Weed-Master (Western) Ltd., Calgary, Alberta, Canada. 843,912, pub. 11–28–67. Cl. 2.
Weidner Canning Co., Inc., d.b.a. R-Way Canning Co., Plymouth, Ind. 844,212, pub. 11–28–67. Cl. 46.
Wenatchee-Okanogan Co-Operative Federation, Wenatchee, Wash. 240,113, ren. 2–13–68. Cl. 46.
Westinghouse Electric Corp., Pittsburgh, Pa. 844,094, pub. 11–28–67. Cl. 34.
Wheaton Glass Co., Millville, N.J. 844,090, pub. 6–21–66. Cl. 33.
Wickes Corp., The, d.b.a. Michigan Bean Co., Saginaw, Mich. 844,232–3, pub. 11–28–67. Cl. 46.
Wile, Julius, Sons & Co., Inc., New York, N.Y. 844,243, pub. 7–25–67. Cl. 47.
Williams, E. W., Publications, Inc., New York, N.Y. 844,152, pub. 11–28–67. Cl. 38.
Williams, J. B., Co., Inc.: *See*—
Professional Nutrition Products, Inc.
Williams Mfg. Co., The, Portsmouth, Ohio. 844,171, pub. 11–28–67. Cl. 39.
Wilson Sporting Goods Co., from Wilson Sporting Goods Co., River Grove, Ill. 844 031, pub. 11–28–67. Cl. 22.
Wilton Brass Co., Columbia, Pa. 844,318. Cl. 23.
Winborn, George E., d.b.a. Climax Specialty Mfg. Co., The, Houston, Tex. 420,111, new cert. Cl. 12.
Wurlitzer Co., The, Chicago, Ill. 844,109, pub. 11–28–67. Cl. 36.
X-Ray Products Corp., Pico Rivera, Calif. 434,799, ren. 2–13–68. Cl. 44.
Yardley of London, Inc., Totowa, N.J. 844,263, pub. 11–28–67. Cl. 51.
Zayre Corp., Natick, Mass. 844,039, pub. 11–28–67. Cl. 23.
Zummach, Wm. F., Inc., Milwaukee, Wis. 725,647, canc. Cl. 38.

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PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of January 1968

Examiner affirmed	203
Examiner affirmed in part	30
Examiner reversed	58
Total	291

Disclaimers

2,713,536.—*John C. Driskell*, Sheffield, Ala. PRODUCTION OF NITROGEN-PHOSPHOROUS COMPOUNDS. Patent dated July 19, 1955. Disclaimer filed Nov. 20, 1967, by the assignee, *Tennessee Valley Authority*.

Hereby enters this disclaimer to claims 1–4 of said patent.

3,311,704.—*Richard F. J. Filipowsky, Constantine Prisckin*, and *Frank S. Davidson*, Rockville, Md. VOICE-DATA MULTIPLEXING SYSTEM FOR TRANSMITTING DATA DURING PAUSES IN THE VOICE SIGNALS. Patent dated Mar. 28, 1967. Disclaimer filed Jan. 23, 1968, by the assignee, *International Business Machines Corporation*.

Hereby disclaims the terminal portion of the term of the patent subsequent to Feb. 14, 1984.

Request for Comments on President's Commission's Recommendation Concerning Plant Patents

The time for submission of views and comments of interested parties, as requested in the Notice published on January 16, 1968 (846 O.G. 679), is extended to April 1, 1968.

EDWARD J. BRENNER,
Commissioner of Patents.

Jan. 19, 1968.

Disclaimers and Dedications

Re. 25,407.—*Maurice P. Lebourg*, Houston, Tex. METHOD AND APPARATUS FOR DETONATING EXPLOSIVE DEVICES IN BORE HOLES. Patent dated June 25, 1963. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,543,814.—*Willis H. Thompson, Eugene O. Tolson*, and *Robert H. McLemore*, Fort Worth, Tex. MEANS AND METHOD OF TILTING EXPLOSIVE CHARGES IN WELLS. Patent dated Mar. 6, 1951. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Halliburton Company*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,558,427.—*Herbert C. Fagan*, Houston, Tex. CASING COLLAR LOCATOR. Patent dated June 26, 1951. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,662,474.—*George F. Turechek*, Los Angeles, and *Will H. Lindsay, Jr.*, Lawndale, Calif. WELL CASING PERFORATOR. Patent dated Dec. 15, 1953. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,687,823.—*Raymond A. Whitmore*, Alhambra, Calif. GUN PERFORATOR PORT SEAL. Patent dated Aug. 31, 1954. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,691,459.—*Raymond A. Whitmore*, Alhambra, Calif. DISINTEGRABLE SEALING MEMBER. Patent dated Oct. 12, 1954. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,732,518.—*Joseph M. Bricaud*, Houston, Tex. BORE HOLE DETECTING CIRCUIT AND BORE HOLE FIRING CIRCUIT UTILIZING A COMMON TRANSMISSION CHANNEL. Patent dated Jan. 24, 1956. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

New Applications Received During December 1967

Patents	7654
Designs	396
Plant Patents	12
Reissues	35
Total	8097

Issue—February 20, 1968

Patents	1047—	No. 3,369,255	to No.	3,370,301, incl.
Designs	79—	No. 210,189	to No.	210,267, incl.
Reissues	10—	No. 26,345	to No.	26,354, incl.
Total	1136			

2,742,857.—*George F. Turechek*, Los Angeles, Calif. GUN PERFORATORS. Patent dated Apr. 24, 1956. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,765,739. *Henry H. Mohaupt*, Swampscott, Mass., and *Bruce Gilbert*, Dallas, Tex. JET CARRIER SEALING PLUG. Patent dated Oct. 9, 1956. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Halliburton Company*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

PATENT COOPERATION TREATY

The United International Bureaux for the Protection of Intellectual Property (BIRPI) released on May 31, 1967 in Geneva, Switzerland, a draft of a proposed Patent Cooperation Treaty designed to increase greatly international cooperation in the protection of inventions. This draft was reproduced in the OFFICIAL GAZETTE *of the U.S. Patent Office on June 13, 1967.*

A meeting of a Committee of Experts was held in Geneva from October 2–10, 1967 to consider the proposed treaty. A report of this meeting was released by BIRPI as PCT/II/2 dated October 20, 1967. A copy of this report was reproduced in the OFFICIAL GAZETTE *of January 2, 1968.*

The Director of BIRPI has now scheduled a meeting of Working Group in Geneva for March 25–29, 1968 to consider the subject of searching under the Patent Cooperation Treaty. Another Working Group is planned to be held July 1–5 to discuss formalities and other matters under the treaty.

Since considerable interest has been expressed in further developments in the treaty proposal, we have reproduced below a "Memorandum On Questions Concerning the Proposed International Search," released by BIRPI as PCT/II/2 dated January 31, 1968 which will serve as the basis for discussions of the March Working Group.

EDWARD J. BRENNER,
Commissioner of Patents.

Feb. 7, 1968.

PCT/II/2
ORIGINAL : English
January 31, 1968

BUREAUX INTERNATIONAUX
RÉUNIS POUR LA PROTECTION
DE LA PROPRIÉTÉ INTELLECTUELLE
GENÈVE, SUISSE

BIRPI

UNITED INTERNATIONAL
BUREAUX FOR THE PROTECTION
OF INTELLECTUAL PROPERTY
GENEVA, SWITZERLAND

WORKING GROUP ON THE BIRPI PLAN FOR FACILITATING THE FILING AND EXAMINATION OF APPLICATIONS FOR THE PROTECTION OF THE SAME INVENTION IN A NUMBER OF COUNTRIES

Plan for a Patent Cooperation Treaty (PCT)

(Geneva, March 25 to 29, 1968)

MEMORANDUM ON QUESTIONS CONCERNING THE PROPOSED INTERNATIONAL SEARCH

Note

The present document, prepared by BIRPI, will serve as a basis for the discussions in the Working Group of March 25 to 29, 1968.

The same countries and organizations as were invited to the October 1967 Committee of Experts on the Patent Cooperation Treaty (hereinafter referred to as "PCT") plan have been invited to the meeting. An additional non-governmental organization from Japan may possibly also be invited.

As to the place and time of the opening of the meeting, see the agenda (document PCT/II/1).

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THE INTERNATIONAL SEARCH

Purposes Served by the International Search Report

1. An international search report serves two main purposes (in chronological order):

(a) for the *applicant*, it helps in deciding whether he should:

(i) withdraw his international application,
(ii) maintain it as it is,
(iii) maintain it but with amended claims,
(iv) make a final decision as to the countries in which he wishes to use it.

(b) for the *Examining Office*, it helps in deciding whether it should:

(i) refuse the application,

(ii) grant the patent with the claims as applied for,
(iii) offer the possibility of a grant with the claims amended in a certain way.*

*If the application is maintained and the international search report is published, the latter will also be useful to a third group, namely, any person—particularly a *competitor* of the applicant—interested in the technical disclosure contained in the application. With the help of the literature cited in the international search report, it will be easier for such a person to form, for his own purposes, a judgment on the chances of the application's leading to a patent, on the probable scope of such a patent, and on the strength of such a patent.

2. In other words, an international search would serve not only the purposes served by the searches now carried out in most national Patent Offices but also some additional purposes.

3. Today, a national search is an operation intimately linked to examination. Search and examination are not two different operations. Search is a "tactical" operation: the documents of possible relevance are not necessarily all discovered at one and the same time; some are not discovered until later, once those discovered earlier prove to be insufficient for the purposes of examination. And once the searcher is of the opinion that he has reasonably exhausted the possibility of locating prior art, or that he has citations which "kill" the application—the novelty of the invention, its *Erfindungshöhe* (inventive step), or unobviousness—the national search is stopped.

4. Not so in the case of the proposed international search.

5. Unlike the present-day national search (to the extent that such search is at all distinguishable from the national examination), the international search would be a completely different operation, quite distinct from examination. The international search operation would be more like that conducted today in the Patent Office of the Netherlands or the International Patent Institute and that which is expected to be introduced in the *Patentamt* of Munich under the recent revision of the Patent Law of the Federal Republic of Germany.

6. The international search does not have as its immediate objective the elimination of worthless applications or worthless claims—worthless, that is, according to a given country's concept of patentability. Its objective is wider: (i) it must be useful in the context of the laws of not only one country but several—ideally, all—countries, and (ii) it must be useful not only in the procedure of examination but also in deciding whether an application should be left unchanged, redrafted, or withdrawn.

Objective of the International Search

7. The objective of the international search is to locate prior art which is useful in determining the novelty, inventive step, and non-obviousness, of the invention as claimed, bearing in mind the differences in law among the various countries.

8. *Prior art* would include—subject to the qualifications set out below—*all relevant documents*.

9. Stopping the search after one or two citations would never be permitted since even on what seems to be a "clear" or "total" anticipation views might differ, and because even a "clearly" anticipatory document may, for legal reasons—such as the date or circumstances of the publication of the document—be irrelevant in one or other of the countries party to the PCT.

10. However, "all the relevant documents" must be understood as meaning all documents within reasonable limits.

11. Thus, for example, if a hundred citations could be found, the searcher would be allowed to stop after—say—twenty, provided the cumulative effect of these twenty leaves no reasonable doubt that the invention has been anticipated or the relevant prior art has been covered. Citing more would be uneconomical, particularly if interested parties ordered copies of all cited documents. If such a point is reached after having searched less than the whole minimum documentation, the part not searched would have to be indicated in the search report (for example: "French patents not searched").

*As well as the scope of the international examination if such were also to be instituted by the PCT.

Fields to be Covered by the International Search

12. The international search should cover all those technical fields—i.e., should be carried out with the help of all those search files—which may have material pertinent to the invention.

13. Not only must the art with which the invention is classifiable be searched but also analogous arts regardless of where classified.

14. These will first of all include the so-called "reference classes." But they will not be limited to pre-established reference classes. The determination of what arts are analogous, in any given case, will depend on the necessary essential function or utility of the subject matter of the invention and not only upon the function specified in the international application.

15. Furthermore, the international search should consider all subject matter that is generally recognized as equivalent to the subject matter of the invention or certain of its features, even though, in its specifics, the invention as described in the international application, is different.

Parts of the Application to Which the International Search Is Directed

16. The international search should not be limited to the claims but should be directed to the invention, both as described and claimed.

17. There should be particular emphasis on the inventive concept toward which the claims appear to be directed.

18. In other words, it is not enough that the claims alone be searched.

19. The international search should, in so far as is possible and reasonable, cover the entire subject matter to which the claims are directed or to which they might reasonably be expected to be directed after they have been amended.

20. The last point is important since, after the international search has been completed, claims may be amended and normally no second or supplementary international search will follow (see paragraph 82, below).

Documents to be Searched

21. In the course of each international search operation, the Searching Authority must consider all the relevant documents which it has in its search files.

22. It must have in its search files certain "patent literature" and "non-patent literature." This is called the prescribed minimum documentation.

23. At the outset, the minimum patent literature would cover, within the limits stated below, seven countries: France, Germany, Japan, Soviet Union, Switzerland, United Kingdom, United States of America.

24. Published international applications would also constitute part of the minimum patent literature.

25. The required minimum of non-patent literature will be defined later.

26. Both kinds of minimum literature will be gradually enlarged.

27. International search will be based on documents. Even if the definition of prior art refers to "everything made available to the public . . . by means of . . . oral description, use . . . ," it is understood that the Searching Authority will not monitor lectures and uses but will take them into account only if the oral description or the actual use is recorded in a document it has in its files. Of course, the date of the first oral delivery or of the first use (rather than the date of the document) may be relevant in some countries, but that is a different matter.

28. "*Patent literature*" consists of patents, inventors' certificates, and published* patent applications. Each Searching Authority would have to undertake to have and maintain the published patent applications (if any), the patents, and the inventors' certificates (if any), of the following countries classified in its search files in such a way that their systematic use is assured: France, from 1920;* Germany, from 1920;* Japan: chemical from 1965,** other from 1969;*** Soviet Union, from 1961;** Switzerland (French and German languages only), from 1938;**** United Kingdom, from 1920;* United States of America, from 1920.*

*"Published" means printed documents copies of which are generally available through sale. Published German applications prior to the printing of *Auslegeschriften* as from 1955 would also be included. Mere laying open for public inspection does not constitute "publication" for present purposes.

29. Should Belgian patents once again be among the documents published at an exceptionally early date, they (as long as they are in French) should probably also be included in the above list from the date on which such early publication system would apply de facto.

30. Documents published after the date of the international filing should not be cited. The question arises whether, when the search is done on the basis of a national application (i.e., prior to the filing of the international application), documents published before the international search is completed should be cited.

31. Documents published after the priority date should be separately listed.

*General proposed cut-off date: will represent more than fifty years when the PCT enters into force.
**Date from which the Derwent abstracts (English) exist.
***Or whatever will be the date from English abstracts will exist also in fields other than chemistry.
****Present cut-off date in the International Patent Institute.

32. International search reports could not cite abstracts only, except if the abstract has been published (for example, in a periodical), if it constitutes in itself (that is, without reference to the full document) a relevant document, and if the publication date of the abstract precedes the priority date (or if no priority is claimed, the filing date) of the international application.

33. Abstracts published in a language other than the original document may be cited together with the original doument of which they are an abstract. Such citation may be useful to parties not able to read the language of the cited patent document.

34. Otherwise, abstracts would merely serve the same purpose as indexes and classification: they are tools instrumental in getting to the patent document itself.

35. If the document is in a language which the individual searcher does not understand, and if the searcher cannot clearly see the coverage of the patent document, on the basis of the abstract, formulae, and drawings, he will have to ask for and be provided with an oral or written translation of the patent document.

36. Starting the search work with abstracts would not, in itself, be anything unusual, since it has been done for a long time in some Patent Offices even when the language of the full document is perfectly understood. For example, the files of the U.K. Office maintain not only the full texts but also an abstract of each U.K. specification. Of course, abstracts, to be useful, must be good and there would be an organized effort constantly to watch and improve their quality. Also, the existence, present or future, of full translation in any of the Searching Authorities would have to be promptly notified to all the other Searching Authorities and, where required, such translations would have to be put at the disposal of the latter so that duplication of work would be reduced to a minimum.

37. The rule that the patent documents of each of the said countries must be classified in the search files of each Searching Authority does not mean that all corresponding patents (that is, patents invoking the same priority document) have to be physically present in the files. It would be sufficient if one or two of the members of the same patent family were so filed and the other members could be merely referred to in the file, provided they could be easily and promptly obtained from the central archives of the Searching Authority.

38. It is emphasized that the patent documentation listed above is a *minimum* (that is, must be in the search files and must be searched) but that Searching Authorities must further undertake to discover as much of the relevant prior art as their present and future facilities going beyond the minimum documentation permit. Thus, those Searching Authorities which are national Offices will also have to search all the additional documents which they search when they perform searches under the requirements of their national laws.

39. Furthermore, it is emphasized that what it is being attempted to define now is the *initial* minimum documentation, that is, a minimum that exists or could relatively easily be created in each Searching Authority by, say, 1971. Although such documentation would cover a very high percentage (for the last 50 years some 85% and prospectively around 90%) of all the inventions on which patents are sought in one or more countries, a gradual extension of this minimum would be one of the constant objectives of the PCT. By extension is meant extension both to more countries and further back in time, if useful from a technical viewpoint.

40. Finally, it is emphasized that whereas at the beginning there will be only a rather low degree of uniformity in the *search tools*—i.e., the way in which the documents are classified, filed (as original documents, abstracts, microcards, punch cards, stored in computers) and retrieved (manually, mechanically, electronically)—there would be a constant cooperative effort among the Searching Authorities to harmonize their search tools and to divide the work of creating new ones or extending those which exist. In this respect, the constitution of the search files according to a system that would be as uniform as possible among the Searching Authorities, the creation and use of the proposed World Patent Index, and the development and application of the shared-use systems *à la* ICIREPAT to extend mechanized information retrieval to all or most fields of technology, will have to be energetically pursued. "Research in respect of search" will have to be organized. It is perfectly conceivable that in a decade or two much of the storage and retrieval of information could be carried out by an integrated computer system, common to all Searching Authorities, and fed and used by all of them simultaneously.

41. As to "*non-patent literature*," it is suggested that the prospective Searching Authorities tentatively agree, in advance, on an initial list of periodicals which must be constantly received by each of them and whose relevant

portions will be incorporated or indicated in their search files. The work of classifying articles from periodicals should gradually be divided to avoid duplication of effort. Once the Advisory Committee on International Searching starts to function, it would be that body which would draw up and periodically revise the list of technical periodical publications which each Searching Authority should undertake to keep and consult. The final decision would, of course, rest with the Searching Authorities and the member countries of the PCT.

42. Here, too, the ultimate goal would be to computerize the information contained in the abstracts, or the full texts themselves, according to agreed principles which would allow division in the work of feeding information into the common system, i.e., a system which would be useful and available to all the Searching Authorities.

43. Both at the outset—when common computerization would not yet exist—and later, the competent organs of the PCT Union would invite not only the Searching Authorities but anybody else, particularly industrial enterprises maintaining individual or common highly specialized documentation services, to place their data banks as well as their storage and searching experience at the disposal of the Advisory Committee, which would then consider their usefulness for international search and, if appropriate, channel them to the Search Authorities. Thus the likelihood of Searching Authorities' not following the latest developments closely and fast enough, and of any particular Searching Authority's failing to discover a relevant anticipation, would be diminished.

44. Naturally, the Advisory Committee would not consist only of the Searching Authorities. Although no new burdens could be placed on the latter without their express agreement, all countries party to the PCT and organizations representing interested private circles would also participate in the work of the Advisory Committee.

Contents of the International Search Report

45. The international search report would identify the Authority which established it and the date of its establishment.

46. The international search report would consist of the citations of the documents considered to be relevant.

47. In the case of patents, inventors' certificates, and published patents applications (together called "*patent literature*"), the citation would consist of the following:

(i) an indication of the nature of the document (patent, inventors' certificate, published application);
(ii) the name or symbol of the issuing country;
(iii) the number of the document;
(iv) where relevant, the page, column, paragraph, of the description, and the number of the claim (if there are several claims and they are numbered).*

*In the case of corresponding patents belonging to the same priority family, it might be enough to include these particulars only for one or two of the members of the family. All the other members must be cited as well (both for legal and language reasons) but, if they correspond not only because they are based on the same priority application but also in their coverage, the said particulars might be omitted.

48. The question arises whether the name of the applicant, patentee, or holder of the certificate, should or should not be included in the citation, as a check on miscitations.

49. The citation would *not* include:

(i) the title of the invention;
(ii) the classification given to the document by the Office which published it;
(iii) the date of issue or publication of the document;
(iv) the data of the first application, if any, invoked in the document as the basis of a priority claim.

50. In the case of *non-patent literature*, the citation would, as far as applicable, according to the bibliographical rules, of the International Standardization Organization (ISO), contain the following:

(i) the title of the book or periodical (the latter usually in an abbreviated form) and the name of the publisher of the book, in the original language only, but transliterated into Latin script if the original is not in Latin or Cyrillic script;
(ii) in the case of articles in periodicals, the title of the article, in the original language only, but transliterated into Latin script if the original is not in Latin or Cyrillic script;
(iii) the name of the author, transliterated into Latin script if the original is not in Latin or Cyrillic script;
(iv) where applicable the number or date of issue as indicated in the periodical, the year date of the book as indicated therein, the number of the edition (*wievielte Auflage*) of the book, the page, column, and paragraph.

51. The citation would *not* include the date of publication.

52. The international search report would contain no "text matter."

53. The international search report would contain no summary or any other text. In this, it would differ from the present reports of the International Patent Institute, which, after the citation of each cited document, usually contain an extremely concise summary or indication of the relevant subject matter of the cited document. Although such annotations would doubtless serve many useful purposes—and, in particular, would help in deciding which documents to consult or order—there is some apprehension that however concise and factual such an indication would be it could imply an opinion on the relevance of the document cited since, obviously, the annotation would be dictated by the desire to indicate the reason for which the document was cited. For this very reason, it would automatically impose a discipline upon, and require greater attention and selectivity on the part of, the searcher. These would be advantages. The dilemma to be solved is thus whether the search report should be more informative and probably more accurate or whether such advantages are outweighed by the real or illusory fear that any text in a search report would imply an expression of opinion, expressions of opinion, in the search stage, being, of course, undesirable.

54. Consideration could be given to an intermediary solution according to which the applicant would receive a copy which would be annotated in the said manner, whereas the copies communicated to the designated national Offices and the publication would not contain such annotations and would merely consist of the bare citations.

55. The international search report would also indicate

(i) the fields searched;
(ii) any countries not in the minimum list whose patent literature it covers;
(iii) the dates from which the patent literature of a country in the minimum list has been searched if it includes documents older than required;
(iv) any countries in the minimum list whose patent literature was not searched in the exceptional circumstances which are described in paragraph 11, above, ("overkill").

56. The international search report will have to indicate the fields of technology searched by citing the subdivision(s) of the classification system used. This system might be the International Patent Classification or any other system according to which the search files of the Searching Authority are organized, provided that the key is made public so that any person can find the title and context of the cited subdivision(s).

57. If the Searching Authority searches the patent literature of one or more countries *not* included in the minimum documentation, it will indicate the countries and relevant dates. For example: "Also searched Dutch and Swedish patents from 1920."

58. An indication of non-patent literature searched beyond the minimum required would not appear in the search report as it would be impractical to do so in view of the great volume of such literature.

59. If the Searching Authority searches older patent literature than it is required to search, it will so state. For example: "U.S. patents searched since 1850."

60. It has been stated above (paragraph 11) that, in very exceptional cases, the Searching Authority may be excused from searching the patent literature of certain countries included in the minimum documentation. Such a fact would have to be indicated.

61. Easy access to the cited documents will be organized.

62. Both applicants and third parties, as well as the national Offices of countries designated in the international application, will frequently want to have the full text of the documents cited in the international search report.

63. Such documents may not be in the possession of the national Office, the applicant, the third party, or their patent lawyer or agent. Consequently, the Regulations should provide that—subject to any copyright limitation—each international Searching Authority would be able to furnish, on request and on payment of a fee, copies of the cited documents. The applicant should even have the possibility of placing an advance order for all or some of the documents which the Searching Authority will cite. These would then be sent to him together with the international search report.

64. Facilities for verifying the availability of translations of cited documents into given languages, and the ordering of such translations, would also constitute a useful service and should be organized in due course on a truly international basis.

The Question of the Supplementary International Search Report

65. One has to start out with a certain number of assumptions as to what the PCT would provide.

66. First, it is assumed that an international search report may be requested either before or after the filing of the international application. In the former case, the document that would be searched would be the national application if it is in the language which the competent Searching Authority accepts for search, or a translation* of the national application if the national application was filed in a language which the competent Searching Authority does not accept for search. In the following, this document will be referred to as "the national application," it being understood that, in the second case, it is the translation rather than the national application.

*When a translation is needed, it would be prepared by and under the responsibility of the applicant.

67. It is also assumed that the PCT will permit the *description* in the international application to be different from the description which appeared in the *national* application on which the international search is requested. The limit within which such differences may exist is that the scope of the disclosure in the international application cannot exceed the scope of the disclosure made in the national application.**

68. It is further assumed that the PCT will not permit the *description* contained in an *international* application to be changed in the international phase.***

**The international application may be based on two or more national applications, in which case the description would necessarily be different.

***By international phase is meant the procedure before the International Searching Authority and the International Bureau. Once the international application, or the translation thereof, reaches the national Office of a designated State, the applicant may make all such changes in the description and the claims as the national law of that country permits in the case of national applications. Of course, it will be in the interest of the applicant not to make such changes as might endanger his priority rights.

69. Finally, it is assumed that the PCT will permit the *claims* to be amended. In this connection, two questions arise: (i) what kind of amendments should be permitted? (ii) how many times can the claims be amended?

70. As to the nature of the amendments, the following would apply: The scope of the amended claims cannot exceed the scope of the disclosure. Claims can be omitted. Claims may be restricted. They may be "shifted" or otherwise changed (within the limits permitted under the rules concerning unity of invention) even if they change the scope of the claims, as long as they do not exceed the scope of the disclosure.

71. As to the cases in which the claims may be amended, the following is proposed: after the international search reaches the applicant, he should be entitled to amend the claims, and, in those cases (to be discussed below) in which a supplementary international search is carried out and results in a changed international search report, the applicant should be entitled to amend the claims for a second time.

72. Now, on the basis of the foregoing assumptions, the question arises whether the international search report need be, or should be allowed to be, supplemented in either or both of the following cases: (i) when the description has been changed, (ii) when the claims have been amended.

73. Different solutions are suggested for the two cases:

74. When the *description* in the international application differs from the description in the national application on which the international search was made, both applications will be submitted to the international Searching Authority (which has already made an international search on the national application).

75. The international Searching Authority will then compare the primitive description and the primitive claims with the changed description and the amended claims and will either decide that no supplementary international search is necessary or will effect a supplementary search. In the latter case it will, if it thinks necessary, change its search report.

76. A supplementary search will entail the payment of a supplementary fee whose amount will be fixed by the Searching Authority. It will be commensurate with the amount of the supplementary work. It will be less than the initial search fee.

77. The following will be communicated to the national Offices of the designated States and will be published by the International Bureau: (i) the international application, (ii) the international search report, (if changed, as changed).

78. It is to be noted that under the above rule there will generally be no supplementary search because descriptions, if changed, will generally be changed only in a manner which does not entail the need for a supplementary search.

79. In order completely to eliminate the need for a supplementary search, one would—it is believed—have to provide that the description in the national application

and in the international application must be identical. Such a solution, however, does not seem to be flexible enough.

80. It should be noted that the above proposal does not apply to cases where only the *claims* are amended. (In such cases, as will be seen below, there will be no need for a supplementary search.) The above proposal applies only when the *description* is changed. If the latter is changed *and* the claims are amended, it would be impractical not to allow the Searching Authority to supplement its search even in the light of the amended claims, since it has to look at the application once more in any case (because the description has been changed).

81. Now we come to the other case, namely, where the description is not changed but the claims are amended.

82. When the *claims* are amended, no supplementary international search is required but any applicant may ask for a supplementary search.

83. This rule would apply in cases where the amendment consists in a difference (i) between the claims of the national application (when international search was made on that application) and the international application, or (ii) between the primitive claims and the subsequent claims in the international application.

84. If no supplementary search is asked for by the applicant, both sets of claims will be communicated to the designated Offices and will be published by the International Bureau.

85. If, on the request of the applicant, a supplementary search is carried out and the international application does not invoke the priority of a national application on which the international search was made, only the amended claims and the changed search report will be published by the International Bureau. If the international application claims the priority of the said national application, the claims as they were prior to amendment will be published too. In any case, the claims as they were prior to the final amendment will always be communicated also to the designated Offices.

86. Any supplementary search will entail the payment of a supplementary fee whose amount will be fixed by the Searching Authority. It will be commensurate with the amount of the supplementary work. It will be less than the initial search fee.

87. The reason for which supplementary search is not *required* is that it is believed that amendment of claims will only rarely lead to a situation in which a supplementary search would be needed. And since both the primitive and the amended claims would be published and communicated, any interested party could, by comparing the two sets of claims, have an idea whether the international search report was fully responsive to the amended claims. The decision not to require a supplementary search is, of course, dictated by the desire to speed up procedure, save work and fees, and generally streamline the procedure.

88. On the other hand, the reason for which supplementary search is *allowed*, at the option of the applicant, is that it seems to be desirable to give an opportunity to the applicant to make sure that the international search report (on the basis of which he might withdraw his application and thereby save money) is fully responsive to his claims, and to allow him to withhold from publication those claims which, provided they are not in a priority document, he regrets having made.

The Time Allowed for Establishing the International Search Report

89. Subject to the qualifications stated below, Searching Authorities will have three months to prepare an international search report and two months to prepare a supplementary report.

90. The three months cannot start before six months have elapsed from the priority date which is or might be invoked.

91. The latter rule applies in the following cases: (i) when the international search report is made on a national application, (ii) when the international application does not invoke the priority of a national application (that is, the international application is the first application and the possible basis of priority), (iii) when the international application is filed within six months of the national application the priority of which has been invoked in the international application. In all these cases, one needs to leave six months to the Searching Authorities to integrate into their search files the most recent documents without which there would be a risk that the search would not cover essential prior art.

92. Otherwise, the three-month period will start from the date on which the Searching Authority has received the application to be searched, and the two-month period will start from the date on which the Searching Authority has received the changed description and/or the amended claims.

93. It is understood, of course, that the only case in which the description may be changed is where the international search was based on a national application. Claims may be changed after the international search report has been received and, if that is changed on the basis of a supplementary international search, claims may be changed once again, after the changed international search report has been received.

The Time Involved

94. Some further assumptions have to be made in order to illustrate the time involved in the complete procedure entailing international search only (and not also international examination, if any). Such assumptions are made on a very provisional basis since they imply solutions to questions which are reserved for meetings other than the meeting of the Working Group for which this document has been prepared.

95. Such assumptions are:

(i) that the international application will not be published earlier than at the expiration of 18 months from the priority date;

(ii) that, subject to the above limitation, the international application will be published at the expiration of the date on which publication is required according to the law of that designated country whose law provides for the earliest publication date for national applications;

(iii) that the Searching Authority will normally be allowed three months in which to prepare and communicate the search report; however, where difficult questions of unity of invention arise, up to two additional months may be provided;

(iv) that the applicant will normally have two months for amending his claims;

(v) that the applicant will be allowed a period of three months to communicate translations to the designated Offices, provided, however, that the period of 21 months referred to under (vi) below may, where applicable, shorten that period;

(vi) that, irrespective of whether the deadlines set for publication or the possibility of withdrawal have expired, the law of any designated State may provide that a copy or, when the international application is in a language other than the language of the designated Office, a translation of such application must be filed with such Office at the expiration of the 21st month after the priority date.*

*This is a new proposal in order to make sure that, in cases where the international search is not completed within 21 months, the national Offices will have a full translation in their search files, since the international application may constitute an anticipation for other applications whose searching would otherwise be incomplete. It is to be noted, however, that this rule would rarely have to be applied (see time charts below) and, thus, the potential burden on the applicant would be relatively light.

96. *Case A: International Search Based on National Application Without (Sub-Case A–1) or With (Sub-Case A–2) Supplementary Search*

Starting date: First national filing with request for international search.

1st to 6th months: Waiting period for completion of search files; transfer to Searching Authority where Office of first filing and Searching Authority are not the same.

7th to 9th months: International searching.

10th to 12th months: If PCT route still desired, preparation and filing of the international application with the search report.

13th to 15th months: Examination as to formalities; determination as to whether a supplementary international search is required; performance of that seach if required; transmittal of notice that no supplementary search is required or of changed search report to the applicant.

16th to 18th months: (Sub-case A–1) Preparation and filing of translations into the languages of the designated Offices where no supplementary search has been performed.

16th and 17th months: (Sub-case A–2) Preparation and filing of any amendment to claims where a supplementary search has been performed and amendments are desired.

18th month: Earliest possible date of international publication (to prevent publication, application would have to be withdrawn two weeks prior to date applicable for publication).

18th to 21st months: (Sub-case A–2) Preparation and filing of translations into the languages of the designated Offices where a supplementary search has been performed. (In no case will translations be submitted after the 21st month where a designated national Office so requires.)

97. *Case B: International Search Based on International Application Without (Sub-Case B–1) or With (Sub-Case B–2) Supplementary Search*

Starting date: First national filing.

12th month: International application filed.

13th to 15th months: International searching (including examination as to formalities; rectification).

16th and 17th months: (Sub-case B–1) If international application maintained and amendment of claims desired, preparation and filing of such amendments together with request for supplementary search, if any.

18th month: Earliest possible date of international publication (to prevent publication, application would have to be withdrawn two weeks prior to date applicable for publication).

18th and 19th months: (Sub-case B–2) If amendments filed and supplementary search requested, performance of such search.

20th and 21st months: If international application maintained and further amendment of claims desired in view of supplementary search, preparation and filing of such further amendments.

21st month: Translation of application, where required, must be filed in designated national Offices. (This translation will contain the primitive claims if amendments not yet available.)

98. *Observations on Cases A and B*

(1) Communication of the application to the designated national Offices will be effected as soon as the applicant may make no further amendments under the international procedure, and in every case by the time of publication.

(2) If the national Office receiving the international application is not the Searching Authority, a period of one month must be added to all the times indicated above in order to permit the national Office to perform any security checks necessary and to transfer the application to the Searching Authority.

(3) The above time periods are representative of average or normal cases. In certain other cases, these periods may be shorter or longer, and will be longer especially in cases where questions of unity of invention are involved.*

(4) It is to be noted that in many cases the international application will be filed either at the time of the first application or well before the end of the priority period. In these cases, the time available for the various steps in the international procedure could be lengthened and even with these lengthened periods, the procedure could be completed before the deadline for publication and filing of translations, if any.

*Consideration should be given to the question of treating lack of unity of invention discovered during the international search stage, in the following way: the Searching Authority invites the applicant either to limit his international application to one of the described inventions (in which case, divisional applications could be filed for the other invention) or to pay a separate search fee for each of the inventions described. If the applicant, within a brief period—say, two months—does not comply with this request, his international application would be considered to be withdrawn. The treaty would provide for the possibility of avoiding this consequence by converting the international application into national applications in the designated countries within the same time period.

THE INTERNATIONAL SEARCHING AUTHORITIES

Which Should be the Searching Authorities?

99. It is proposed that the International Patent Institute and any national Patent (Inventions) Office capable of covering all fields of technology, employing at least 150 full-time examiners (searchers), and formally undertaking to apply and observe all the common rules of international search, should be able to acquire the status of international Searching Authority through an agreement concluded with the International Bureau.

100. The Agreement would have to be approved by the Assembly of the member countries of the PCT Union.

101. Approval would depend on the Assembly's being satisfied that the international search reports issuing from the prospective Searching Authority would, in all probability, meet the prescribed uniform requirements, attain the necessary uniform standards of quality, and be prepared within the prescribed time limits.

102. Any such agreement would be for a certain number of years and would be renewed from time to time provided that past performance justified its continuation.

103. It is believed that such a procedure is desirable because, the PCT being a cooperative undertaking, it would not seem to be appropriate that each Patent Office should be its own judge of the question whether it is likely to be able to act as a Searching Authority and, once it has become a Searching Authority, whether it meets and will continue to meet the required standards.

104. It is believed that only the International Patent Institute and national Patent Offices should be eligible to become Searching Authorities. They should, however, probably not be prevented from entrusting searching, under their supervision and responsibility, in certain fields to any international intergovernmental scientific agency

particularly well equipped in such fields. Any such "sub-contracting" would require that sufficient safeguards be written into the Regulations (for example, that the Contracting States must agree subject to a highly qualified majority, that the sub-contractor is bound by the usual rules of secrecy, etc.), and probably that in each case both the applicant and the national Office to which his application would otherwise go for searching agree to the preparation of the international search report by such specialized agency.

Which Searching Authority Should Be Competent For Any Given Application?

105. The question which Searching Authority would be competent to establish the international search report for any given invention would depend on the country of residence of the applicant.

106. Each country whose national Office *is* a Searching Authority (within the meaning of the PCT) could oblige its residents to request an international search report from such Office. It could also allow its residents to choose—for all or certain kinds of inventions—between such Office and the International Patent Institute. Or it could force its residents, for some kinds of inventions, to turn to the International Patent Institute.

107. Each country whose national Office *is not* a Searching Authority could oblige its residents to turn to the International Patent Institute or to a given national Office which is a Searching Authority (provided, of course, that the latter accepts).

108. Any applicant who is not obliged by the country in which he resides to turn to a Searching Authority other than the International Patent Institute would have the right to turn to the International Patent Institute, and the International Patent Institute would undertake to serve any such applicant.

109. It is recognized that this system implies that the International Patent Institute must have a capacity for handling applications from an unlimited number of countries. In practice, it will not be too difficult to estimate the maximum workload which new accessions to the PCT could cause to the International Patent Institute. In any case, safeguards would have to be provided so that, if, contrary to all expectations, the International Patent Institute could not increase its capacity fast enough, applications would be rerouted in the now existing systems without loss of the priority rights.

Fees

110. It is proposed to distinguish between three cases, namely:

(i) when an application is searched by a national Office and the applicant is a resident of the country of that Office;
(ii) when an application is searched by the International Patent Institute;
(iii) when an application is searched by a national Office and the applicant is not a resident of the country of that Office and has no legal possibility of having his application searched by the International Patent Institute.

111. In case (i), it is proposed that the question of fees for establishing an international search report should not be the subject of international regulation.

112. One of the reasons is that search would, in this case, normally serve two purposes (grant of national patent, issuance of international search report) and it would be difficult to assess the cost or value attaching to each. Furthermore, no harm is likely to ensue from leaving the matter to an internal decision. If the fee is nil (as it well might be, for example, in the Soviet Union) or small (as it is, for example, in the United States of America, where the filing fee clearly is insufficient to cover the cost of searching), the applicant is not harmed. If it is high, applicants will shy away from the PCT, and this would harm the general economic interests of their countries, so that it is likely that the fees will be lowered. In other words, the amount of the fee will be self-regulatory.

113. In case (ii), it is proposed that the fee for the search report should be an amount fixed, from time to time, by agreement between the International Bureau and the International Patent Institute. The amount would be a maximum.

114. The International Patent Institute could charge less, for example, when the applicant is a resident of a Member State of the International Patent Institute which subsidizes the Institute.* Or the national Office of the Government of the country of the applicant could, instead of the applicant, pay part or all of the fee, or could reimburse part or all of the fee to the applicant, or could allow the applicant to deduct part or all of the fee from his national taxes. Admittedly, this could result in less expense for residents of Country X than for residents of Country Y. It must be recognized, however, that any decision to have complete equality would be a mere paper decision since, in practice, no country could be prevented from assisting its inventors or industrialists if it wished to do so.

*The reduction in charge should be commensurate with the subsidization.

115. In case (iii), the national Office would have to undertake not to charge a higher fee than the maximum fee agreed between the International Bureau and the International Patent Institute.

116. It is to be noted that the above proposals deal only with the fees for the international search report. The question of other fees, including those payable for services rendered by the International Bureau, particularly the fee for the international publication, is another matter. Those fees will be dealt with in their proper context. However, it can already be stated that they will be the same for all applicants, irrespective of their residence and of the origin of their search reports.

THE LANGUAGES

Language of the International Application

117. It is proposed that the languages in which international applications may be filed should be those which the Searching Authorities are able to handle.

118. This would mean, in particular:

for the Moscow Office: Russian
for the Munich Office: German
for the Tokyo Office: Japanese
for the Washington Office: English
for the International Patent Institute: Dutch, English, French, German.

119. If the international search is effected on a national application and the national application is in a language other than those which the competent Searching Authority can handle, the applicant would have to file a translation in the required language. The translation would be prepared by the applicant. It would have to be filed at the same time as the national application.

120. The above list of languages is based on the present possibilities of the prospective Searching Authorities. It does not imply any judgment as to the relative merits of any language.

121. It is, for example, regrettable that no prospective Searching Authority can handle Spanish, Italian, or some of the other major languages. The matter is merely one of de facto possibilities and needs. Thus, for example, if several Spanish-speaking countries accede to the PCT, and if a significant number of international applications originating in such countries can be expected, it would be only natural for the International Patent Institute to undertake the searching of applications presented in Spanish.

Language of the International Search Report

122. International search reports would be established in the same language as that in which the document to be searched was filed.

123. If the search report is in a language other than English, the International Bureau will prepare an official English translation thereof. Its cost would be covered by the general fee payable to the International Bureau. Since search reports will contain almost exclusively bibliographical references, the task of translation and its cost will be negligible.

Langauge of Publication of the International Applications

124. *International applications* would be published in separate sheets or pamphlets, one sheet or pamphlet for each application.

125. Each sheet or pamphlet would contain not only the application, but also the abstract, and the international search report.

126. *The abstract* would be prepared by the applicant but the Searching Authority would have the right and the obligation to make any changes in the abstract to ensure that it be informative, neither too long nor too short, clear, and correct. The Searching Authority would have to take the responsibility for the quality of each abstract and see to it that the abstract would be available together with the search report. There would be machinery to coordinate working methods among the Searching Authorities so that the style, length and terminology of the abstracts would be as uniform as possible.

127. If the abstract prepared by the applicant is manifestly inadequate, he would have to be charged a fee by the Searching Authority.

128. If at the time of the international publication of the international application the international *search report* is not yet available, or if the claims are amended after publication, the sheet or pamphlet will be republished, this time with the search report or with the amended claims and, if the search report has been changed or the abstract has had to be changed, with the changed search report and abstract.

129. As to the languages of the various elements of such publication, the following is suggested:

130. If the application was in English or French, or German, or Japanese, or Russian, it would be published in the language of the application.

131. If the application was in another language (for the moment, only one such language is contemplated: Dutch), it would be published in English.*

*It would be a matter for agreement between the Searching Authority and the International Bureau to decide who would prepare the English translation, or under whose responsibility it would be prepared.

132. The search report would be published in English only.

133. The abstract would be published in English only.

134. It is to be noted that the above proposals differ on three major points from the proposals made to the meeting in October 1967.

135. *First*, the earlier proposal did not provide for the filing and publication of applications in Japanese. This, however, seems now indispensable if accession by Japan to the PCT is to be expected. It is believed that this does not represent a major inconvenience in countries other than Japan, as long as the abstracts—whose quality is now guaranteed in the new proposals—are available in English and, through the Gazettes (see paragraphs 142 and 143, below), also in French, probably also in German, and possibly also in other languages.

136. *Second*, the earlier proposal provided that the abstracts would also be available in French, German, and Russian. In French, they would be available in the Gazette; In German, they would probably also be available in the Gazette; in Russian and other languages, they might be available in the Gazette. See paragraphs 142 and 143, below.

137. *Third*, the earlier proposal provided that not only the abstracts but also the independent claims would always be published in English, French, German, and Russian. No translation of the independent claims is proposed. As to the availability of the whole application in various languages, see paragraphs 145 to 149, below.

138. The reason is one of economy (to save the cost of translation and printing) and a matter of time (to shorten the time of publication).

139. Admittedly, claims may convey information not contained in the abstract. However, it is generally believed that translation of the independent claims would serve essentially the same purpose as—and less well than—the translation of the abstract. Thus, an additional translation of the independent claims would be superfluous. The purpose is to help interested persons to decide whether it is worth while procuring and studying a copy of the full text of the application. It is generally held that a translation of the independent claims would be to very little further purpose, and in any case it could not serve any purpose having legal consequences, because for a legal purpose one has to rely on the original international application or the translation thereof as filed in—or the text of the patent issued by—the national Office of the country in the light of the law of which the legal effects must be judged.

Language of the International Gazette

140. It is contemplated that an international gazette would be published by the International Bureau.

141. For each international application, the Gazette would contain: (i) the basic data, such as name of the applicant, date of filing, priority claim, title of the invention, classification, etc.; (ii) at least one characteristic drawing (if there are drawings in the application); (iii) the abstract, namely, the same abstract as is printed together with the application. The Gazette would contain neither the description nor the claims.

142. The Gazette would be published in English and in French. It would also be published in any other language whose publication would be self-supporting through sales, or could be made self-supporting through sales and a contribution by the interested Governments.

143. It is expected that, under these conditions, a German publication would almost certainly issue. Italian, Russian, and Spanish editions might also issue. All translations would be made under the responsibility of the International Bureau.

144. The Gazette could be published in several series, each covering a major field (chemistry, electronics, etc.). Each issue (probably weekly) would contain an index according to the International Patent Classification.

Copies of National Applications

145. Consideration could be given to the following possibility in order to speed up and facilitate access in several languages to international applications:

146. Applicants would be required to send to the International Bureau a copy of any full translation of their international applications as filed, and as soon as filed, in the various designated or elected countries, in so far as these differ from each other in language.*

147. The International Bureau would advertise in its Gazette the availability of each translation received.

148. Any interested person could order a copy, subject to payment.

149. Admittedly, the claims appearing in such translation may differ from those contained in the international application. This, however, would not matter too much because the claims, as contained in the international application, would be accessible in another language—the language in which the international application was published by the International Bureau.

*Naturally, this would apply only after the international application has been published.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF DECEMBER 18, 1967

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	6-23-64	6-19-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	11-27-64	7-23-62
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Manager. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping and Treating Processes.	3-17-65	5-15-62
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	10-28-64	6-28-62
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	5-15-64	9-25-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—E. J. SAX, Manager. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	1-27-65	9-12-63
SECURITY, GROUP 220—S. BOYD, Manager. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	1-26-65	7-30-64
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	6- 2-64	5-17-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	4-30-64	3-12-62
PHYSICS, GROUP 280—R. L. EVANS, Manager. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	4- 8-65	6-24-63
DESIGNS, GROUP 290—S. BOYD, Manager. Industrial Arts; Household, Personal and Fine Arts.	1- 9-67	12- 8-65

Total number of pending applications (excluding Designs)	176, 139
Total number of Design applications pending	3, 964
Total number of applications awaiting action (excluding Designs)	125, 616
Total number of Design applications awaiting action	1, 697
Date of oldest new application awaiting action	April 30, 1964
Date of oldest amended application awaiting action	March 12, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during February 1968, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1955*.

Patents ..... Numbers 2,540,074 to 2,543,743, inclusive

Plant Patents ..... Numbers 1,003 to 1,006, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	3- 3-66	11-12-64
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders; Woodworking; Tools; Cutlery; Jacks.	9-21-65	3-25-63
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	7-20-65	5-12-64
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	6- 6-66	4-22-65
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	6-20-66	11- 4-63
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	10-23-65	2-13-63

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE ROY A. GROUT

No. 7765. Decided May 25, 1967

[54 CCPA —; 377 F.2d 1019; 153 USPQ 742]

1. PATENTABILITY—COMBINATION—NEW ELEMENT IN OLD COMBINATION—35 U.S.C. 103.

"While the addition of a new element to an otherwise old combination may create a new combination, this factor per se does not eliminate the requirement of 35 U.S.C. 103 that such a new combination is unpatentable unless the invention as a whole was unobvious to one of ordinary skill in the art at the time it was made."

2. SAME—OBVIOUSNESS—PERSON HAVING ORDINARY SKILL IN THE ART—35 U.S.C. 103.

"• • • we are not convinced that the 'person having ordinary skill in the art to which said subject matter pertains,' section 103, is exemplified by a beekeeper. Appellant's invention relates to novel fastening means used in beehives. It is alleged that a problem existed in the support of honeycomb foundations which appellant solved. While this *problem* would be encountered by a *beekeeper*, we think the problem naturally calls for the talents of one skilled in the art of fasteners. Under section 103 we must look to the person of ordinary skill in the art to which the invention pertains, not those who may use the invention."

3. SAME—COMMERCIAL SUCCESS—SUCCESS MUST BE DUE TO CLAIMED INVENTION.

"Evidence of commercial success is a 'secondary consideration' which may have 'relevancy' as an indicia of obviousness of unobviousness, *Graham* v. *John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). • • • Upon consideration of the affidavit allegedly establishing commercial success, we find it inadequate as proof that this commercial success is attributable to the claimed invention."

4. SAME—REFERENCE—NONANALOGOUS ART.

"We think a person desiring to fasten a honeycomb foundation web to a frame is properly charged with the knowledge existing in the fastening art."

5. SAME—PARTICULAR SUBJECT MATTER—"HONEYCOMB FOUNDATION SUPPORTING MEANS."

The refusal of certain claims in an application entitled "Honeycomb Foundation Supporting Means," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 83,237.

AFFIRMED.

Moore and Hall, *Robert R. Priddy* for appellant.

Joseph Schimmel (*Fred W. Sherling*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, SMITH, and ALMOND, *Associate Judges*

SMITH, *J.*, delivered the opinion of the court.

The Examiner's rejection of claims 1, 2 and 3 of appellant's application[1] for "Honeycomb Foundation Supporting Means" under 35 U.S.C. 103 was affirmed by the Board of Appeals. The invention in issue is adequately set forth in appealed claim 1 concerning which appellant states:

• • • For purposes of this appeal only, no distinctions between the claims will be argued, and claim 1 may be taken as representative of all three claims.

[1] Ser. No. 83,237, filed January 17, 1961.

Claim 1 is as follows:

1. In a comb foundation support for a beehive, a substantially rectangular shaped composition frame including vertical side members and upper and lower horizontal members, the upper horizontal member having a longitudinal slot formed therein, said slot containing the upper longitudinal edge of a foundation web and an elongated metallic strip, said metallic strip comprising at least two leg sections which diverge outwardly from a common point of attachment, and said legs being in a compressed condition in said slot so as to exert an outward pressure toward the sides of said slot, whereby said foundation web is securely held within said slot.

The references admittedly do not describe the structure as claimed in claim 1 but it is the position of the Patent Office that considering appellant's claimed invention as a whole, it would have been obvious to one of ordinary skill in the art. The references are:

Palmer, 886,400, May 5, 1908.
Hartman, 1,411,094, Mar. 28, 1922.
Andersen (French), 1,245,940, Oct. 3, 1960.

The Examiner's answer summarizes the teachings of the references as follows:

• • • The Hartman patent shows in a comb foundation support for a beehive, a substantially rectangular shaped frame including vertical side members 2 and upper and lower horizontal members 1, 3, the upper horizontal member having a longitudinal slot 7 therein, said slot containing the upper longitudinal edge of a foundation web 12 and compressible means 8, 17 acting to hold the web in the slot. The patents to Palmer and to Andersen show the use of an elongated compressible resilient strip having outwardly diverging leg sections mounted in a slot for fastening a web or sheet of material in the slot. The Andersen patent shows further the provision of a flat lip portion 12 on one of the leg sections which lip portion extends outside of said slot. It would be obvious to substitute the fastening strip 12 of Palmer or 9 of Anderson for the partition 8 and wedge 17 of the Hartman structure.

Appellant's position, as summarized in his brief, is:

It is applicant's position that this invention pertains to the beekeeping art; that the secondary references pertain to different arts; that the problem of the beekeeping art differ from those of such other arts; and that the primary reference contains no suggestion, expressed or implied, which would lead a person of ordinary skill in the beekeeping art to resort to such other arts for a solution to the various problems solved by the present invention; wherefore, it would not have been obvious to a person of ordinary skill in the beekeeping art in 1961 to combine the teachings of the secondary references with those of the primary reference as the Board and Examiner have • • •. A *first issue* therefore, is whether the Board was correct in upholding rejections based on combinations of references that are from different arts and that fail to contain any suggestion that it would be desirable to combine them.

The opinion of the Board expresses the view that:

We are not impressed by appellant's contentions to the effect that Palmer and Andersen relate to nonanalogous art. In seeking to develop a means for retaining a generally sheet-like member in a groove, as a component of a combination as claimed including such groove, we think that appellant would be charged with knowledge of those environments where analogous retaining expedients would be expected to exist. The patents to Palmer and Andersen, in our opinion, represent such environments, and in this sense they may not be ignored. *In re O'Connor*, 34 CCPA 1055; 73 USPQ 433; 603 O.G. 194; 161 F.2d 221; 1947 C.D. 389. *In re Mariani*, 37 CCPA 740; 83 USPQ 308; 631 O.G. 613; 177 F.2d 293; 1950 C.D. 61.

Two aspects of the requirements of section 103 are presented for our consideration: first, what is the invention as a whole for which the patent is sought; and second, who is the person of ordinary skill in this art, a beekeeper or a manufacturer of beekeeping supplies?

In considering these aspects of section 103 in the order stated, we first turn to the appealed claims to determine precisely what is claimed as the invention for which a patent is sought. An analysis of claim 1 in the light of the cited prior art discloses that all aspects of the "comb foundation support for a beehive" are shown in the Hartman reference except for the specific retaining means for holding the foundation web in the slot in the upper horizontal member of the frame. The retaining means, in the language of claim 1, comprises:

• • • an elongated metallic strip, said metallic strip comprising at least two leg sections which diverge outwardly from a common point of attachment, and said legs being in a compressed condition in said slot so as to exert an outward pressure toward the sides of said slot, whereby said foundation web is securely held within said slot.

This analysis accords with the statement in appellant's specification that:

This invention generally relates to honeycomb foundation supporting means. More particularly this invention relates to novel means for securing foundation webs within honeycomb foundation frames.

Thus the invention may be described as fastening means.

[1] While the addition of a new element to an otherwise old combination may create a new combination, this factor per se does not eliminate the requirement of 35 U.S.C. 103 that such a new combination is unpatentable unless the invention as a whole was unobvious to one of ordinary skill in the art at the time it was made.

This brings us to the second aspect, what skills may we attribute to the person of ordinary skill in this art? It is appellant's position that since the combination of elements claimed is to be used by beekeepers that it is to this group we must turn to ascertain what would have been obvious to them. After discussing the disclosures of the prior art, appellant states the position in his brief that:

The preceding discussion calls attention to a variety of facts, circumstances and reasons which *repel* the inference that it would have been obvious in 1961 for a man of ordinary skill in the beekeeping art to turn to the window shade roller art or Andersen's polymer film stretching device for ways and means of improving beehive components. Such facts, circumstances and reasons show the difference in problems and objectives in the several arts differ from one another and how the deformative measures inhering in the arts of the secondary references would be completely unsuitable for application to bees' wax foundation webs which are commonly used in the invention. • • •

[2] Considering all the papers of record, we are not convinced that the "person having ordinary skill in the art to which said subject matter pertains," section 103, is exemplified by a beekeeper. Appellant's invention relates to novel fastening means used in beehives. It is alleged that a problem existed in the support of honeycomb foundations which appellant solved. While this *problem* would be encountered by a *beekeeper*, we think the problem naturally calls for the talents of one skilled in the art of fasteners. Under section 103 we must look to the person of ordinary skill in the art to which the invention pertains, not those who may use the invention. We are satisfied the references relied on by the Patent Office may be properly considered under section 103.

There is of record the affidavit of one Charles C. Dadant which establishes that the metallic strips of claim 1 had been in production by Dadant and Sons since 1961 and sets forth the sales volume of such strips by periods extending from January 1961 through the projected sales volume for the period ending August 31, 1964.

[3] Evidence of commercial success is a "secondary consideration" which may have "relevancy" as an indicia of obviousness or unobviousness, *Graham* v. *John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). The Supreme Court stated, 383 U.S. at 17–18, 148 USPQ at 467:

> • • • Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy. • • •

The court commented further, in considering the arguments of Cook Chemical Co., concerning these secondary considerations, 383 U.S. at 36, 148 USPQ at 474:

> • • • They may also serve to "guard against slipping into hindsight," *Monroe Auto Equipment Co.* v. *Heckethorn Mfg. & Supply Co.*, 332 F.2d 406, 412, 141 USPQ 549, 555 (1964), cert. denied 379 U.S. 888, 143 USPQ 465, and to resist the temptation to read into the prior art the teachings of the invention in issue.
>
> However, these factors do not, in the circumstances of this case, tip the scales of patentability. • • •

Upon consideration of the affidavit allegedly establishing commercial success, we find it inadequate as proof that this commercial success is attributable to the claimed invention.[2]

As recognized in *Graham*, 383 U.S. at 18, 148 USPQ at 467, there are difficulties in applying the nonobviousness test of section 103:

> This is not to say, however, that there will not be difficulties in applying the nonobviousness test. What is obvious is not a question upon which there is likely to be uniformity of thought in every given factual context. The difficulties, however, are comparable to those encountered daily by the courts in such frames of reference as negligence and scienter, and should be amenable to a case-by-case development. • • •

[4] We think a person desiring to fasten a honeycomb foundation web to a frame is properly charged with the knowledge existing in the fastening art. Like the Board,

> • • • we are particularly impressed with the delineation by Palmer of the conventionality of elongated metallic strips of the general type here involved, for analogous holding purposes. And in this respect, we note that it is unequivocally stated • • • that the sheet material 11 thereof is "clamped or pinched" in the groove by the metal strip.

[5] The decision of the Board is therefore affirmed.

AFFIRMED.

RICH, *J.*, concurs in the result.

WORLEY, *Chief Judge*, did not participate.

[2] After setting forth figures, the affidavit states, in part:

> That prior to the commercial introduction of the metal strips set forth in claims 1–3 there was a long-felt need by the bee industry for an item which would do this job • • •
>
> That in my opinion the facts clearly support the conclusion of *great and substantially immediate commercial success* of the structure defined in claims 1–3.

U.S. Court of Customs and Patent Appeals

IN RE JAMES R. COURTRIGHT

No. 7760. Decided May 25, 1967

[54 CCPA—; 377 F.2d 647; 153 USPQ 735]

1. PATENTABILITY—COMPOSITION—UNOBVIOUS PROPERTIES—35 U.S.C. 103.

"It is true, as appellant contends, that this court has often stated that *unexpected* or *unobvious* properties of a composition are part of 'the subject matter as a whole' to be considered under 35 U.S.C. 103. Appellant's reliance on such cases here, however, appears misplaced, for we think, contrary to his argument, that there is substantial evidence of record to support the finding by the Board, if not the Examiner, that the properties of appellant's compositions are *not* unexpected or unobvious. While appellant is correct in his argument that Conn does not explicitly disclose his paint compositions, the inquiry should not stop there. The question remains as to what one of ordinary skill in the art would learn from the Conn disclosure when considered as a whole."

2. SAME—SAME—OBVIOUSNESS—PAINT COMPOSITIONS.

"It seems to us that it would not be expected that Conn's paints, if they are primarily intended for indoor use, would endure outdoor weather conditions relatively well, or would have the requisite flexibility to cope with expansion and contraction of the substrate resulting from temperature extremes. If one of ordinary skill in this art were to find that some specific examples of Conn led to polymers which flaked, cracked and were too brittle to withstand outdoor use, we do not think he would have any difficulty in following the directions Conn gives to correct those deficiencies, namely 'if a monomer yielding a relatively harder and, perhaps, more brittle polymer is selected, then more of a given monomer yielding soft polymer will be used.'"

3. SAME—REFERENCE—REFERENCE DISCLOSURE NOT LIMITED BY EXAMPLES.

"One cannot ignore the broader, instructive disclosure of a reference at the expense of reliance only on the specific examples, where the broader disclosure teaches how to modify the exemplary compositions to produce certain desired results."

4. SAME—CRITICALITY—"PREFERRED" CONDITION IS NOT CRITICAL.

"Appellant further urges that Conn requires a non-ionic surfactant in his aqueous emulsion polymerization process. He argues that it would be unobvious to employ an anionic surfactant in the polymerization process as he has done. The apparent reasons appellant utilizes an anionic surfactant is to obtain an interpolymer particle size below 0.45 micron. While appellant contends that the disclosed particle size range is critical, nothing in the specification or record demonstrates that to be the case or, for that matter, that appellant's particle size range differs in any respect from that of Conn. • • • With respect to appellant's process claims, we agree with the Examiner and Board that the record evidence, notably Carlson, demonstrates that it would be obvious to one of ordinary skill in the art to employ an anionic surfactant in place of the non-ionic surfactant used by Conn in his aqueous emulsion polymerization process. The mere fact that appellant discloses that use of the anionic surfactant in the process is 'preferable' to him does not ordinarily support a conclusion of criticality. See *In re Shepard*, 50 CCPA 1439, 319 F.2d 194, 138 USPQ 148, and cases cited therein. Indeed, the portions of the specification quoted earlier which refer to the acknowledged state of the art would appear to negate the criticality alleged."

5. SAME—PARTICULAR SUBJECT MATTER—"AQUEOUS DISPERSION PAINT COMPOSITIONS."

The refusal of certain claims in an application entitled "Aqueous Dispersion Paint Compositions," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 66,709.

AFFIRMED.

Raymond E. Blomstedt (*Frederick Schafer*, of counsel) for appellant.

Joseph Schimmel (*Fred W. Sherling*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, RICH, SMITH, and ALMOND, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK [1]

WORLEY, *Chief Judge*, delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals affirming the Examiner's rejection of claims 1, 3–5 and 8–13 in appellant's application [2] for "Aqueous Dispersion Paint Compositions" as obvious in view of certain prior art.

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.
[2] Serial No. 66,709, filed November 2, 1960.

The invention relates to a water-base paint composition including pigment, surfactant, volatile alkali and an internally plasticized carboxyl-containing interpolymer made up of (A) 0.3–4% by weight of units of an α,β-unsaturated monovinylidene carboxylic acid (e.g., acrylic acid or methacrylic acid), and (B) complementally 99.7–96% by weight of a mixture of units of (1) methyl methacrylate, and (2) one of (*a*) an acrylic acid ester of a C_4 saturated aliphatic monohydric primary alcohol (e.g., n-butyl acrylate) in the amount of 1.67–4 parts based on the methyl methacrylate weight, or (*b*) an acrylic acid ester of a C_8 saturated aliphatic monohydric primary alcohol (e.g., 2-ethylhexyl acrylate) in the amount of 1.2–2 parts based on the methyl methacrylate weight.

Claim 1 is representative of the compositions claimed:

1. A water-dilutable paint composition comprising paint pigment in the proportion of 10% to 50% pigment volume concentration based on the total nonvolatile content of the paint and an aqueous dispersion of a particulate water insoluble carboxyl-containing monovinylidene ester interpolymer, at least ternary in composition, made up of 0.3 to 4% by weight of (A) units from an alpha, beta-unsaturated monovinylidene carboxylic acid, and complementally 99.7 to 96% of ester units from a mixture of alpha, beta-unsaturated monovinylidene esters consisting essentially of (B) methyl methacrylate and (C) at least one acrylic acid ester of the group consisting of a C_4 and C_8 saturated aliphatic monohydric primary alcohol, said acrylic acid ester being present in the weight ratio of 1.20 to 4 parts per part of said methyl methacrylate, said ratio being up to 2 parts when said alcohol is C_8 and being at least 1.67 when said alcohol is C_4, said aqueous dispersion paint further containing up to 5% by weight of at least one water-soluble surfactant including an anionic surfactant in the proportion of 0.3% to 5% based on the weight of said interpolymer, and a water-soluble volatile alkaline material in an amount sufficient to provide said aqueous paint with a pH in the range of 7.5 to 10, said particulate interpolymer being characterized as having an average particle-size diameter up to 0.45 micron and as coalescing from said alkaline latex at ordinary room temperature to a film having an elongation of at least 75% at 0° F.

The stated purpose of the C_4 or C_8 acrylate ester is to "plasticize" the interpolymer, with the C_8 acrylate having greater internal plasticizing effect than an equal weight of C_4 acrylate. Appellant uses his paint compositions primarily as exterior house paints where the plasticized film-forming pigment binder is said to provide durability, a practical tack temperature, and an "elongation" or distensibility sufficient to accommodate the expansion and contraction of wood surfaces over wide temperature ranges of climatic extremes, thus obviating "cracking" and "peeling." Claims 9 and 10 are directed to articles coated with the paint composition.

According to the specification, the interpolymer can be prepared

• • • by any of well known techniques of aqueous emulsion polymerization of the defined polymerizable monomer mixtures in the presence of a water-soluble catalyst for the addition polymerization and a water-soluble surfactant for emulsification and for stabilization of the resulting dispersion. • • •

While "any" water-soluble surfactant, "including anionic and nonionic species," that is "ordinarily" used in aqueous emulsion polymerizations can be employed to prepare the interpolymer, the specification states that the polymerization is "preferably" carried out in the presence of an anionic surfactant to obtain a latex with an interpolymer particle size of less than 0.45 micron. Claims 8 and 13 are directed to the latter method.

The Examiner rejected appellant's claims as obvious in view of two references:

Carlson, 2,726,230, December 6, 1955.
Conn et al., 2,795,564, June 11, 1957.

Like appellant, Conn discloses an aqueous paint composition containing pigment, surfactant, volatile alkali and an interpolymer film-forming material. The interpolymer, in turn, consists of (1) 0.5–2.5% by weight of an α,β-unsaturated monovinylidene carboxylic acid, with acrylic or methacrylic acids disclosed as preferred; (2) a polymerizable monovinylidene ester which by itself forms a "soft polymer," and (3) a polymerizable monovinylidene ester which by itself forms a "hard polymer." Typical of the "soft polymer" forming esters disclosed are such esters of acrylic acid as butyl acrylate, isobutyl acrylate and 2-ethylhexyl acrylate, while methyl methacrylate is given as a typical "hard polymer" forming ester. Conn chooses the amounts of "hard" and "soft" polymer forming esters according to the properties desired in the ultimate paint composition, the former ester supplying "toughness" and swelling resistance to the paint film and the latter supplying "continuity," "flexibility," and a "cohesive and adhesive" film. Conn states:

Useful proportions of monomers characterized by forming soft and hard polymers respectively vary with the choice of these monomers. For this reason the required proportions are best defined functionally. There are considerable variations in softness and hardness produced by different members of the respective classes of polymerizable monomers. Thus, if a monomer is selected which gives a greater degree of softness than another, more of a monomer forming a hard polymer will be used to attain a given level of toughness for the final interpolymer. Conversely, *if a monomer yielding a relatively harder and, perhaps, more brittle polymer is selected, then more of a given monomer yielding soft polymers will be used*, or a monomer is selected which gives by itself an even softer polymer.

Some typical proportions which provide a desired balance of properties in films of the interpolymers which include 0.5 to 2.5% of a defined acid are as follows, these being by weight: • • • butyl acrylate-methyl methacrylate, about 1:1; • • • isobutyl acrylate-methyl methacrylate, 3:2 to 1:1; • • • 2-ethylhexyl acrylate-methyl methacrylate, 1:1 to 2:3; • • •. • • • It will be seen that to provide useful interpolymers the outside proportions of monomers forming soft polymers to monomers forming hard polymers vary from about 9:1 to about 1:20. In every case, of course, the ultimate interpolymer will be formed with about 0.5% to about 2.5% of a defined carboxylate. *For the preferred situation in which the interpolymer is prepared from an ester of acrylic acid and a non-tertiary alkanol of not over 12 carbon atoms and methyl methacrylate (together with acid), the ratios vary from about 6:1 to 1:3.* • • • [Emphasis supplied.]

To prepare his interpolymer latex, Conn employs a non-ionic surfactant in the polymerization system to maintain the interpolymer particles in stable suspension. When formulating the paint composition, Conn uses an anionic surfactant to disperse the pigment material, and adds the pigment dispersion to the interpolymer latex.

Noting the absence of disclosure in Conn of the use of anionic surfactants in his aqueous emulsion polymerization process, the Examiner turned to Carlson, who discloses that various cationic, anionic, or non-ionic surfactants may be used in aqueous emulsion copolymerization systems to form polymer latexes containing 1–30% acrylic or methacrylic acid and 70–99% alkyl acrylates.

The Examiner pointed out that Conn discloses ranges of proportions of ester monomers (6:1 to 1:3, alkyl acrylate:methyl methacrylate) in his interpolymers which are somewhat broader than the

range of proportions claimed by appellant (4:1 to 1.2:1, alkyl acrylate: methyl methacrylate). He saw "no patentable distinction" between appellant's compositions and those of Conn. With respect to the process claims, the Examiner thought "it would be obvious to use the anionic surfactant of Carlson instead of or along with the non-ionic surfactant of Conn et al. in their ploymerization process." The Board agreed, finding that "appellant's composition and process would have been obvious, for the reasons the Examiner gives, from the references."

Appellant's arguments here are two-fold: (1) The claimed compositions are unobvious because they differ in composition from Conn's specific paint formulations and are substantially superior thereto; (2) the use of an anionic surfactant in the polymerization process in order to obtain a polymer particle size range essential to appellant's product is also unobvious.

In support of argument (1), appellant submitted an affidavit to establish the criticality of the claimed acrylate monomer proportions in relation to the specific acrylate: methacrylate ratios disclosed by Conn. The compositions compared were as follows:

	Conn	Appellant
n-butyl acrylate / methyl methacrylate	1 (49.25 parts) / 1 (49.25 parts)	1.67 (61.6 parts) / 1 (36.9 parts)
2-ethylhexyl acrylate / n-ethyl methacrylate	1 (49.25 parts) / 1 (49.25 parts)	1.2 (53.7 parts) / 1 (44.8 parts)

In addition to the recited acrylate and methacrylate portions, each polymer also contained 1.5 parts of methacrylic acid. We note that appellant employs in his compositions somewhat larger amounts of n-butyl acrylate and 2-ethylhexyl acrylate in relation to methyl methacrylate than does the specific disclosure of Conn.

According to the affidavit, the polymers themselves, as well as paints formulated from the polymers, were coated on various substrates, and thereafter were exposed to outdoor and accelerated weathering tests. In general, an examination of the weathered panels showed the specific compositions of Conn to be brittle and susceptible to cracking and peeling, while appellant's specific compositions remained flexible and adherent without cracking or peeling.

In view of those results described in the affidavit, appellant argues that the Examiner and Board erred in regarding it as "immaterial" to patentability of the composition claims. While there is some indication that the Examiner took such a position,[3] the Board properly did not. Rather, the Board examined the results shown by the affidavit in light of the disclosure of Conn, and concluded that appellant's affidavit and argument "pass over" the teachings of Conn of "how the ratio of comonomers may be changed to get changes in the final polymer, including changes of adhesion."

[3] The Examiner did state:

> Applicant • • • shows that compositions which contain 1 part methyl methacrylate to 1.67 parts butyl methacrylate are superior to the composition of Conn • • • who specifically shows the maximum ratio of one part methyl methacrylate to one part of butyl acrylate. The affidavit also shows that the claimed composition of one part of methyl methacrylate to 1.2 parts of 2-ethylhexyl acrylate are superior to the Conn • • • composition which specifically recites a ratio of one part methyl methacrylate to one part of 2-ethylhexyl acrylate. The affidavit was not considered to carry any weight • • • [and] the fact that applicant obtains better results from the claimed proportions of monomers in the polymer over the specific ranges disclosed by Conn • • • is immaterial for the reason that Conn • • • broadly discloses the claimed proportions of monomers. • • •

One of the reasons given by the Examiner for his conclusion, however, was that Conn

> • • • is not limited to the specific proportions set out • • • since said specific proportions merely appear to be exemplary of the broad proportions • • •. *The specifically claimed proportions could be arrived at* [by] *practicing the teachings of Conn* • • •. [Emphasis supplied.]

[1] It is true, as appellant contends, that this court has often stated that *unexpected* or *unobvious* properties of a composition are part of "the subject matter as a whole" to be considered under 35 U.S.C. 103. Appellant's reliance on such cases here, however, appears misplaced, for we think, contrary to his argument, that there is substantial evidence of record to support the finding by the Board, if not the Examiner, that the properties of appellant's compositions are *not* unexpected or unobvious. While appellant is correct in his argument that Conn does not explicitly disclose his paint compositions, the inquiry should not stop there. The question remains as to what one of ordinary skill in the art would learn from the Conn disclosure when considered as a whole.

The Solicitor points out that:

> • • • [Conn has stated] specific requirements which apply to interior house paints,[4] namely, toughness and resistance to swelling in water, resistance to stains, and ability to withstand wet scrubbing • • •. Appellant is more interested in elongation or stretchability of the paint film as an exterior house paint where swelling of the substrate is more likely to occur due to extreme changes in temperature and moisture content, and where the paint film must stretch to remain intact as the substrate swells • • •

[2] It seems to us that it would not be expected that Conn's paints, if they are primarily intended for indoor use, would endure outdoor weather conditions relatively well, or would have the requisite flexibility to cope with expansion and contraction of the substrate resulting from temperature extremes. If one of ordinary skill in this art were to find that some specific examples of Conn led to polymers which flaked, cracked and were too brittle to withstand outdoor use, we do not think he would have any difficulty in following the directions Conn gives to correct those deficiencies, namely "if a monomer yielding a relatively harder and, perhaps, more brittle polymer is selected, then more of a given monomer yielding soft polymer will be used."

It appears that appellant's compositions are more durable because of their higher content of acrylate monomer in the polymer binder and their concomitant greater ability to flex under temperature extremes. We think Conn would make one skilled in this art aware of the fact that use of more "soft," plasticizing acrylate monomer in the specific interpolymers of Conn would result in greater flexibility and a decrease in hardness and brittleness.[5] One cannot ignore the broader, instructive disclosure of a reference at the expense of reliance only on the specific examples, where the broader disclosure teaches how to modify the exemplary compositions to produce certain desired results. We are satisfied that the affidavit, in the apt words of the Solicitor, "simply shows results which would be expected from the use of more pliable interpolymers," and that appellant's compositions and coated articles would be obvious to one of ordinary skill in the art in view of Conn.

[4] Appellant stated below that Conn relates to paint compositions "primarily intended for more or less protected indoor use," although we note that Conn also discloses that films of paint prepared in accordance with the directions in his specification "have been exposed outdoors for over six months without cracking or peeling."

[5] Appellants acknowledge here that "the existence of hard and soft acrylic monomers and their general effects upon interpolymer properties were well known as early as 1942, as shown by the Renfrew patent, U.S. 2,270,024," a reference submitted by them to the Board. Renfrew discloses polymerising 2-ethylhexyl methacrylate with methyl methacrylate to obtain a flexible polymer useful in "water paint," and states that

> • • • as the percentage of 2-ethylhexyl methacrylate increases the interpolymers become more flexible and also more sticky. If the interpolymer contains less than 40% of 2-ethylhexyl methacrylate it is deposited • • • in the form of powdery brittle flakes • • •; above 40% and up to 95% the interpolymers adhere readily • • • in film form, an emulsion containing 70% depositing a non-tacky film which is particularly suitable for coating or surface dressing • • •

[4] Appellant further urges that Conn requires a non-ionic surfactant in his aqueous emulsion polymerization process. He argues that it would be unobvious to employ an anionic surfactant in the polymerization process as he has done. The apparent reason appellant utilizes an anionic surfactant is to obtain an interpolymer particle size below 0.45 micron. While appellant contends that the disclosed particle size range is critical, nothing in the specification or record demonstrates that to be the case or, for that matter, that appellant's particle size range differs in any respect from that of Conn. As the Solicitor points out, appellant's composition claims do not require that the interpolymer be formed in a process utilizing an anionic surfactant, but only recite a paint dispersion "including an anionic surfactant," a recitation met by the Conn disclosure of employing anionic surfactants to disperse the pigment before adding the pigment to the latex. With respect to appellant's process claims, we agree with the Examiner and Board that the record evidence, notably Carlson, demonstrates that it would be obvious to one of ordinary skill in the art to employ an anionic surfactant in place of the non-ionic surfactant used by Conn in his aqueous emulsion polymerization process. The mere fact that appellant discloses that use of the anionic surfactant in the process is "preferable" to him does not ordinarily support a conclusion of criticality. See *In re Shepard*, 50 CCPA 1439, 319 F.2d 194, 138 USPQ 148, and cases cited therein. Indeed, the portions of the specification quoted earlier which refer to the acknowledged state of the art would appear to negate the criticality alleged.

[5] The decision is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

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3,166,427, W. A. Herrmann. POULTRY PROCESSING METHOD, filed Sept. 29, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1674, *Tillman Produce Co.* v. *Frank G. Heilman Co.* Per stipulation cause dismissed, without prejudice, Nov. 28, 1967.

3,179,791, P. J. Mole, ILLUMINATING DEVICE FOR PRODUCING VARIED COLOR EFFECTS, filed Dec. 29, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c2403, *Phillip Mole* v. *Austin Continental Industries, Inc. et al.* Defendants' motion for summary judgment is allowed; plaintiff's complaint is dismissed, Nov. 28, 1967.

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3,246,392, G. A. Altgelt, METHOD OF REPAIRING AIRCRAFT CYLINDER HEADS, filed July 26, 1966, D.C., W.D. Tex. (San Antonio), Doc. 66–79–SA, *Chrome Plate, Inc.* v. *Electro-Coatings, Inc.* Stipulation for dismissal, Dec. 1, 1967.

3,267,960, J. B. Mallard, REENFORCED WEIGHTED PIPE, filed Dec. 1, 1967, D.C., S.D. Tex. (Houston), Doc. CA–67–H–912, *James B. Mallard* v. *Kon-Kote Services, Inc. et al.*

3,303,963, I. A. Speelman, DUAL HEAD STETHOSCOPE, filed Dec. 5, 1967, D.C., S.D.N.Y., Doc. 67–C–4772, *Propper Manufacturing Company, Inc.* v. *Miadom-Frank Corporation.*

3,340,630, R. F. Becker, WRIST TAB, filed Nov. 16, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67–1673–S, *Calendar Corp., MBM Company* v. *International Wrist Calendar Corp.*

REISSUES

FEBRUARY 20, 1968

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,345
TILE SETTER

Howard B. Cummings, New Castle, Pa., assignor, by mesne assignments, to Shenango Ceramics, Inc., New Castle, Pa., a corporation of Delaware

Original No. 3,181,223, dated May 4, 1965, Ser. No. 170,530, Jan. 22, 1962. Application for reissue May 1, 1967, Ser. No. 641,731

11 Claims. (Cl. 264—58)



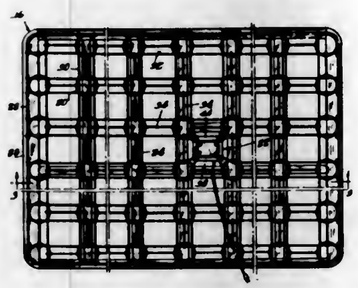
Setter and method for keeping flat tile straight and free of soiling during firing of glaze by supporting tile on cantilever supported opposed sets of shelves whose outer edges provide parallel horizontal bearing surfaces so that a tendency of unsupported tiles to sag in the center during fire is counterbalanced by overhanging margins of the tiles. Under surfaces of shelves are sloped so that accumulations of volatilized glaze not ventilated away or carried out by condensation on undersides of tiles stacked in the setter will run to the sides and not drop on tiles. Edges of shelves are but slightly raised above upper shelf surfaces which thus act as limits for the sagging of the tile margins during fire.

26,346
VIBRATING SPRING STRUCTURE

Ewald A. Kamp, Chicago, Ill., assignor, by mesne assignments, to ACD Bedding Corporation, New York, N.Y., a corporation of New York

Original No. 3,048,168, dated Aug. 7, 1962, Ser. No. 731,518, Apr. 28, 1958. Application for reissue May 13, 1963, Ser. No. 280,173

8 Claims. (Cl. 128—33)



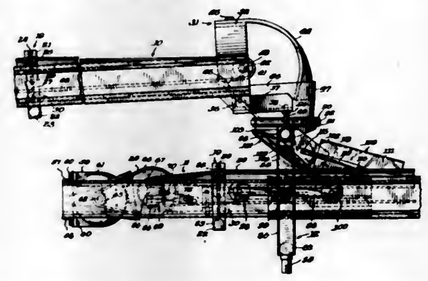
1. A spring structure for use in a bed having a mattress supported thereon, said spring structure including a spring frame, a plurality of coil spring units mounted on said spring frame, a network of wires interconnecting one end of each of said spring units with similar ends of the other spring units, and a vibrator attached to said network adjacent the center thereof and substantially coplanarly therewith for vibrating said network and transmitting the vibratory energy to said mattress.

26,347
CONCRETE MIX TRANSFER APPARATUS

Robert F. Oury, Wayne, Ill., assignor to Oury Engineering Company, Wheaton, Ill., a corporation of Illinois

Original No. 3,171,534, dated Mar. 2, 1965, Ser. No. 253,184, Jan. 22, 1963. Application for reissue Aug. 5, 1966, Ser. No. 574,268

10 Claims. (Cl. 198—84)



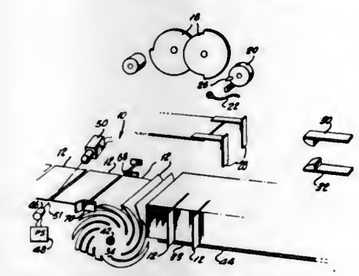
1. In a concrete mix transfer apparatus the combination comprising a stand, a first conveyor substantially supported upon the said stand, a second conveyor having its discharge end supported by the said stand, a ring [shaped funnel] member mounted upon the said stand, *a funnel member extending into the ring member,* an inclined chute mounted under the [ring shaped] funnel member upon the said stand at one of its ends and terminating adjacent the conveyor belt on the first mentioned conveyor, and a fixed hood in the discharge end of said second mentioned conveyor having a curved wall whereby the concrete mix received from the said second conveyor is directed downward and into the said funnel *member* in a substantially solid stream.

26,348
ENVELOPE COUNTER

Jack M. Ciccone, deceased, late of Westbury, N.Y., by Irene Ciccone, administratrix, Westbury, N.Y., assignor to F. L. Smithe Machine Co., Inc., New York, N.Y., a corporation of New York

Original No. 3,199,420, dated Aug. 10, 1965, Ser. No. 273,945, Apr. 18, 1963. Application for reissue Mar. 28, 1967, Ser. No. 651,058

1 Claim. (Cl. 93—93)



1. A counting, stacking and delivery mechanism for envelope-making machines comprising, conveyor means for delivering formed envelopes in [flat,] aligned spaced-apart relationship to rotary means for edge stacking the

envelopes, said rotary means including a [pair] *plurality* of slotted positioning wheels adapted to receive the leading edge of envelopes from said conveyor means, means for counting individual envelopes as they are fed to said rotary means and for indicating the passage thereby of a predetermined number of envelopes, means responsive to said counting means for periodically transversely offsetting an envelope in the slotted area of said rotary means from the remainder of envelopes previously fed to said rotary means, and a substantially horizontal table *arranged* in [substantial alignment] *cooperating relationship* with said [conveyor] *rotary* means and having projecting tabs extending within said slotted area of said rotary means for receiving the envelopes for edge-stacking thereon, whereby the stacked envelopes upon said table are segregated into readily identifiable groups of envelopes of desired predetermined number, said last means including a spring biased plunger on one side of said rotary means and stop means on the other side of said rotary means to limit the amount of transverse offset imparted to an offset envelope.

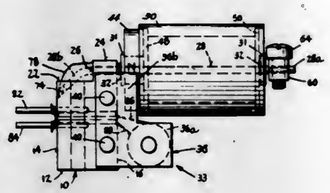
26,349

ELECTRICAL INDICATOR DEVICE

John A. Jackman, Watertown, Conn., assignor to Lewis Engineering Company, Naugatuck, Conn., a corporation of Connecticut

Original No. 3,185,979, dated May 25, 1965, Ser. No. 161,990, Dec. 22, 1961. Application for reissue Mar. 28, 1967, Ser. No. 641,716

6 Claims. (Cl. 340—373)



An electrical indicator comprising a drum which has indicia and which is turnable on a shaft whose one end is secured in a block-like base. The drum carries a permanent magnet disposed with its poles adjacent the drum periphery at one end of the drum. Secured to a pair of opposite sides of the base are parallel magnetic plates, in parallelism with and on opposite sides of the shaft. The plates project beyond the base, and a D.C. magnet coil and metal bore extend between the projecting portions of the plates. The permanent magnet, by its attraction for the pole plates, holds the drum in a given rotative position as a spring would, when the coil is unenergized. However, when the coil is energized the polarity of the pole plates is made such that they repel the permanent magnet, causing it and the drum to rotate to another position on the shaft. The different drum positions cause different indicia to be presented to a viewer.

26,350

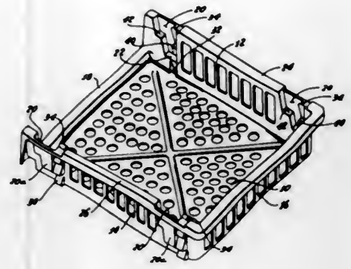
RECEPTACLE

James D. Wilson, Long Beach, Calif., assignor to Banner Metals, Inc., Compton, Calif., a corporation of Ohio

Original No. 3,219,232, dated Nov. 23, 1965, Ser. No. 350,246, Mar. 9, 1964. Application for reissue June 8, 1966, Ser. No. 562,972

6 Claims. (Cl. 220—97)

This disclosure describes a receptacle for use, for example, in the bakery industry for transporting and displaying bakery products. The receptacle is composed of molded plastic material, and it is shaped to provide it with nestable-stackable features. That is, the receptacles may be



stacked on top of one another when they are filled with merchandise, and may be nested down into one another when empty, so as to conserve space.

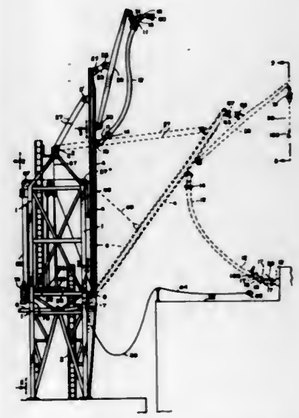
26,351

ARTICULATED HOSE DERRICK

Edward S. Sheiry, Bronxville, N.Y., assignor to Hose Booms, Inc., New York, N.Y., a corporation of New Jersey

Original No. 3,228,421, dated Jan. 11, 1966, Ser. No. 239,517, Nov. 23, 1962. Application for reissue Mar. 2, 1966, Ser. No. 532,554

9 Claims. (Cl. 137—615)



1. In a derrick device for supporting, manipulating and handling a flexible hose assembly of the character described, extending from a relatively stationary terminal at an inner end and having an outer terminal hose flange for coupling and uncoupling said assembly to manifold means, including a supporting tower having mounted thereon a main boom along which conduits for said hose assembly are supported, said boom having its lower end pivotally mounted relatively to said tower, and including powerized manipulating means for said main boom extended to and adjacent the other end thereof swingingly to [suport] *support* said main boom, an auxiliary boom mounted on said main boom, and including powerized means [controlled] *driven* from said tower for manipulating said auxiliary boom selectively relatively to and with said main boom, and improvements comprising counterweight means normally disposed at the lower area of the tower, two pulleys connected to said counterweight means, two cables each having one end thereof secured to the tower at its upper central area and thence extended downwardly and looped under one pulley of the counterweight means and thence extending upwardly over a pulley located above and laterally of the point at which said cable is secured to the tower, said counterweight-connected cables thence extending outwardly with respect to the tower and secured to the main boom.

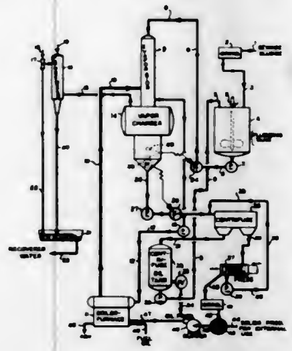
26,352

APPARATUS AND PROCESS FOR DEHYDRATING WASTE SOLIDS CONCENTRATES

Charles Greenfield, 35 Walnut St., Murray Hill, N.J. 07971

Original No. 3,304,991, dated Feb. 21, 1967, Ser. No. 528,258, Feb. 17, 1966, which is a continuation-in-part of Ser. No. 311,792, Sept. 26, 1963. Application for reissue May 29, 1967, Ser. No. 646,757

10 Claims. (Cl. 159—13)



1. An apparatus for dehydrating [liquiform] *initially water-containing* waste solids concentrates, said apparatus comprising (1) a tank adapted to receive a stream of such a waste solids concentrate and a stream of oil and wherein a mixing of these streams may be effected, (2) a single effect evaporator, (3) a conduit extending from said tank to said evaporator wherethrough a mixture of waste solids concentrate and oil may flow from said tank into the evaporating region of said evaporator, (4) a combustion apparatus associated with said evaporator for supplying evaporative heat thereto, (5) pressing apparatus adapted to effect a separation of liquid-solid mixtures into their respective liquid and solid components, (6) a conduit extending from said evaporator to said pressing apparatus wherethrough a substantially anhydrous mixture of waste solids and oil may flow from said evaporator to said pressing apparatus, and (7) means for discharging separated waste solids from said pressing apparatus to said combustion apparatus, said combustion apparatus being adapted to receive said solids and burn the same as fuel to provide at least part of the evaporative heat required by said evaporator.

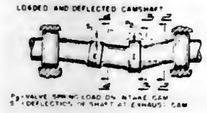
26,353

CAMSHAFT FOR INTERNAL COMBUSTION ENGINE VALVE GEAR

Michael C. Turkish, Lyndhurst, Ohio, assignor to Eaton Yale & Towne Inc., a corporation of Ohio

Original No. 3,272,189, dated Sept. 13, 1966, Ser. No. 452,669, May 3, 1965. Application for reissue Nov. 1, 1966, Ser. No. 597,500

24 Claims. (Cl. 123—90)



Valve gear for internal combustion engines in which valve gear loading produces valve gear deflections. A camshaft in combination with the valve gear is defined by a cam lobe and a heel having a developed profile in order to compensate for valve gear deflections. The cam heel comprises approximately one half of the total cam angle and is further defined by a portion of changed elevation located principally in one of the angular sectors of the cam heel.

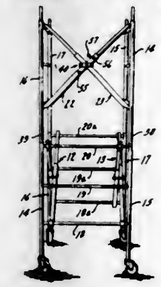
26,354

COLLAPSIBLE STRUCTURE

John R. Usher, 7548 S. Chappel Ave., and James F. Usher, 7412 S. Shore Drive, both of Chicago, Ill. 60649, and John A. Usher, deceased, late of Chicago, Ill., by Marcella C. Usher, executrix, 7412 S. Shore Drive, Chicago, Ill. 60649

Original No. 3,190,406, dated June 22, 1965, Ser. No. 223,885, Sept. 17, 1962. Reissue No. 26,215, dated May 30, 1967, Ser. No. 544,655, Apr. 1, 1966. This application for reissue May 17, 1967, Ser. No. 646,748

17 Claims. (Cl. 52—646)



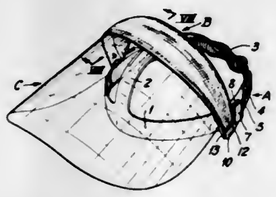
A retractable and foldable cross brace is disclosed for a collapsible structure that includes a pair of end members that are shiftable towards and away from each other. The retractable and foldable cross brace has a pair of endwise extensible brace assemblies disposed diagonally in intermediately intersecting relation, each brace assembly including endwise telescopically engaged outer and inner mating slide members. A floating tie plate structure embraces and interconnects oppositely outwardly directed outer wall portions of the outer slide members and includes spacer structure offset from the region of intersection of the braces and separate pivots engaging each outer wall portion to permit each of the brace assemblies to be rotated about its pivot while allowing each inner slide member to slide endwise past the pivot.

PATENTS

GRANTED FEBRUARY 20, 1968

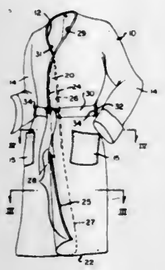
GENERAL AND MECHANICAL

3,369,255
FACE PROTECTOR
Robert Seraphin Victor Bolle, 58 Rte. de Marchon, Oyonnax, Ain, France
Filed Feb. 23, 1967, Ser. No. 618,059
Claims priority, application France, Mar. 4, 1966, 52,183
7 Claims. (Cl. 2—9)



A face protector is disclosed having a screen support pivotally connected to a headband so that the protector can be raised and held in the up position.

3,369,256
HOSPITAL ROBE
Alice Kern, 405 W. 9th Ave., Tarentum, Pa. 15084
Filed June 20, 1966, Ser. No. 558,986
8 Claims. (Cl. 2—114)



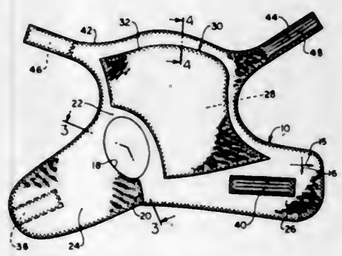
1. A hospital garment comprising a robe-like structure having a full-length rear opening extending from a high rear neckline to a hemline of at least knee length, said structure having a front portion presenting the appearance of a man's bathrobe, and having a V-neckline opening and a full-length lapped frontal junction extending from said neckline opening to said hemline, the overlapping edges of said junction being respectively extrapolations of the apposing inward edges of said V-neckline and extending from the lower extremity of said V-neckline to said hemline, and a pair of single rows of stitching commencing at said lower extremity and extending along said edges respectively to points below a waist line of said garment, said rows of stitching securing the upper portion of said lapped frontal junction, and the lower portion of said junction being open from the lower termini of said rows of stitching to said hemline.

3,369,257
PRETIED TAILLESS NECKTIE
Joseph W. Less, % One-In-Hand Tie Co., P.O. Box 449, Clinton, Iowa 52732
Filed July 14, 1966, Ser. No. 565,133
10 Claims. (Cl. 2—150)



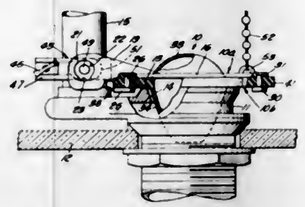
1. A pretied tailless necktie, comprising
a tie blank, having
a closed loop of necktie material; and
a strip of necktie material depending from the loop; and
a knot shaping support having a front and a back, with bottom and top edges,
the loop being arranged as a pretied knot on the support, with a first portion of the loop passing across the front of the support from side to side thereof, and a second portion of the loop extending rearwardly at both sides of the support,
the remainder of the loop extending at least to the top edge of the support,
the strip depending from the support from a location between the first portion and the front of the support, whereby the first portion constitutes a knot face and the strip depends therefrom to constitute a tie body.

3,369,258
GLOVE WITH WRAP-AROUND FASTENING MEANS
Gilbert I. Smith, 3096 47th Ave. N., St. Petersburg, Fla. 33714
Continuation-in-part of application Ser. No. 516,376, Dec. 27, 1965. This application Aug. 31, 1966, Ser. No. 576,376
6 Claims. (Cl. 2—159)



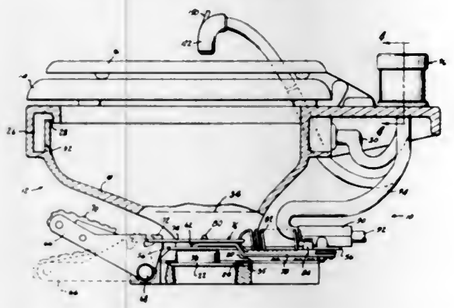
A flexible strap having two pairs of wrap-around means or portions with fastening means thereon for securing the glove to the palm and wrist of a wearer.

3,369,259
FLUSH TANK FLAPPER VALVE
Robert E. Harold, Pasadena, Calif., assignor to Kirkhill Inc., Downey, Calif., a corporation of California
Filed Oct. 20, 1965, Ser. No. 498,353
10 Claims. (Cl. 4—57)



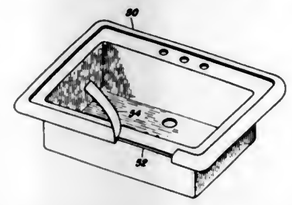
A composite ball valve of the flapper type for a flush tank in which a rigid frame structure is pivotally supported on a fixed clamp member attached to a fixed bracket or a pipe, the frame structure having spaced arms laterally deflectable to engage associated trunnions, the rigid frame having a ring body from which the arms extend in parallel, and a valve member of rubber carried by the frame, the valve member having a generally rectangular body with a flat peripheral marginal portion from which a rounded dome wall extends upwardly through the ring body of the frame and a downwardly tapered frusto-conical wall extending below the marginal portion, the frame and valve member being releasably interconnected by a plurality of upstanding pins carried by the frame arranged to seat into recesses or sockets in the marginal portion of the valve member.

3,369,260
FLUSH APPARATUS FOR WATER CLOSETS
Ronald J. Sargent and Charles L. Sargent, Ann Arbor, Mich., assignors to Thetford Engineering Corporation, Ann Arbor, Mich., a corporation of Michigan
Filed Oct. 22, 1965, Ser. No. 501,702
11 Claims. (Cl. 4—79)



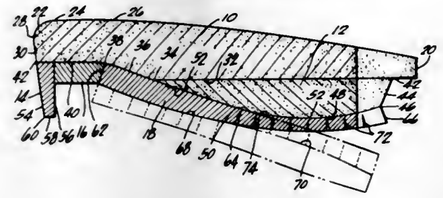
Flush apparatus for toilets adapted for use in mobile homes which includes a bowl having an annular chamber around the periphery into which flushing water can be introduced for discharge into said bowl, the latter having a discharge outlet normally closed by a gate valve. A rotary valve is positioned in the conduit for supplying water to said annular chamber, and a foot pedal and linkage is provided for opening and closing said gate valve and said rotary valve substantially simultaneously. A spray nozzle is connected by a flexible conduit to said water supply conduit downstream from said rotary valve, and a diverter is located in the water supply circuit in association with said spray nozzle so that if the spray nozzle is manually opened before said foot pedal is actuated to open the rotary valve, upon such rotary valve being opened the water then flowing in the conduit will be diverted through the spray nozzle rather than to flow into the annular chamber.

3,369,261
PLUMBING FIXTURE INSTALLATION
James A. Tiller, Louisville, Ky., assignor to American Standard Inc., a corporation of Delaware
Filed Feb. 18, 1965, Ser. No. 433,656
9 Claims. (Cl. 4—187)



A guard member which is adapted to be received about the peripheral lip portion of a sink or the like to prevent chipping of the lip during handling or transit of the sink. The member includes a sealing leg portion and a protective leg portion which is positioned over the enamel surface of the sink. Means are provided to facilitate separation of the protective leg portion from the sealing leg portion during installation of the sink to automatically provide a frameless seal between the sink and a supporting member.

3,369,262
FLOTATION CUSHION
Ronald I. Judd, Anaheim, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Sept. 27, 1966, Ser. No. 582,354
7 Claims. (Cl. 9—12)



1. A flotation cushion comprising:
a top portion of open-cell cellular foam material;
said top portion having a wedge of similar material extending along the rear portion of the lower surface thereof; and
a base of closed-cell cellular material having a specific gravity less than that of water;
said base having a rigid front half having a thickness greater than its rear half, the rear half being curved to fit against said wedge.

3,369,263
PROTECTIVE SEA RESCUE SUIT
Alois Kreckl, Kelsterbach (Main), Germany, assignor to Vereinigte Glanzstoff-Fabriken AG., Wuppertal-Elberfeld, Germany
Filed Apr. 27, 1966, Ser. No. 545,731
Claims priority, application Germany, May 11, 1965, V 28,433
6 Claims. (Cl. 9—331)

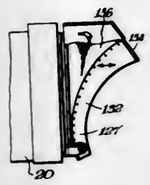
A sea rescue suit including a unitary outer protective sheath impermeable to water and air and having a body

portion with arm and leg sections and a hood portion fitting over the head while leaving an opening around the face, a zipper extending from the upper part of said hood portion down below the waist of the body portion, an elastic sealing member connected as a rim around the



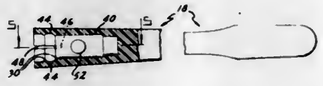
face opening of the hood portion, an inner elastic fabric bonnet attached to the sealing member and fitting tightly over the head, and a multi-layered insulating textile material disposed between the outer sheath and the inner elastic bonnet of the head portion.

3,369,264
JET LOADER
David J. Kurka, Barrington, and Gordon Jacobson, Elmhurst, Ill., and Taylor D. Whitenack, Jr., Fort Wayne, Ind., assignors to Symington Wayne, Salisbury, Md., a corporation of Maryland
Filed Oct. 22, 1965, Ser. No. 501,779
3 Claims. (Cl. 14—71)



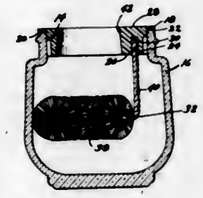
A loading ramp for bridging the gap between the airport terminal and the aircraft includes a tunnel which is pivoted to the terminal and a cab connected to the tunnel at right angles thereto with means for elevating and lowering the assembly and for extending and retracting the cab toward and away from the nose of an aircraft. The nose of the cab is particularly shaped to seal against the aircraft.

3,369,265
UNIVERSAL TOOTHBRUSH HEAD
Lewis James Halberstadt, Williamsburg, and Robert Carl McCord, Florence, Mass., assignors to Vistron Corporation, Cleveland, Ohio, a corporation of Ohio
Filed July 7, 1966, Ser. No. 563,469
6 Claims. (Cl. 15—22)



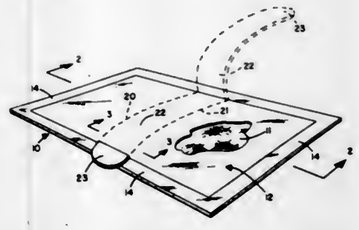
1. For power toothbrushes a removable brush head having a socket for coupling to a predetermined model of power unit, said socket including means for releasably interengaging the drive shaft of said power unit, said brush head including at least one slot opening into said socket at the coupling end of the brush head, at least one adapter of molded synthetic plastic material including means extending from the surface thereof for locking the adapter in place in said socket, said adapter having an internal cavity therein for releasably latching onto the shaft of at least one other power unit, said adapter having at least one slot disposed to register with the slot at the coupling end of the brush head.

3,369,266
CLEANSING DEVICE
Ernest J. Willson, 10 Valley View Drive, Windsor, Conn. 06095
Filed Sept. 24, 1965, Ser. No. 489,849
9 Claims. (Cl. 15—104.92)



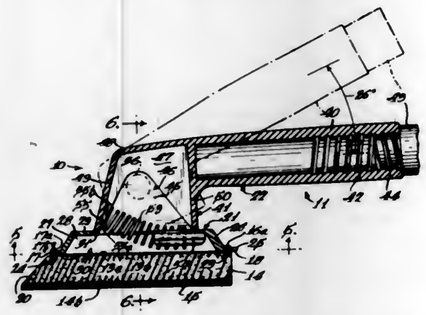
This invention comprises a cleaning member and a support member therefor, both of which are removably insertable into a receptacle. The cleaning member is secured to the support member to depend therefrom in supported operating position within the receptacle when the support member is inserted into an opening in the receptacle. An aperture in the support member permits access to the cleaning member which is provided with a brush portion arranged in register with and below the aperture permitting engagement with the brush portion by an article to be cleaned inserted into the receptacle through the aperture in the support member.

3,369,267
COMBINATION CONTAINER AND APPLICATOR
William S. Friedland, St. Petersburg, and Walter H. McKinney, St. Petersburg Beach, Fla., assignors to Foremost Chemicals, Inc., St. Petersburg, Fla., a corporation of Delaware
Filed May 24, 1965, Ser. No. 457,973
1 Claim. (Cl. 15—104.94)



An applicator **10** comprises a flat foldable pad containing material to be applied by wiping action, the pad being enclosed in a container comprised of two flexible sheets **12***a*, **12***b* sealed about their edges **14** and having a central transverse section **22** of the sheet **12***a* adapted to be removed as by tearing along weakened portions at **20**, **21** whereby a central transverse section of the pad **11** is exposed. The pad and container may be doubled to form a substantial hand grip having a substantial area of the pad exposed at one end.

3,369,268
PAINT APPLYING TOOL
Fredrick B. Burns, South Milwaukee, Wis., Giancinto C. D'Ercoli, Park Forest, Ill., and Albert A. Mlachnik, Milwaukee, Wis., assignors to E-Z Paintr Corporation, a corporation of Delaware
Filed June 2, 1967, Ser. No. 647,884
8 Claims. (Cl. 15—210)



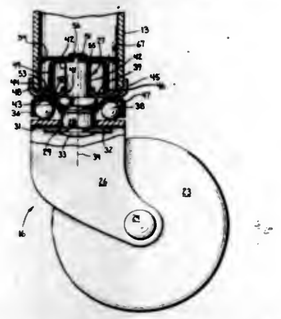
A paint applying tool comprising a handle including a gripping portion that is pivotally movable relative to an enlarged base; and an applicator removably mounted on the base and including, a rigid backing member, an intermediate member secured to one face of the backing member, and a paint transferring means secured to one side of the intermediate member. The front and the sides of the intermediate member of the applicator are beveled, and the applicator backing member includes spaced flanges defining an opening that is narrower than the width of the handle base, so that the handle base must be forceably snapped into the backing member to secure the applicator to the handle.

3,369,269
PAINT ROLLER
Fritz Deck, Gellertstr. 25, and Norbert Keim, Karl-Schurz-Str. 40, both of Karlsruhe, Germany
Filed May 1, 1967, Ser. No. 635,219
Claims priority, application Germany, May, 6, 1966, D 50,048
10 Claims. (Cl. 15—230.11)



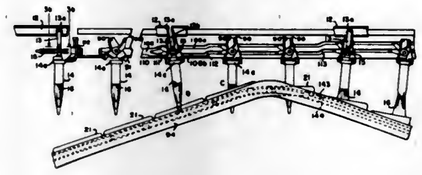
A paint roller including a cover plate which is selectively positioned over the free end of the roller to act as a paint screen and thus prevent the undesired contact of the paint filled roller with surfaces which are not to be painted.

3,369,270
SPRING-RETAINED TUBE-MOUNTED CASTER
Jerry W. Garrison, Evansville, Ind., assignor to Bliss & Laughlin Industries Incorporated, Oak Brook, Ill., a corporation of Delaware
Filed Dec. 27, 1965, Ser. No. 516,453
1 Claim. (Cl. 16—18)



A caster having a stem with a legmount affixed to the stem and arranged for mounting on a tubular chair or table leg, the caster horn being swiveled to the stem. A retainer spring affixed to the stem and including a plurality of downwardly and outwardly inclined pointed projections facilitating insertion into the tubular leg but resisting removal therefrom.

3,369,271
MANUFACTURE OF PLASTIC ARTICLES
Anthony F. Rodrigues, Los Gatos, and Clinton B. Pike, Santa Clara County, Calif., assignors to Becton, Dickinson of California, Inc., Los Gatos, Calif., a corporation of California
Filed Apr. 12, 1966, Ser. No. 542,071
17 Claims. (Cl. 18—2)

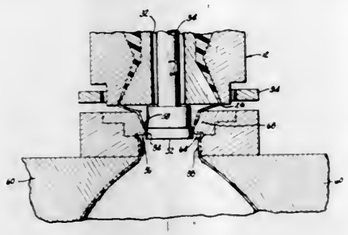


1. In a molding apparatus, an endless conveyor having series of spaced-apart molds supported thereon, means for driving said conveyor, an endless series of spaced-apart mold stripping heads corresponding to the spacing-apart of said molds, said series of stripping heads having a stretch extending along and registering with said molds for a portion of their travel, and endless series of mold control elements having a stretch extending along and registering with said molds for a portion of their travel, and means for causing each said element to engage and center a mold to control the position thereof with respect to the associated stripping head.

3,369,272
APPARATUS FOR CONCURRENTLY BLOW MOLDING AND TRIMMING PLASTIC ARTICLES
Merritt W. Martin, Jr., Saline, and James H. Manor, Milan, Mich., assignors to Hoover Ball and Bearing Company, Saline, Mich., a corporation of Michigan
Filed July 9, 1965, Ser. No. 470,726
9 Claims. (Cl. 18—5)

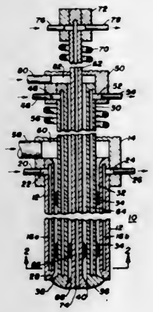
Blow molding apparatus for forming an organic plastic bottle in a partible mold and concurrently trimming excess

material from the neck of the formed bottle before opening the partible mold, including an extruder head for extruding a depending plastic tubing around a blow pin extending vertically through the extruder head. The blow pin has an enlarged head portion and is axially reciprocable, and in its lowermost position is located so that the enlarged head portion is within the cavity of the partible



mold when the latter is closed about the extruded tubing. Immediately above the portion of the mold defining the neck of the bottle is an edge for cooperating with the enlarged head portion when the blow pin is retracted from the closed mold, for severing the upper portion of the tubing exterior of the cavity from the blown bottle while the latter is still in the mold.

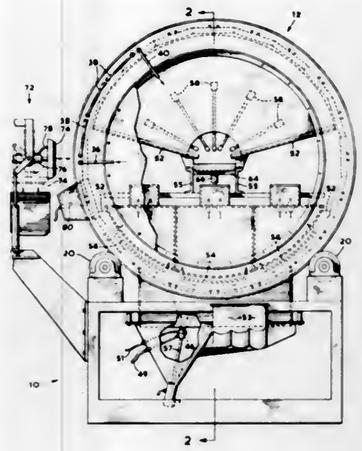
3,369,273
APPARATUS FOR EXTRUDING AND FILLING PLASTIC CONTAINERS
Kevin E. Moran, Crystal Lake, Ill., assignor, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Original application June 17, 1965, Ser. No. 464,684, now Patent No. 3,311,949, dated Apr. 4, 1967. Divided and this application Nov. 30, 1966, Ser. No. 615,278
3 Claims. (Cl. 18—14)



Extrusion apparatus for continuously producing molding and filling blown plastic bottles.

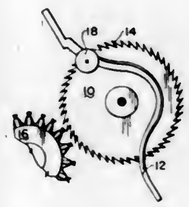
3,369,274
MOULDING MACHINE
Peter Derek John Dicks, Kitchener, Ontario, and William Melville Hill, Ayr, Ontario, Canada, assignors to Spraymould (Bahamas) Limited, Nassau, Bahamas
Continuation-in-part of application Ser. No. 402,713, Oct. 9, 1964. This application Oct. 6, 1965, Ser. No. 493,335
5 Claims. (Cl. 18—21)

The invention is a moulding machine wherein the moulds are mounted on the side wall of a drum and the interior of the drum constitutes a sump for hot liquid whereby moulding material sprayed on to the moulding surface of the moulds on the outside of the drum is cured as heat is transmitted through the mould from the sump



to the moulding material. A cooling ring defines the perimeter of the moulding surface of the moulds and has a coolant forced therethrough to prevent the curing of plastic material at the perimeter of the moulding surface so that trimming of the moulded product is unnecessary.

3,369,275
COTTON GIN RIB
Charles L. Headley, Lubbock, Tex., assignor of two-thirds to James E. Nayfa, Dallas, Tex.
Filed Apr. 19, 1965, Ser. No. 449,165
3 Claims. (Cl. 19—62)

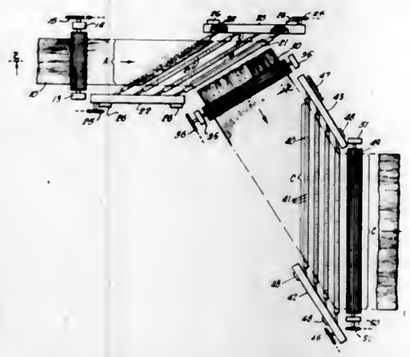


Rollers are attached to cotton gin ribs at the ginning point. The center of the roller is within the circle of the saw so that the leading edge of each saw tooth is parallel to the periphery of the roller when the tooth passes the roller.

3,369,276
APPARATUS FOR SPREADING CONTINUOUS FILAMENT SHEETS
Frank Kalwaites, Somerville, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed July 16, 1965, Ser. No. 472,443
2 Claims. (Cl. 19—65)

Apparatus for spreading sheets of continuous filament into wider sheets comprising means for moving the sheet of filaments in a first direction, means for controlling

said movement at a diagonal to the width of the sheet



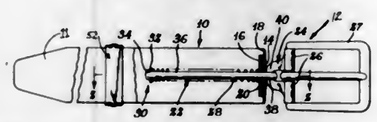
and means for moving the sheet of filaments in a second direction perpendicular to the diagonal.

3,369,277
CLOSURE DEVICE
Edward Lamonte Seitz, Jr., Mechanicsburg, and Allen Edwin Travis, Harrisburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Aug. 22, 1966, Ser. No. 574,091
15 Claims. (Cl. 24—30.5)



A closure member of flexible but stiff metal comprises a body member having a first leg and a second leg with a bight connecting the legs together as a unitary member. The first leg has a length about twice that of the second leg and a free end of the first leg has a bent area. Inwardly-directed rib means extend along substantially the length of the body member in order to provide spaced sealing areas when the closure member is deformed into sealing engagement with an end of a flexible container.

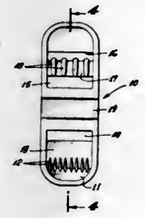
3,369,278
REVERSIBLE BELT AND BUCKLE HAVING STRETCH CHARACTER
Charles D. Humphreys, 1301 W. 35th St., Chicago, Ill. 60609
Filed Nov. 8, 1965, Ser. No. 506,809
5 Claims. (Cl. 24—163)



A belt with stretch character is provided in combination with a reversible belt buckle. The spring which accommodates the stretch character is selected circular in cross-section and of a size to just slidably receive therein a stem member that is slidable and pivotable relative to an abutment member against which one end of the spring abuts and which anchors to the belt. One end of the stem is for connection to the belt buckle, while the other end of the stem forms a stop for the other end of the spring. In one form, the stem is of formed sheet metal. In a second form, the stem is of cotter-pin shape whose loop provides an additional pivot connection.

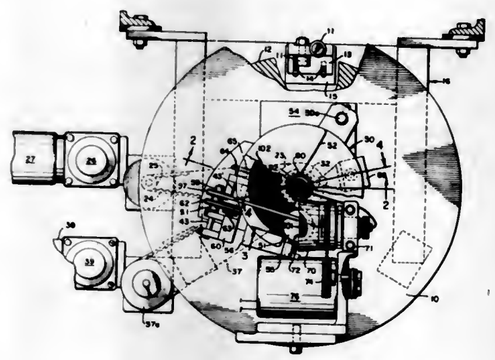
The belt is provided with a novel belt-end retainer that accommodates use of the belt in either of its reversible conditions.

3,369,279
STOCKING GRIPPER
Jan J. Erteszek, 631 Bonhill Road, Los Angeles, Calif. 90049
Filed May 25, 1966, Ser. No. 568,691
5 Claims. (Cl. 24—245)



The invention provides a novel stocking fastener in the form of thin essentially flat resilient material doubled at its upper edge to form opposed depending legs to receive the stocking between them, one of the legs having inside teeth and the other leg having inside keeper lugs spaced to receive the teeth between them and proportioned to releasably retain the teeth.

3,369,280
APPARATUS FOR FORMING A STATIONARY YARN PACKAGE
Ewart H. Shattuck and Charles R. Cabello, Wilmington, Del., assignors to Bancroft, Joseph & Sons Co., Rockford, Wilmington, Del., a corporation of Delaware
Filed Mar. 14, 1966, Ser. No. 534,122
9 Claims. (Cl. 28—21)



Apparatus for forming a yarn into a ribbon of loops and laying the loops in a helical layer onto the bottom of a stationary yarn package. The loop former is mounted on a turntable which rotates beneath the stationary yarn package.

3,369,281

STRETCH YARN MADE OF COTTON AND COTTON TYPE MATERIALS AND PROCESS OF PRODUCING THE SAME

Georg Edlich, Lorrach, Baden, Germany, assignor to Schipat AG, Zug, Switzerland, a corporation of Switzerland

No Drawing. Filed Oct. 1, 1965, Ser. No. 492,281
Claims priority, application Germany, Oct. 15, 1964, E 27,959
8 Claims. (Cl. 28—76)

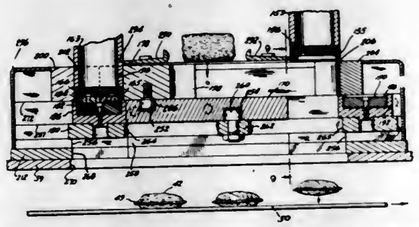
3. A process of producing a textile fabric of mercerized cotton stretch yarn, comprising the steps of forming at least two individual yarns each having the same twist of 106–122 turns per meter but of opposite sense with respect to one another, twisting said individual yarns together with a twist of 136–166 turns per meter whcih is higher than that of the individual yarns, forming a body of links from the produced twist, mercerizing the produced body of links in a hot caustic lye of about 0.05% comprising a surfactant, and drying the body of links.

3,369,282

APPARATUS FOR MAKING STEEL WOOL SCOURING PAD

Carl J. Demrick, 6375 Golfview Drive, Birmingham, Mich. 48010

Original application June 14, 1965, Ser. No. 463,736. Divided and this application May 11, 1967, Ser. No. 637,839
10 Claims. (Cl. 29—4.5)



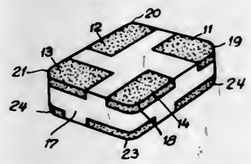
An apparatus for making steel wool scouring pads in which a continuous ribbon of steel wool is torn into individual strips, which strips are then coiled into rolls with alternate rolls being compressed and pinched around their peripheries by alternate punch presses which have die sets and die actuators for performing these operations of shaping the pads.

3,369,283

CUTTING INSERT FOR CHIP CUTTING MACHINING AND MEANS FOR MANUFACTURING SUCH CUTTING INSERTS

Bertil Colding, Vasteras, Sweden, assignor, by mesne assignments, to Diadur Aktiebolag, Robertsfors, Sweden, a corporation of Sweden

Filed Jan. 27, 1965, Ser. No. 428,503
Claims priority, application Sweden, Feb. 6, 1964, 1,433/64
9 Claims. (Cl. 29—95)



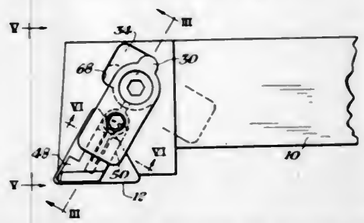
A cutting insert for chip cutting comprises a metallic matrix with diamond particles having an average size below 2 mm. pressed into the cutting edge; the matrix has a hardness of at least 40 Rockwell C, but less than that of the diamond particles; the particles cover at least 10 percent of the edge surface; the article may be produced by pressing or spraying the diamond particles into the matrix, which may then be hardened.

3,369,284

TOOL HOLDER ASSEMBLY

Henry W. Stier, Dearborn Heights, Mich., assignor to Carmet Company, Pittsburgh, Pa., a corporation of New Jersey

Filed May 4, 1967, Ser. No. 636,062
9 Claims. (Cl. 29—96)



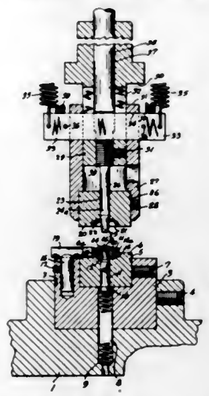
A tool holder assembly including an inverted generally L-shaped swing away clamp pivotable about the leg thereof within a recess in the tool body, the arm thereof having a grooved-out portion on the undersurface thereof, the grooved-out portion receiving a chip breaker in slidable engagement, the chip breaker being retained within the groove by means of a wire spring member secured to the leg, the spring member also retaining a cam member cooperating with the chip breaker for adjustment thereof with respect to the insert. The leg of said clamp is also provided with a projection cooperating with shoulder means or stop means within the recess to provide the limits of rotation of the swing away clamp.

3,369,285

APPARATUS FOR MANUFACTURING BEARINGS

Lewis R. Helm, deceased, late of Fairfield, Conn., by Florence H. Van Etten and Charles R. Helm, executors, Fairfield, Conn., assignors to The Helm Universal Corporation, Fairfield, Conn., a corporation of Delaware

Application Nov. 18, 1960, Ser. No. 70,875, now Patent No. 3,221,391, dated Dec. 7, 1965, which is a continuation-in-part of application Ser. No. 488,537, Feb. 16, 1955. Divided and this application Nov. 15, 1965, Ser. No. 507,971
3 Claims. (Cl. 29—200)



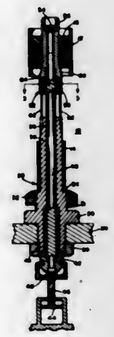
1. Apparatus for the production and assembly of a bearing, the bearing prior to assembly comprising an inner member having a convex outer face and a hole through the member, and an outer member having a concave inner face, the apparatus including a pedestal for supporting the outer member, a pilot for supporting the inner member when it is inserted within the said hole, the pilot being movable axially into and out of the said hole, and a tapered punch comprising an outer tapering wall portion whose end fits within the said hole to cause the inner member to expand radially to fit the outer member with correct bearing tolerance, wherein the said tapered punch pushes the said pilot out of the said hole.

3,369,286

TOOL FOR ASSEMBLING BUSHINGS

Keith W. Marshall, Holgate, Ohio, assignor, by mesne assignments, to Clevite Corporation, a corporation of Ohio

Filed Nov. 15, 1962, Ser. No. 237,886
9 Claims. (Cl. 29—235)



1. A tool for force fitting a rigid sleeve into a smaller diameter bore of a rubber part comprising: a support; a tubular post extending upward from said support; said tubular post defining a lower tubular portion adapted to slidably receive thereon the rigid sleeve and defining an upper tubular portion adapted to slidably receive thereon the rubber part and to hold them in axially spaced-apart relation to each other; a reciprocal punch mounted above said post in axial alignment therewith for forcing the rubber part down said post onto said sleeve to forcibly insert said sleeve into the bore of the rubber part; flexible means on said post between said upper and lower portions thereof defining a radially expandible surface; means forming part of said post for causing said post to foreshorten, and means for actuating said means to expand said surface to define a tapered surface and to foreshorten said post to facilitate downward movement of the rubber part onto said sleeve.

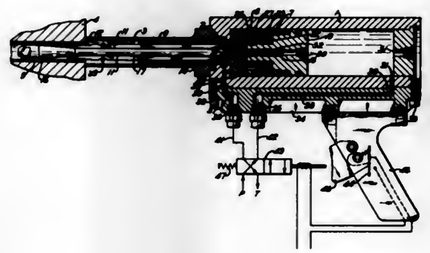
3,369,287

TUBE PULLER

Raymond E. Brochetti, Wilkinsburg, Pa. (1212 Windermere Drive, Pittsburgh, Pa. 15218)

Filed Apr. 20, 1967, Ser. No. 632,257
5 Claims. (Cl. 29—252)

A fluid pressure cylinder contains two pistons. The front piston is connected to jaws that project from the front end of the cylinder, and the back piston is connected to a wedge for expanding the jaws when that piston moves rearwardly relative to the front piston. After the back piston has moved a certain distance, it pulls the front piston with it so that jaws and wedge are pulled in unison toward the cylinder.



3,369,288

METHOD OF DIFFUSION BONDING A HONEYCOMB STRUCTURE

William K. Halnan, Oakland, Calif., assignor to Hexcel Corporation, a corporation of California

Filed June 24, 1963, Ser. No. 289,928
2 Claims. (Cl. 29—471.1)



1. The method of making a honeycomb structure wherein a plurality of metal sheets are bonded together at desired locations corresponding to the node regions of a honeycomb structure formed by expansion of such metal sheets comprising the steps of: depositing by condensation a layer of intermediate metal at spaced intervals on at least one surface of the faying surfaces of a pair of adjacent metal sheets where bonding of said sheets is to occur a layer of intermediate metal dissimilar to the metal of said metal sheets; stacking said sheets one on top of the other with said layers of intermediate metal staggered through said stack so that said sheets will be bonded at staggered positions through said stacks; applying to said sheets heat and pressure below that which produces a diffusion weld between said metal sheets in said spaced intervals in said layers of intermediate metal sufficient to cause a diffusion of said intermediate metal into said sheets to produce diffusion welds joining the metal sheets only at said spaced apart intervals; and expanding said bonded stack of metal sheets into a honeycomb structure.

3,369,289

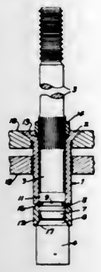
DIE-DRAW BLIND RIVET WITH DEFORMABLE DIE AND THE METHOD OF SETTING SAME

Roland H. Gapp, Santa Ana, Calif., assignor to Textron Industries, Inc. a corporation of Delaware

Filed Nov. 27, 1964, Ser. No. 414,182
5 Claims. (Cl. 29—512)

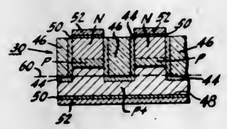
In a blind rivet, a stem is pulled through a tubular rivet shank, while a rivet head on the rivet shank is held against the work, thereby to pull a former head on the tail end of the stem into the tail end, or blind end, of the tubular rivet shank so as to enlarge the tail end of the tubular rivet shank and clinch it against the blind side

of the work; a die sleeve is positioned around the stem at said former head, and said tubular rivet shank is placed on said stem against said die sleeve; the die sleeve has a frusto-conical external end surface adjacent the tail end of the rivet shank and a frusto-conical internal end surface adjacent said former head; the die sleeve being harder than the rivet shank but softer than the former head of said stem, thereby to expand the tail end of the shank against the adjacent blind side of the work when the die is pulled into the tail end of the rivet shank,



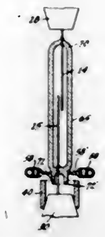
and then expand said die sleeve for further expanding said rivet tail end when said former head is pulled into said die sleeve; the relative hardness of said former head being such that after expanding said die sleeve and said tail end against the work, upon further pulling of the stem said former head is wiredrawn through said die sleeve to a predetermined length corresponding to the thickness of the work; a locking collar on the pulling stem outside said rivet head is swaged into said rivet head and into a locking groove in said stem to lock the rivet stem in said clinching position.

3,369,290
METHOD OF MAKING PASSIVATED SEMICONDUCTOR DEVICES
Alfred Mayer, Plainfield, and Eric F. Cave, Somerville, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Aug. 7, 1964, Ser. No. 388,237
4 Claims. (Cl. 29—581)



1. A method of making passivated semiconductor devices with the aid of a wafer of semiconductor material, having a PN junction therein substantially parallel to opposed major surfaces of the wafer, and a wafer-like electrical conductive substrate, said method comprising the steps of:
fixing one of said major surfaces of said wafer to said substrate to form a combined block,
cutting a plurality of grooves in said block, each of said grooves extending through said wafer and into said substrate, whereby to form a plurality of mesas with a portion of said PN junction in each,
pressing softened glass into said grooves,
lapping said block to remove any of said glass adhering to the tops of said mesas thereby exposing said semiconductor material of the surface of each of said mesas,
metallizing said exposed surfaces of said mesas,
fixing an electrode to each of said metallized surfaces of said mesas, and
cutting through said glass transversely to said substrate, whereby to separate glass-surrounded mesas on said block from each other, each of said glass-surrounded mesas comprising one of said passivated semiconductor devices.

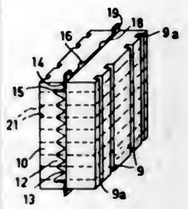
3,369,291
METHOD OF MAKING REED SWITCHES
George A. Shaffer, Jr., Union, Leonard R. Campbell, New Brunswick, and Henry L. Blust, Lyndhurst, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Mar. 14, 1963, Ser. No. 265,126
1 Claim. (Cl. 29—622)



1. Method of fabricating a reed switch from parts including an open ended glass envelope and two reeds, comprising:
(a) supporting said reeds in spaced apart, overlapped relation within said envelope,
(b) adjusting the gap between said reeds to provide a desired spacing therebetween, said gap adjusting comprising:
(1) moving one of said reeds into electrical contact with the other of said reeds,
(2) completing an electrical circuit through said reeds,
(3) moving said reeds apart until the circuit is broken to position said reeds apart at a reference positon, and
(4) moving said reeds a selected distance relative to each other from said reference positon,
(c) sealing one of said reeds through one end of said envelope,
(d) then sealing the other of said reeds through said envelope, and then
(e) readjusting the said gap between said members during the last-named sealing step.

3,369,292
METHOD OF FORMING GLASS BONDED HEADS
Godefridus Johannes Manders, Emmasingel, Eindhoven, Netherlands, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware
Original application Nov. 23, 1962, Ser. No. 239,759, now abandoned. Divided and this application Sept. 7, 1965, Ser. No. 509,232
Claims priority, application Netherlands, Sept. 20, 1962, 283,790
3 Claims. (Cl. 29—603)

A method of manufacturing transducer heads by forming a plurality of parallel V-shaped projections along the face of a block of ferrite material, forming an auxiliary groove at either end of the block after the last projection, placing a spacer element abutting the face of the block and having a bent portion extending down into the auxiliary groove, forming another plurality of grooves at right angles to the first, glass bonding a mating ferrite block onto



the original block, cutting the block between each projection, and cutting the remaining plates into as many separate plates as there are right angle grooves.

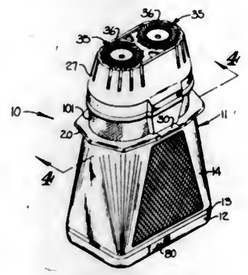
3,369,293
METHOD OF MANUFACTURING ETCHED CIRCUITRY
Raymond N. Tillotson, Santa Monica, Calif., assignor to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Oct. 29, 1963, Ser. No. 319,850
5 Claims. (Cl. 29—625)



1. A method of manufacturing burr-free terminal holes in printed circuit boards of the type having a sheet of dielectric material underlying a sheet of conductive material, comprising, in combination, the steps of:
photographically reproducing the location of terminal hole areas on said conductive sheet;
etching away said conductive sheet only in said terminal hole areas to render etched areas of desired diameters; and
mechanically drilling terminal holes respectively of a diameter less than said desired diameter through the dielectric material underlying said etched areas, and spaced from the edges thereof;
said terminal holes being smaller in diameter than holes formed in said conductive material by said etching.

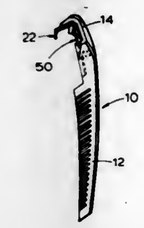
3,369,294
POWER DRIVEN WET SHAVER
Harmon L. Shaw and John G. Williamson, Charlotte, N.C., assignors to Timac, Inc., Charlotte, N.C., a corporation of North Carolina
Filed Oct. 24, 1965, Ser. No. 504,476
2 Claims. (Cl. 30—41.5)

A power driven wet shaver for shaving hair from the skin of the user which may be utilized with a wet shaving lather on the skin of the user. The shaver comprises a housing structure, cutting means mounted in the housing structure, power means for driving the cutting means, an enclosed passageway defined by the housing structure and having one end communicating with the cutting means and the other end communicating with the atmosphere for receiving and passing the wet lather and cut hair therethrough without interference with the power means, a driven centrifugal fan disposed within the passageway intermediate the ends thereof for creating a pressure differential resulting in suction on one side thereof and a force draft on the other side thereof, and a venturi means formed by the housing structure within the passageway in



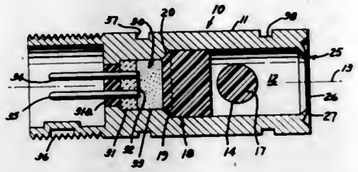
close proximity to the centrifugal fan for cooperating therewith to create a high velocity air flow for dissipating the air and moisture from the wet shaving lather as it is transported through the passageway.

3,369,295
INJECTOR TYPE RAZOR HAVING IMPROVED BIASING MEANS FOR POSITIONING THE RAZOR BLADE IN SHAVING POSITION
George H. Russell, 4 Langside Park, Kilbarchan, Renfrewshire, Scotland
Continuation-in-part of application Ser. No. 495,064, Oct. 12, 1965. This application Feb. 21, 1967, Ser. No. 617,641
Claims priority, application Great Britain, June 3, 1965, 23,732/65
2 Claims. (Cl. 30—62)



An injector type safety razor in which the razor blade is supported on the blade platform of a bridge member nested in the head of the razor frame, the blade platform having blade stops thereon which engage the front edge of the razor blade. The razor blade is maintained in shaving position by applying a biasing force to the bridge member with a spring connected with the razor frame and disposed in front of the bridge member. The spring is provided with a flat vertically directed center body portion secured to the razor frame, and a pair of flat elastic spring fingers extending laterally at opposite sides of the center body portion. The spring fingers are inclined forwardly and upwardly of the center body portion in such manner that only the terminal ends thereof engage the bridge member and apply the biasing force thereto co-equally in upward and rearward direction. The biasing force applied to the bridge member urges the rear edge of the razor blade into firm contact with an abutment formed in the razor head thus maintaining the razor blade in a shaving position.

3,369,296
LINE CUTTER
Albert T. Takahashi, Torrance, and Ronald E. Gardner, Lomita, Calif., assignors to Hi-Shear Corporation, Torrance, Calif., a corporation of California
Filed Jan. 12, 1966, Ser. No. 520,138
6 Claims. (Cl. 30—228)

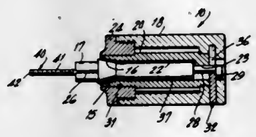


This invention relates to a line cutter in which a body has a bore with an axis along which a cutter plug can be fixed to cut a line which passes transversely through the bore. A choke is disposed in the path of the cutter plug to decelerate the same by extrusion, or change of cross-section. However, the choke is not contacted by the cutter plug until the trailing edge of the cutter plug passes an edge of a port through which the line enters the bore, whereby the propellant gases are vented before the cutter plug is decelerated.

3,369,297
METHOD OF CHEMICALLY BONDING DENTAL PORCELAIN TO SYNTHETIC RESIN BASE MATERIALS AND RESULTING PROSTHETIC APPLIANCE
Benjamin David Halpern, Jenkintown, and John O. Semmelman, York, Pa., assignors to Dentists' Supply Company of New York, York, Pa., a corporation of New York
No Drawing. Filed Jan. 12, 1965, Ser. No. 425,080
16 Claims. (Cl. 32—2)

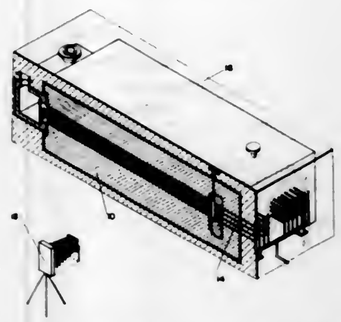
In the dental art an improved method of bonding artificial porcelain tooth material to a denture base of synthetic resin wherein the bond consists of a silicon derivative monomer and the resin of the denture base has included therein a monomeric acrylic resin, these respective monomers reacting by way of polymerization whereby a covalent bond of great strength is formed between the porcelain tooth material and the denture base.

3,369,298
DENTAL HAND-PIECE AND TOOL THEREFOR
Bernard Weissman, Brooklyn, and Morris Cowan, New York, N.Y., assignors to Whaledent, Inc., Brooklyn, N.Y., a corporation of New York
Filed Mar. 28, 1966, Ser. No. 537,780
8 Claims. (Cl. 32—27)



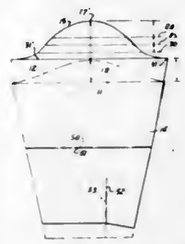
This invention is directed to a tool holder member, particularly in combination with a dental hand-piece, in which clutch means are provided for cooperative rotational engagement with a dental tool member upon the application of hand pressure to the holder or hand-piece, one of said members having a counter-bore clutch portion and the other of said members having a clutch portion complementary to said counter-bore clutch portion.

3,369,299
PREPARATION OF CONSTRUCTION AND FABRICATION DRAWINGS FROM A MODEL
Gordon C. Thomas, Westfield, N.J., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed Sept. 2, 1964, Ser. No. 393,920
6 Claims. (Cl. 33—1)



A method of producing a construction drawing from a model by encasing the model in a plastic material, cutting the encased model to form a cut section, reproducing the cut section, for example by tracing or photography, applying distance measuring devices to selected dimensional distances on the cut section or its reproduction, converting the measurements in accordance with the appropriate scale factor, marking the dimensions thus found on the reproduction, and making a further reproduction therefrom for use as the construction drawing.

3,369,300
METHOD OF PRODUCING A SLEEVE PATTERN
Shirley Marie Green, Dallas, Tex., assignor of fifty percent to Charles H. Green, Jr., Los Angeles, Calif.
Filed Nov. 1, 1965, Ser. No. 505,828
3 Claims. (Cl. 33—17)



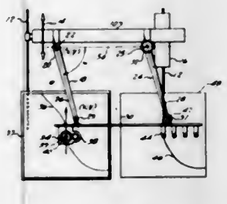
The invention concerns the method or process for making sleeve patterns or blocks for cutting and fitting sleeves for garments, and it involves a novel concept in sleeve design for all types of garments in all sizes based upon the well known principle of using a standard pattern or block for such purposes.

The conventional sleeve pattern has a curvilineal end portion by which the sleeve is formed to join the armhole of the garment, a substantial part of such end portion being arcuate to provide the sleeve cap which overlies the upper arm muscles near the shoulder. The standard or conventional sleeve pattern also has certain indicia thereon by which the elbow line is determined. These patterns are provided in several sizes to accommodate the individual requirements, and all have the same perimetrical outline and guide markings.

The invention involves the use of the standard sleeve pattern as a base for its concept which consists in increasing the lateral marginal edges of the pattern, measured from the elbow line to the curvilineal end thereof, and at the same time, and by the same process, extending the vertex of the arcuate part of the contoured end portion beyond that of the standard pattern whereby greater width is afforded over the shoulder and length at the armpit without changing the lineal dimension of the contoured end of the standard pattern.

As will become apparent certain body measurements have been established by which the advantages provided by the invention are manifested, and by which a novel sleeve pattern can be provided.

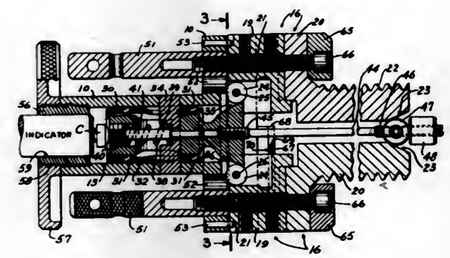
3,369,301
PANTOGRAPH TYPE PATTERN CONTOUR TRACING SYSTEM
Frans Brouwer, Glencoe, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Nov. 18, 1965, Ser. No. 508,481
8 Claims. (Cl. 33—23)



An automatic pattern tracing control system for pantograph supporting systems of the type having a linearly translatable carriage and a rotatable arm mounted on the carriage with a scanning head fixed to the free end of the arm. The scanning head develops a signal in accordance with deviations from the pattern and circuit means derives separate signals therefrom, a first signal for driving the carriage in linear direction and a second component for rotating the arm so as to maintain the scanning head on the line. Also disclosed is a second system for articulated type pantograph systems with signals being derived from the scanning head and circuit for separately driving each of the articulated arms.

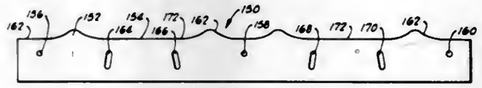
3,369,302
INTERNAL DIMENSIONAL GAGE WITH AXIALLY LIMITED OPERATING MEANS
Paul W. Johnson, Bloomfield, Conn., assignor to The Johnson Gage Company, Bloomfield, Conn., a corporation of Connecticut
Filed Aug. 5, 1966, Ser. No. 570,471
7 Claims. (Cl. 33—147)

1. An internal dimensional gage adapted to carry an indicator having a contactor comprising a frame having a plurality of radial guides and an axis, gaging means slidably mounted in each radial guide and having a gaging surface and an outer end, an axially extending bearing carried by the frame; operating means to move the gaging means radially outwardly including an operating member mounted in the bearing for axial movement and having an angular surface for each gaging means, said angular surface engaging the gaging means, and spring means operatively connected with the gaging means to propel the latter radially outwardly; manual means connected with the gaging means to propel the same radially inwardly; an angular surface carried by the outer end of each gaging means having an angularity with respect to the axis the same as and in the same direction as the



angular surface on the operating means, axial limiting means carried by the operating member and movable therewith and engaging the angular surface at the outer end of each gaging means, and indicator mounting means carried by the frame and positioned so that the contactor of the indicator will engage the operating means.

3,369,303
PLEATING METHODS AND APPARATUS
Jennie Henry, 425 W. Douglas Drive, Midwest City, Okla. 73110
Continuation-in-part of application Ser. No. 392,694, Aug. 28, 1964. This application Apr. 18, 1966, Ser. No. 543,323
2 Claims. (Cl. 33—174)



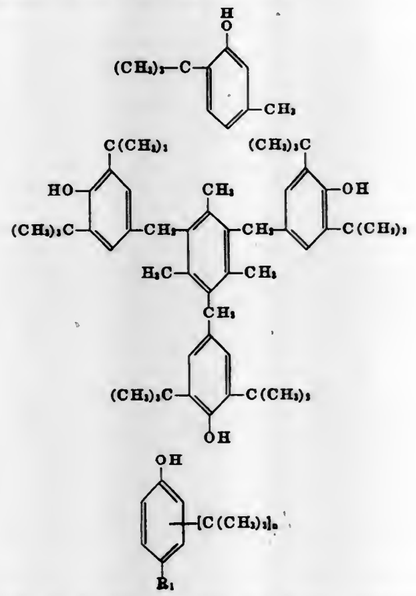
A method of pleating fabrics with equi-sized, symmetrical pleats which includes the steps of first forming a substantially monoplanar template having apertures of two differing shapes formed therethrough, with all of the apertures arranged in sets, with each set including at least one aperture of each shape, and all of the sets being equally spaced along the template from each other. The arrangement of apertures in the template is such that if the template is folded along parallel lines extended through each of the apertures of one shape, and these parallel fold lines are then placed against the template in parallelism and in a location where each fold line lies across an adjacent aperture of the second shape, symmetrical, equi-sized pleats will be formed in the template. The template, in an unfolded, substantially monoplanar state is laid flat on the fabric and indicia are placed on the fabric corresponding in number and in geometric distinctiveness to the apertures in the template. Such indicia are formed by extending a marking device through the several apertures. The fabric is then folded or creased along parallel lines extending through one group of indicia corresponding to apertures of one shape, and these fold lines are then brought into alignment with other indicia corresponding to apertures of the second shape to form symmetrical, equi-sized and equally spaced pleats. The pleats are then permanently secured in the fabric by sewing.

3,369,304
STABILIZATION OF WATER SOLUBLE SURFACE ACTIVE AGENTS

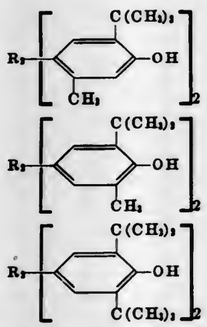
Sidney G. Clark and Harold E. Felerstein, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed June 1, 1966, Ser. No. 554,329
15 Claims. (Cl. 34—9)

1. In the process for heat drying an alkyl polyoxyalkylene ether surfactant in the presence of air at temperatures above about 100° C. the improvement comprising incorporating into said alkyl polyoxyalkylene ether prior to said heat drying at least about 500 parts per million by weight, based upon said surfactant, a stabilizer compound selected from the group consisting of those represented by the following formulae



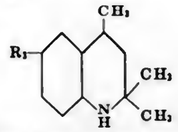
wherein R_1 is selected from the group consisting of CH_3, OCH_3, $HNC(CH_3)_3$ and CH_2OH, and n is an integer from 1 to 3;



wherein R_2 is a bivalent radical selected from the group consisting of S and lower alkylidene;



wherein R′ and R″ are each selected from branched chain alkyl radicals containing from about 3 to about 10 carbon atoms and phenyl; and

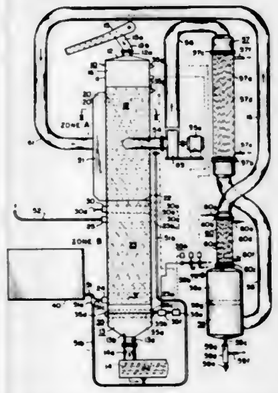


wherein R_3 is selected from the group consisting of alkoxy containing from about 2 to about 4 carbon atoms and alkyl containing from about 10 to about 14 carbon atoms and mixtures of the foregoing stabilizers.

3,369,305
DESOLVENTIZING AND DEODORIZING SYSTEM FOR GRANULAR MATERIALS

Kenneth W. Becker, Pittsburgh, Pa., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware

Filed Oct. 11, 1965, Ser. No. 494,784
18 Claims. (Cl. 34—22)

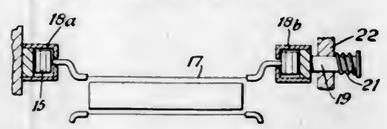


Apparatus and process for continuously stripping solvent from granular material where the material is subjected to solvent stripping atmospheres in successive stages, which stages are substantially free of atmospheric interflow herebetween, and the material in one of said stages is subjected to a solvent stripping atmosphere which is recirculated continuously, the recirculated atmosphere is cleaned of solvent carried therein and is continuously revitalized by the addition of pure atmospheric portions at a point distant from said granular material.

3,369,306
CONVEYORS

Raymond Victor Evans, Blackburn, England, assignor to Singer-Cobble Limited, Blackburn, England

Filed Mar. 28, 1966, Ser. No. 537,748
Claims priority, application Great Britain, Mar. 30, 1965, 13,401/65
5 Claims. (Cl. 34—162)

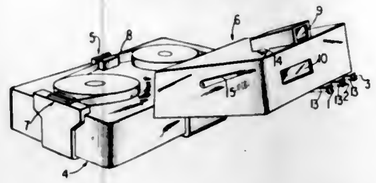


A flexible conveyor is formed by closely spaced parallel wires suspended between two endless chains of pivoted links. Each chain runs in a guide and the spacing between the guides is adjustable to maintain the wires taut. Uniform tension on the wires is maintained by having one of the guides laterally movable and controlling the spacing between the guides by applying a relatively constant force to the movable guide.

3,369,307
TAPE RECORDER TAPE VIEWING SYSTEM AND TEACHING MACHINE

Floyd E. Shupp, 1 Shore Road, East Patchogue, N.Y. 11772

Filed Oct. 23, 1965, Ser. No. 503,583
5 Claims. (Cl. 35—9)

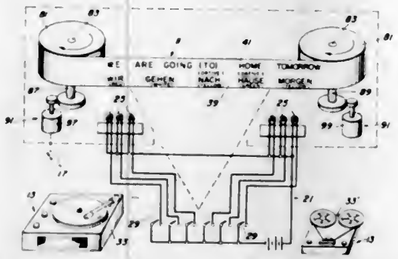


This invention relates to a teaching machine used in conjunction with a conventional tape recorder, which supplies the drive and the tape regression. The teaching machine involves a tape containing both audio and visual matter which is passed through a conventional tape reproducing head and a visual viewing means. The operation of the machine is controlled by the student's selection of proper answers to either visual or audio questions. The ratio of incorrect selections is determined, and if it falls below a predetermined value the tape recorder is automatically reversed and stopped at a predetermined point in the progression of the lesson.

3,369,308
TEACHING MACHINE AND METHOD

Charles A. Curran, 215 E. Chestnut, Chicago, Ill. 60611

Filed Sept. 16, 1965, Ser. No. 487,691
5 Claims. (Cl. 35—35)



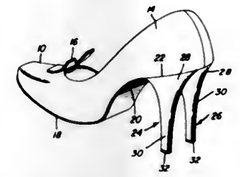
A teaching method for presenting information orally and visually to evoke coordinated visual, oral, cortical and tactile activity in a student's learning experience and including in combination with visual and audio means, a plurality of lamp means of different colors selectively actuable by the student in response to recognition by the student of a particular grammatical usage involved in the information presented, each color being correlated with a specific grammatical usage.

3,369,309
LADY'S SHOE

Simmie Brooks, 2523 Carolina St., Vallejo, Calif. 94590

Filed Mar. 13, 1967, Ser. No. 622,710
5 Claims. (Cl. 36—2.5)

The vamp, toe box, counter and outsole of the conventional pump or dress shoe is not altered. The single French or equivalent high heel is abandoned and replaced by two separate and distinct but identical twin heels bonded and mounted as usual. These spaced parallel side-by-side companion heels conjointly coordinate, steady the

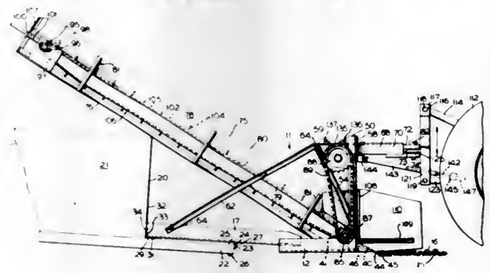


shoe, counteract and distributively counterbalance the ever variable forces and load attending walking. The resulting stabilized shoe achieves the equipoised appearance and balanced result desired.

3,369,310
LOADING DEVICE AND SELF-LOADING VEHICLE INCLUDING THE SAME

Simon M. Puckett, Rte. 1, Raleigh, Miss. 39153

Filed May 14, 1965, Ser. No. 455,862
6 Claims. (Cl. 37—8)

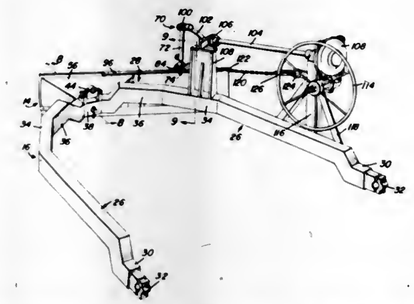


An improved loading device for a vehicle. The device is especially useful for loading a tractor-drawn vehicle, and it may be attached to the front end of the vehicle in such a manner that the power lift of the tractor may be used for the raising and lowering thereof, and whereby power for operating the loading device may be provided from a power take-off on the tractor.

3,369,311
DITCHING MACHINE

Moise J. Hymel, P.O. Box H, Gramercy, La. 70052

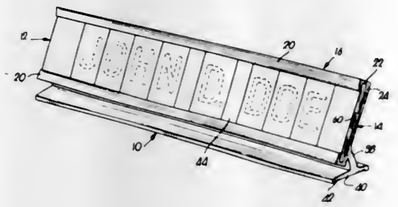
Filed Mar. 30, 1965, Ser. No. 443,910
11 Claims. (Cl. 37—98)



A mounting saddle and associated blade for use in conjunction with a tractor-type vehicle, the saddle comprising a pair of spaced parallel arms positionable along

opposite sides of the vehicle and a rigid blade-mounting portion interconnecting the forward ends of the arms and positionable across the front of the vehicle. The central section of the blade-mounting portion is offset downwardly out of the plane of the remainder of the saddle and pivotally mounts the leading end of the blade in a manner whereby, through a vertical adjustment of the following end of the blade, the angular orientation of the blade can be varied. The blade is stabilized by the following end portion thereof being retained against a rigid abutment.

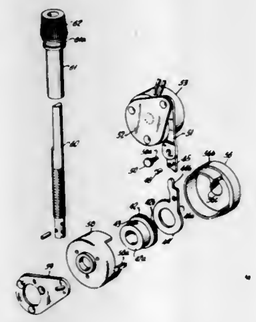
3,369,312
SIGN CONSTRUCTION
Bill G. Chrietzberg, Raytown, and Frank V. Newell, Kansas City, Mo., assignors to Best Stamp & Manufacturing Company, Kansas City, Mo., a corporation of Missouri
Filed July 25, 1966, Ser. No. 567,702
4 Claims. (Cl. 40—140)



This invention relates to improvements in sign construction and, more particularly, to signs which are normally used upon desks in business and professional offices.

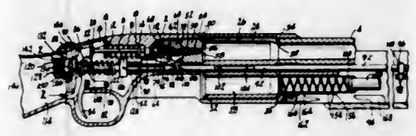
It is the primary object of this invention to provide a sign wherein the indicia-bearing panel thereof is releasably retained in position without the necessity of utilizing complicated spring and support structure which clutters the overall appearance of the sign and thereby lessens its attractiveness.

3,369,313
COPY HOLDER
Edwin B. Vincent, East Norwich, N.Y., assignor to Pres-To-Line Corporation of America, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 407,798, Oct. 30, 1964. This application Jan. 13, 1967, Ser. No. 609,263
4 Claims. (Cl. 40—343)



This invention, generally, relates to a copy holder as an adjunct to a typewriter. A copy holder head cooperates with means for holding and advancing a data sheet. Special means are provided for advancing the data sheet line by line and includes means for selecting the line space interval and for adjusting the tilt angle of the head.

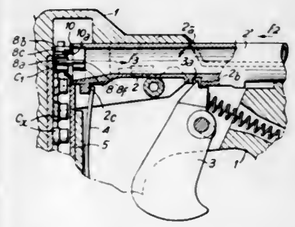
3,369,314
FIREARM HAVING A REVOLVING CYLINDER WITH AN OPERATING ROD ATTACHED THERETO
Marcus Ramsay, New Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed July 5, 1966, Ser. No. 562,705
14 Claims. (Cl. 42—39.5)



A firearm having a revolving cylinder to which an operating rod having relative axial movement is attached for imparting rotational movement thereto. Operating rod cocking means is provided to impart a torsional force on said operating rod as the operating rod is moved rearwardly within the firearm. After a predetermined amount of rearward movement of the operating rod, the operating rod turns under the influence of the torsional force.

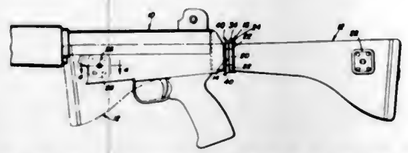
In addition, the cylinder of the firearm has limited axial movement. A breech member is provided immediately behind the cylinder which has limited axial movement in the direction of the axis of the cylinder. A breech locking member is mounted behind the breech member and has pivotal movement about an axis transverse to the longitudinal axis and is provided with a cam surface on its forward face for engagement with the rearward face of the breech member to move the breech member axially forward into tight engagement with said cylinder and the cylinder into tight sealing engagement with the barrel.

3,369,315
CAP-FIRING TOY GUN INCLUDING A STRIKING MASS HAVING A BORE THERETHROUGH
Giampiero Ferri, Via A. Stoppani 38, and Jori Marinai, Via A. Stoppani 29, both of Florence, Italy
Filed Jan. 26, 1966, Ser. No. 523,109
Claims priority, application Italy, Jan. 30, 1965, 2,295/65
8 Claims. (Cl. 42—54)



A cap-firing toy gun including a striking mass having a bore therethrough for the escape of explosion gases with slots in the wall of said bore and a member slidably engaged in the slots with a cap-firing pin off-set with respect to the center of a cap located in the firing position.

3,369,316
APPARATUS FOR MOUNTING AND LOCKING A FOLDING STOCK ON A RIFLE
Arthur Miller, Costa Mesa, Calif., assignor to Armalite, Inc., Costa Mesa, Calif., a corporation of California
Filed Apr. 29, 1966, Ser. No. 546,386
5 Claims. (Cl. 42—72)



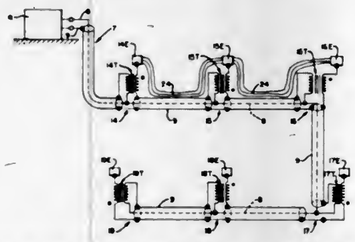
Apparatus for mounting and locking a folding stock on a rifle and including cooperating hinge assemblies mounted on the receiver and the butt stock of the rifle, each hinge assembly having cooperating lugs through which a hinge pin extends to permit pivotal movement between the but stock and the receiver. A locking means is provided to lock the butt stock in a folded position along the side of the receiver and an additional locking means is provided to lock the butt stock in an extended position with respect to the receiver.

3,369,317
SYNTHETIC FISHNET CONSTRUCTION
Nathan C. Brownell, East Haddam, Conn., assignor to Brownell & Company, Incorporated, Moodus, Conn., a corporation of Connecticut
Filed Apr. 20, 1965, Ser. No. 449,454
5 Claims. (Cl. 43—7)



A fishnet construction consisting of lengths of synthetic twine each of which comprises several continuous monofilaments loosely twisted together with less than four twists per monofilament per inch. The number of such monofilaments lies preferably in the range between 5 and 10, and each monofilament is approximately 10 mils in diameter.

3,369,318
ELECTROFISHING FENCE, BOTTOM CABLE TYPE
Conradin O. Kreutzer, Lewes, Del., assignor to Smith Research and Development Company, Inc., Lewes, Del., a corporation of Delaware
Filed Aug. 20, 1965, Ser. No. 481,207
4 Claims. (Cl. 43—17.1)



1. An electrofishing fence of the bottom cable type for electrically fencing fishing waters, such as the waters over a continental shelf wherein during one season fish swim in one longitudinal direction generally parallel to the shore, so as to intercept said fish along a transverse band, corresponding to one extending transversely across and upwardly from the bottom provided by said shelf, comprising:

(A) An elongate submergible cable for traversing said bottom and for supplying high-voltage, spaced, pulse current from one end of the cable to each of a succession of stations spaced along its length,

(1) said cable being composed of

(a) at least two elongate power supply line conductors and

(b) means electrically insulating said conductors from each other and from the ambient environment;

(B) a corresponding succession of transformers, primary circuit means, and electrodes, one each for each cable station,

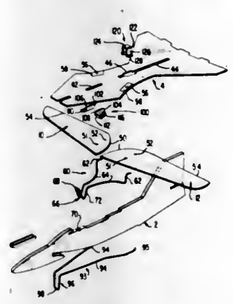
(1) each transformer being of a primary-secondary winding type, which transforms high-voltage, spaced, pulse current into low-voltage, spaced, AC pulse current, and

(2) each primary circuit means electrically connecting the high-voltage primary of the corresponding transformer across said high-voltage power supply line at the corresponding cable station; and

(C) secondary circuit means for establishing an electrical fence between pairs of stations,

(1) said secondary circuit means electrically connecting the low-voltage secondary of each transformer across a pair of electrodes, one at the corresponding cable station and the other at the cable station paired therewith.

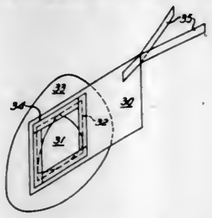
3,369,319
TOY GLIDER WITH AUTOMATIC WING CONVERGING MEANS
David A. Brown, 4305 Sulgrave Road, Richmond, Va. 23221
Filed June 11, 1965, Ser. No. 463,152
11 Claims. (Cl. 46—80)



A variable sweep-wing toy glider adapted to be launched by a launching device includes a fuselage having a pair of wings positioned on opposite sides of the fuselage. First and second pivot points connected with the fuselage on opposite sides thereof mount the wings to the fuselage for pivotal motion from a converged position in which the wings extend rearwardly and outwardly from the pivot points at one angular inclination to the fuselage to an extended position at which the wings are disposed at a larger angular inclination. A V-shaped spring is connected at two transversely opposed points by swivel connections to the wings. The points of swivel connection are spaced transversely inwardly and longitudinally rearwardly of the pivot points with the spring urging the

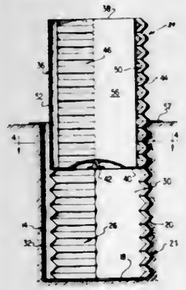
points of swivel connection transversely apart. The spring is mounted for longitudinal motion relative to the fuselage and is adapted to be contacted by the launching device during the launching operation. During launching the spring is moved forwardly relative to the fuselage to rotate the points of swivel connection forwardly and transversely inwardly about the pivot points thereby rotating the wings rearwardly to the converged position and concurrently compressing the spring. On the release of the launching device in the fuselage the spring urges the points of swivel connection outwardly to rotate the wings forwardly about their pivot points to the extended position.

3,369,320
VEHICLES
John J. Hronas, Pittsburgh, Pa. (1000 Fernview Drive, St. Louis, Mo. 63140), and William L. Krayer, Pittsburgh, Pa. (2348 Southwood Drive, Bridgeville, Pa. 15017)
Filed July 29, 1965, Ser. No. 475,825
10 Claims. (Cl. 46—201)



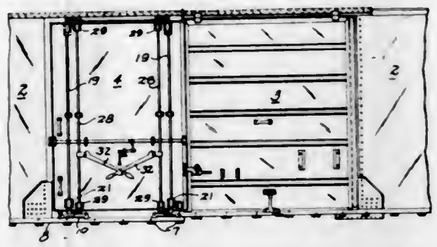
8. A wheel and axle assembly useful in toy vehicles comprising:
(a) at least one rigid member in the shape of a closed curve of constant width other than a circle,
(b) at least one wheel in the shape of an expanded closed curve of constant width based upon the shape of said rigid member, and
(c) axle means rigidly connecting said wheel and said rigid member at corresponding points.

3,369,321
GROUND LINE CEMETERY VASE
Zachariah D. Blackistone, Jr., 4316 Willow Lane, Chevy Chase, Md. 20015
Filed Aug. 5, 1965, Ser. No. 477,374
7 Claims. (Cl. 47—41.1)



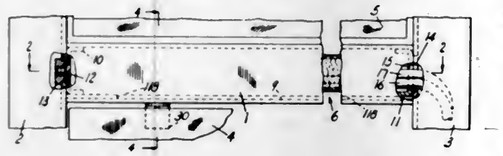
1. A two-piece assembly for providing multi-level flower support and adapted to be secured in a closed position comprising in combination
an elongated hollow tubular housing means having a longitudinal axis and sidewall means with a curvilinear peripheral configuration defining an open end and having endwall means longitudinally opposite to the open end, the endwall means at least partially closing that end of the housing means,
the housing sidewall means including a plurality of serrations distributed peripherally about the housing sidewall means and lying in a common plane which is substantially perpendicular to the longitudinal axis of the housing means, with serration-free portions of the housing sidewall means lying in the same common plane separating the peripherally distributed serrations, and
elongated hollow tubular vase means having a longitudinal axis and sidewall means defining a curvilinear peripheral configuration defining an open end and having vase endwall means longitudinally opposite to the open end, the vase endwall means closing that end of the vase means,
the vase sidewall means including a plurality of serrations distributed peripherally about the vase sidewall means and lying in a common plane which is substantially perpendicular to the longitudinal axis of the vase means, with serration-free portions of the vase sidewall means lying in the same common plane and separating the peripherally distributed serrations of the vase means,
the configurations and diametral dimensions of the vase means and housing means permitting the vase means to be reversibly inserted, open end first or open end last into the housing means and to be moved telescopically within the housing means when their longitudinal axes are substantially coextensive and the serrations on the vase means are aligned with the serration-free portions of the housing sidewall panels and to be held within the housing means by relative rotational movement of the vase means within the housing means.

3,369,322
RAILWAY CAR PLUG DOOR MOUNTING
Alfons W. Ceyer, Berwyn, and Leonidas Jaras, Chicago, Ill., assignors, by mesne assignments, to Evans Products Company, Plymouth, Mich., a corporation of Delaware
Filed Jan. 6, 1965, Ser. No. 423,696
2 Claims. (Cl. 49—219)



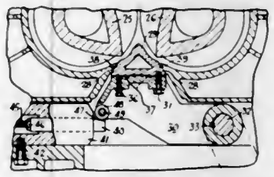
1. A door mounting structure for supporting a door for transverse movement with respect to a doorway opening defined in a side wall and for longitudinal movement along the side wall along a track supported adjacent the side wall and below the doorway opening, said door mounting structure comprising a horizontally elongated carriage having horizontally spaced end portions connected by a horizontally extending intermediate portion, a pair of horizontally spaced apart wheels each journaled in a respective one of said end portions for coaction with the track to support said carriage for longitudinal movement along the track, the top walls of said end portions being at a substantially higher level than the top wall of said intermediate portion, a horizontally disposed crank arm, and crank arm having a length less than the length of said carriage intermediate portion, means pivotally connecting one end of said crank arm to said carriage intermediate portion adjacent one of said end portions, and means for pivotally connecting the other end of said crank arm to the door for transverse movement of the door into and out of the doorway opening upon pivotal movement of said crank arm, said crank arm extending in substantially the same direction as said intermediate portion when the door is positioned in the doorway opening with said means for pivotally connecting the other end of said crank arm to the door disposed above said intermediate portion and inwardly of the other of said end portions, said crank arm being rotatable through about 90° from the closed position of the door and extending substantially transversely to said carriage intermediate portion when said door is opened, a substantial portion of the height of said crank arm being positioned vertically below said end portion top walls for reducing the distance the track is positioned below the doorway opening, said means for pivotally connecting the other end of the crank arm to the door including means for adjusting the vertical position of the door with respect to said crank arm.

3,369,323
POWER OPERATED DOOR OPENER
George R. Millard, 115 E. Canal, Tekonsha, Mich. 49092; Raymond R. Martin, R.R. 3, Albion, Mich. 49224; and Bruce B. Bidelman, 209 W. Hughes, and Frederick D. Hicks, 322 Ferguson Road, both of Marshall, Mich. 49068
Continuation of application Ser. No. 379,932, July 2, 1964. This application Mar. 22, 1967, Ser. No. 625,270
16 Claims. (Cl. 49—137)



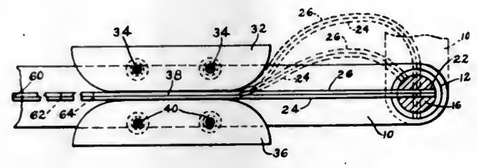
A hydraulic cylinder and piston rod connected to reciprocate a cam, a crank connected to the door and actuated by the cam, springs arranged to close the door; hydraulic valves connected to the ends of the cylinder and to each other, coacting closure parts on the valves and piston, and passages in the valves to provide full flow followed by restricted flow at the end of the door opening motion, and full flow followed by progressively restricted flow at the end of the door closing motion of the piston; and fluid recirculating passages with a spring pressed bypass valve providing constant hold open pressure on the door. A mechanical connection between the cam and crank permits emergency opening of the door.

3,369,324
DISCHARGE DOOR FOR MIXERS
Julien G. Tremblay, Montreal, Quebec, Marvin B. Shaver, Beaconsfield, Quebec, and Thomas E. Harris, Valois, Quebec, Canada, assignors to Dominion Engineering Works Limited, Montreal, Quebec, Canada
Filed Oct. 14, 1965, Ser. No. 495,984
4 Claims. (Cl. 49—280)



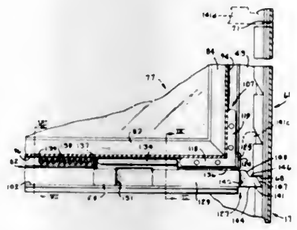
The door portion of a rubber mixer is rigidly and adjustably mounted on the door support to permit accurate adjustment of the tapered sides of the door portion in mating relation with the divergent outlet from the mixing chamber.

3,369,325
SLIDING CONTROL DEVICE FOR A DOOR
Oliver C. Eckel, Weston, Mass. (P.O. Box 226, Cambridge, Mass. 02138)
Filed Jan. 4, 1966, Ser. No. 518,711
6 Claims. (Cl. 49—386)



A door in combination with a head jamb having respectively springs and guides that cooperate to limit outward movement of the door and return it automatically to normal position. Guides are attached to the head jamb opposite each other, being slightly spaced apart, one being forward of the other. Two spring leaves are attached to a swinging door and normally lie flat with portions between said guides. Opening the door causes the leaves to slide and portions of them between the door and guides are distorted. The tension thus created will cause the door, upon release, to automatically return to closed position.

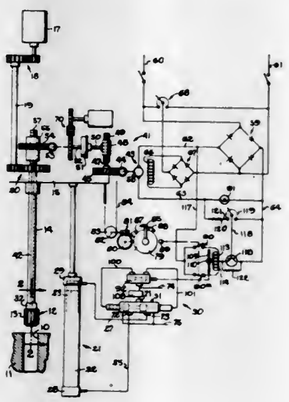
3,369,326
WINDOW CONSTRUCTION
Marshall V. Noecker, Grosse Pointe, Mich., assignor to Kaufmann Window and Door Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 9, 1964, Ser. No. 417,192
3 Claims. (Cl. 49—450)



1. In a window construction in which a closure member is disposed for substantially vertical sliding movement; a pair of fixed upstanding jambs along which said closure member may be moved; a semicircular groove closed through an arc of more than 180°, said groove opening inwardly of said window construction and extending longitudinally along at least one of said jambs; an elongated bar of rigid plastic having a semicircular bead along one longitudinal edge which is snugly disposed in one of said grooves for maintaining said bar upright and fixed with respect to said jamb, said bar having a plurality of substantially V-shaped notches spaced along the other longitudinal edge thereof, said notches having a substantially horizontal lower edge and a divergently sloped upper edge, the lower end of said bar forming a downwardly facing shoulder which is substantially the depth of said

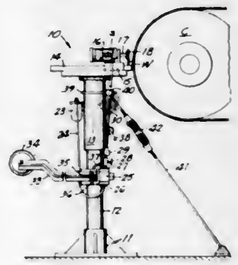
notches and downwardly past which said bead extends; means on said closure member engageable with said bar to regulate movement thereof, said means comprising at least one rigid plastic latch member supported on said closure member, said latch member having a nose resiliently urged for extending from said closure member toward said bar and releasably engageable with said jamb to prevent interiorwise movement of said closure member, said nose being reduced in thickness transversely of the plane of said closure member, the outer end of said nose having an upwardly facing lock surface stepped vertically below the upper face of the rest of said latch member and adapted for engagement with and beneath said shoulder on said bar to lock the closure panel in a closed position said lock surface being capable of partially entering said notches, the outer end of said nose terminating in the downwardly and outwardly sloped ramp shaped similarly to said notches but of lesser depth and adapted for entry fully thereinto whereby said ramp allows said notches to cam said latch member out of engagement therewith on raising said closure member, the reduced height of said lock surface allows locking of said latch member against said shoulder and the unreduced height of the inner portion of said nose provides greater area of contact with said jamb for resisting interiorly directed forces on the closure member.

3,369,327
HONING MACHINE WITH STROKE LENGTH CONTROL
Mark R. Estabrook, Rockford, Ill., assignor to Barnes Drill Co., Rockford, Ill., a corporation of Illinois
Filed Sept. 17, 1965, Ser. No. 488,008
12 Claims. (Cl. 51—34)



1. In a machine for honing the wall of a bore to enlarge the latter to a preselected size, the combination of, an expansible abrading tool, mechanism supporting said tool for back and forth reciprocation along said bore, mechanism for expanding said tool during such reciprocation including a variable torque electric feed motor, a tungsten filament incandescent lamp in series with the armature of said feed motor and dropping the terminal voltage of said armature as the current drawn thereby increases with the resistance to expansion of said tool whereby said lamp modulates the progressively increasing torque and the resulting expanding force exerted by the motor during the honing cycle, a reciprocating hydraulic actuator connected to said tool and operable to reciprocate the latter back and forth through forward and return strokes within the bore, means producing a reversal signal as said tool approaches the end of each stroke and is a preselected distance from the end of the stroke, a fluid-operated control valve having a spool movable back and forth between spaced forward and reverse positions through an intermediate reversing position to reverse the flow through the valve in each direction of movement of the spool through said intermediate position, said control valve having two pressure chambers for pilot fluid for shifting said spool back and forth, a reversing valve having an inlet port, two outlet ports communicating with the respective pressure chambers, and a second spool movable in opposite directions from a centered position to open feed orifices each communicating between said inlet port and one of the outlet ports and thereby admit pilot fluid alternately into the respective pressure chambers, a reversible electric torque motor having an output member connected to said second spool and operable when energized in each direction to exert a control force on the latter varying with the degree of energization of the torque motor, means yieldably urging said spool to said centered position and opposing said control force in both directions of energization of said torque motor whereby the amount of displacement of said spool, the size of said feed orifices, and the resulting flow rates are determined by the degree of energization of the torque motor, means responsive to said reversal signals actuating said torque motor alternately in opposite directions as said tool approaches the end of each stroke, and means progressively reducing the degree of energization of said torque motor as said expanding force increases thereby progressively reducing the size of the feed orifices and delaying the effective reversal of said actuator by a progressively increasing amount.

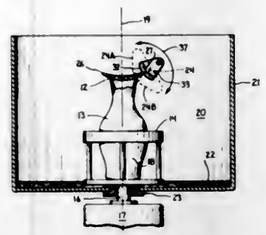
3,369,328
ABRADING MACHINERY
Conrad T. Freerks, Maplewood, Ralph W. Reed, White Bear Lake Township, Ramsey County, and James E. Whelan, Birchwood, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Feb. 8, 1965, Ser. No. 430,826
4 Claims. (Cl. 51—216)



A knee-activated valve permits infinitely variable pressure control to precisely and quickly adjust the force applied to a workpiece being thrust against a moving abrading means.

3,369,329
METHOD FOR FINISHING CONTACT LENSES
Jack A. Beiman, Board of Trade Bldg., Indianapolis, Ind. 46204
Filed Jan. 29, 1965, Ser. No. 428,977
4 Claims. (Cl. 51—284)

A suction-type, motor driven, lens holder rotated on the lens axis and exposing the concave face and peripheral edge of the lens to a finishing pad during lens rotation. A motor-driven finishing pad reciprocating in the plane of the lens axis against the edge of the spinning lens and, while reciprocating, being bodily moved in the lens axis plane and around the edge from the convex to the concave surface of the lens.

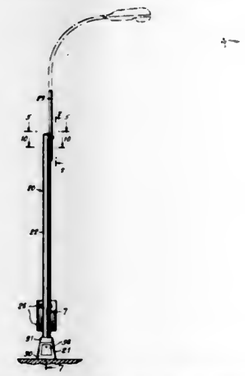


3,369,330
AUTOMATIC ABRADING MACHINE
Mark R. Estabrook and Donald K. Greenberg, Rockford, Ill., assignors to Barnes Drill Co., Rockford, Ill., a corporation of Illinois
Filed Aug. 24, 1965, Ser. No. 482,234
10 Claims. (Cl. 51—344)



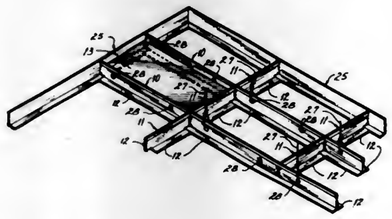
1. A honing machine having, in combination, a hollow rotary body having a plurality of angularly spaced longitudinal slots, first and second sets of honing elements having abrasive surfaces of different characteristics disposed in said slots and alternating with each other around said body with said abrasive surfaces facing outwardly for engagement with a bore wall to be honed, each of said elements having a follwer on its inner side, an expander disposed within and movable axially of said body through a preselected range of feed motion from a first position to a second position, said expander having a set of angularly spaced wedge-shaped cams selectively alineable with the followers of either set of honing elements and operable upon axial movement of said expander in one direction to feed the alined set of elements outwardly relative to said body, from a collapsed condition in said first position to a fully expanded condition in said second position, said cams being separated by longitudinal grooves for receiving the followers of the other set of elements during said feed motion, a section on said expander of circular cross-section merging smoothly with the smaller ends of said cams and level with the bottoms of said grooves, said followers engaging said section when said expander is in said first position, means for selectively turning said expander to bring said cams into alinement with the followers of either set of honing elements in said first position, and mechanism for moving said expander axially of said body in alinement with each selected set of elements.

3,369,331
UTILITY STANDARDS
Donald Deskey, and Alexander Lurkis, New York, N.Y.; said Deskey assignor to city of New York
Filed Feb. 17, 1964, Ser. No. 345,403
20 Claims. (Cl. 52—38)



This invention pertains to light and multi-service utility standards, and particularly to the cross-sectional shape of the shaft and the arm; the means for assembling and nesting the arm within the confines of the shaft; the structure of the base; and the means for holding the shaft to the base.

3,369,332
CEILING SUSPENSION SYSTEM
Robert L. Harlan, Geneva, Ill., assignor to Jim Walter Corporation, Tampa, Fla., a corporation of Florida
Filed Apr. 14, 1966, Ser. No. 542,649
7 Claims. (Cl. 52—98)



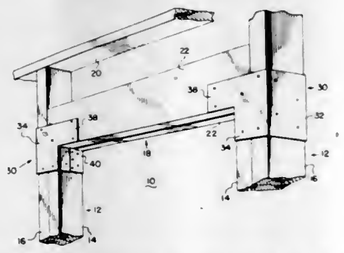
6. A ceiling suspension system in the form of a rectangular grid comprising
interconnected main suspension members, and cross-suspension members,
means for suspending said main suspension members in spaced, planar, parallel relationship,
each of said suspension members comprising a unitary sheet of material longitudinally folded to form in cross-section a generally inverted V, having a reinforcing bead at the apex of the V, outwardly extending flanges at the base of said V and planar sidewalls integrally connected to said reinforcing bead along one edge of each of said sidewalls and to said flanges

along the opposite edge of said sidewalls and diverging in the direction toward said flanges;

said sidewalls of said main susepnsion members having slots therein, said slots having an opening with a width of about twice the thickness of said sheet and a locking tab straddling the upper end of said opening,

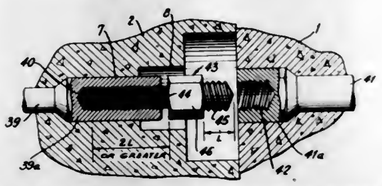
and said cross-suspension members having end configurations formed by cutting portions of certain of said main suspension members, said end configurations being such as to lock said main and cross-suspension systems in a rigid grid.

3,369,333
CLAMP FOR HEADER BRACE
John C. Wheeler, Lovington, N. Mex., assignor of forty percent to Otis R. Kitchens, Lovington, N. Mex.
Filed Mar. 1, 1966, Ser. No. 530,829
2 Claims. (Cl. 52—210)



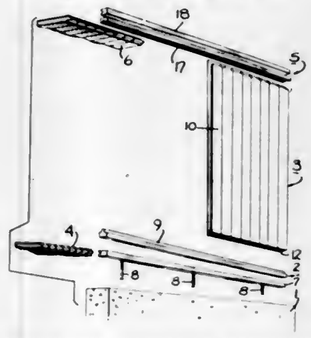
Wooden frame structure is reinforced at a "header" over a door by a sheet metal box which encircles the post and extends over the header.

3,369,334
BUILDING SYSTEM
Ralph R. Berg, 39 Woodbrook Circle, Westfield, N.J. 07090
Continuation-in-part of application Ser. No. 150,357, Nov. 6, 1961. This application Sept. 28, 1965, Ser. No. 490,871
8 Claims. (Cl. 52—227)



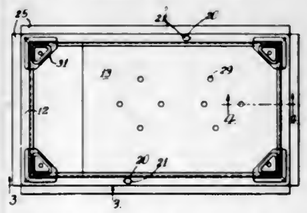
1. Reinforced concrete structural units adapted to be joined together under pressure, each unit having reinforcing rods embedded therein and a face adapted to abut a face of another unit, and in combination means for joining units together with said faces in abutting relation, comprising a screw threaded end of a reinforcing rod exposed in a recess in a face of one unit in line with a screw threaded end of a reinforcing rod exposed in a recess in the abutting face of another unit, said ends terminating within said recesses, the threads on said ends being turned on the same hand but being respectively of different pitch, a turnbuckle element having opposite ends adapted to be threaded on the respective threaded rod ends and having a surface thereon adapted to be engaged by a tool for turning it to screw and unscrew it on said rod ends, said recesses being adapted to receive said turnbuckle element screwed on said rod ends, said turnbuckle element being adapted to be screwed onto the rod end having the finer threads and to be completely received in the recess associated therewith, said turnbuckle element being adapted to be screwed along the rod having the finer threads and advanced into threaded engagement with the rod in the recess in the other unit, and the unit that includes the rod end with the finer threads, having an opening through its side into the recess therein for insertion of a tool to engage and turn said turnbuckle element for screwing it along said rod ends.

3,369,335
MULTI-SECTIONAL CONSTRUCTION
William Jess Smith, Security, Colo., assignor to Timber Trends Inc., Colorado Springs, Colo., a corporation of Colorado
Filed Feb. 25, 1965, Ser. No. 435,286
10 Claims. (Cl. 52—270)



1. A building unit comprising foundation wall; floor means; wall means; ceiling means; each of said means including a plurality of panels joined together, each of said panels having a mating configuration on each end thereof, said mating configuration comprising an integral tongue on two adjacent edge surfaces thereof and a groove on the opposite edge surfaces thereof, each said panel having a tongue received in a groove of an adjacent panel and a groove receiving a tongue of an adjacent panel; and connecting means at each intersection of one of said means with another of said means joining said floor means, wall means and ceiling means together, said connecting means between said floor means and said wall means including a first plate having a mating configuration in one edge thereof receiving a respective mating configuration of said floor means in mating relation, means for securing said first plate to the foundation wall, and a second plate secured to said first plate, said second plate having an integral mating configuration on the upper edge surface thereof received in a respective mating configuration of said wall means.

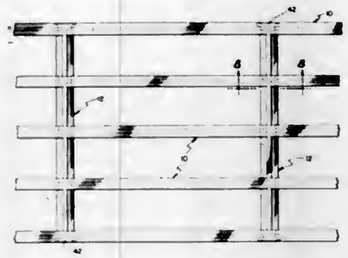
3,369,336
INSULATED WALL STRUCTURE
Edmund J. Buzicky, St. Paul, Minn., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Nov. 19, 1964, Ser. No. 412,395
9 Claims. (Cl. 52—302)



A wall structure wherein the space between a pair of spaced panels is vented through at least one panel when

foamed plastic is being installed between the panels by being foamed in place, thereby to prevent excessive pressure build-up between the panels and provide uniformity of the foaming process.

3,369,337
OPEN GRID STRUCTURES
William R. Butler, Pittsburgh, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 28, 1965, Ser. No. 467,198
8 Claims. (Cl. 52—667)



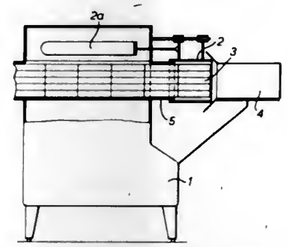
An open grid, such as a grille or grating, comprising spaced primary bar elements and spaced crossbar elements in transverse unitary interconnection. The crossbar elements are provided in tubular configuration having an extending flange axially along an outer surface thereof for introduction through substantially complementary aligned apertures in the spaced primary bar elements, the flange being slotted for rotation of the crossbar elements out of registry with the apertures receiving the same and thereafter outwardly expanded to provide a unitary integrated assembly of the primary and secondary bar elements.

3,369,338
METHOD FOR MOUNTING A TRANSPARENCY IN A RESILIENT, FLEXIBLE FRAME
Hans-Hermann Koeppe, Wiesbaden-Schierstein, and Otfried Urban, Medenbach, Taunus, Germany, assignors, by mesne assignments, to Gelmuplast Peter Mundt KG., Garmisch-Partenkirchen, Germany, a corporation of Germany
Filed June 24, 1963, Ser. No. 290,142
Claims priority, application Germany, June 22, 1962, A 40,501/62
4 Claims. (Cl. 53—35)



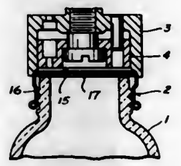
A method for mounting a transparency in a resilient, flexible frame having a pair of substantially coextensive frame portions each provided with free unattached edges which are displaceable toward each other and having between said frame portions a slot through which a transparency may be introduced into said frame, the steps of displacing said free edges of said frame portions toward each other for bulging said frame portions away from each other to widen said slot; introducing the transparency into the frame through the thus-widened slot so as to reduce the possibility of marring the surface of the transparency during introduction thereof into the frame; and then releasing the frame for return to its unstressed condition so that the thus-introduced transparency will remain mounted in the frame.

3,369,339
METHOD OF LOADING CASES
Joerg Speiser, Djakarta, Indonesia, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed Apr. 13, 1965, Ser. No. 447,624
3 Claims. (Cl. 53—35)



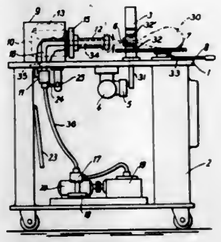
A method of loading several batches of articles into a packing case comprising forming the batches of articles into a train with adjacent batches in contact with each other, feeding the train forward intermittently toward the delivery end of a stationary support surface in feed increments equal to the length of one batch and temporarily supporting at least the first batch in the train on a movable auxiliary support surface that is then in a position in which it constitutes an extension of the stationary surface beyond the delivery end. The open end of a packing case is presented to the leading end of the train with the case aligned to receive the batches, the movable temporary support surface is retracted away from the stationary surface a distance equal to the length of at least one batch at the same time as the next forward feed increment of the train, and the packing case is moved conjointly with the temporary surface away from the stationary surface. Next, the movable surface and the packing case are moved conjointly back into the extension position adjacent the stationary surface, and thereafter the packing case is removed.

3,369,340
APPARATUS FOR SEALING CONTAINERS
Frank M. Kelly, Richmond, Ind., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 29, 1965, Ser. No. 451,709
1 Claim. (Cl. 53—109)



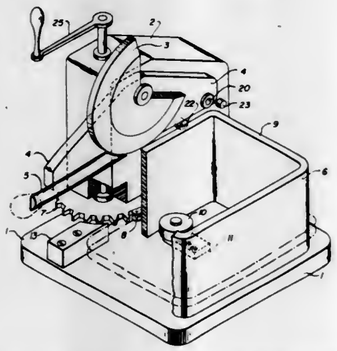
A method of vacuumizing and sealing containers by frictionally engaging a closure loosely fitted on a container with a pressure block, raising the block and frictionally engaged closure, injecting gas beneath the closure, lowering the block and frictionally engaged closure to seal the container, reforming the closure about the container mouth, securing the closure to the container, and removing the sealed container from the pressure block.

3,369,341
APPARATUS FOR EVACUATING AND SEALING BAGS
Herbert Niedecker, Georg-Pingler-Strasse 6, Konigstein, Taunus, Germany
Filed Nov. 18, 1964, Ser. No. 412,067
1 Claim. (Cl. 53—112)



A bag sealing and evacuating apparatus having a rotatable suction and winding head for evacuating and twisting the neck of a bag, which suction and winding head is pivotable for swinging the twisted portion of the evacuated bag into engagement with a clip fastener that applies a sealing clip around the twisted bag portion.

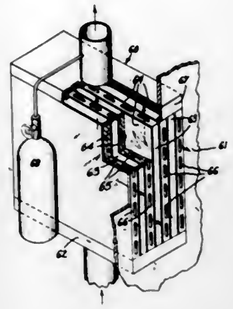
3,369,342
CONTAINER SEALING MACHINE
Frank T. Tessitore, 7738 W. Hortense, Chicago, Ill. 60631
Filed May 6, 1965, Ser. No. 453,606
5 Claims. (Cl. 53—366)



Machine for sealing the cover on one food pan at a time. A support device has a wall in which the pan is placed with the pan shoulder on the top edge of the wall. A pan lip is folded over the cover and shoulder and sealed by pressure between a roller and the support wall, as the support device is driven through one revolution.

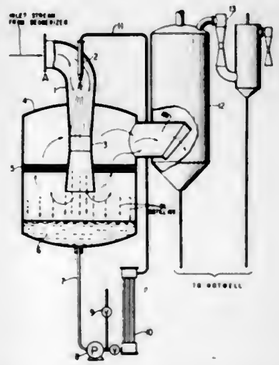
3,369,343
STRUCTURES AND PROCESSES INCORPORATING PERMEABLE MEMBRANES FOR THE SUPPORT OF ANIMAL LIFE DURING UNFAVORABLE CONDITIONS
Walter L. Robb, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Application June 24, 1965, Ser. No. 466,698, now Patent No. 3,325,330, dated June 13, 1967, which is a continuation-in-part of application Ser. No. 269,430, Apr. 1, 1963. Divided and this application Mar. 1, 1966, Ser. No. 530,810
8 Claims. (Cl. 55—16)

Various enclosures, structures and methods for supporting animal life processes in the low pressure rarified expanse of space, at normal atmospheric pressure during unfavorable environmental conditions and under water at significant depths are described. In each instance one or more of the following are accomplished: (a) the removal of carbon dioxide gas from exhaled breath to the ambient, (b) the replenishment of oxygen gas to exhaled breath from the ambient and (c) the simultaneous removal of



both oxygen and nitrogen from surrounding water. In each case gas transfer to and/or from the ambient is via a thin permeable, non-porous wall, made of a material such as silicone, rubber, properly supported against rupture in the event of the application of a pressure differential to the wall. A method for preparing sound thin membranes having a thickness of less than about 2 mils is also described.

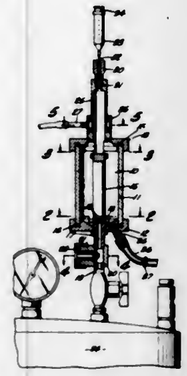
3,369,344
METHOD FOR THE RECOVERY OF DEODORIZER DISTILLATES
David H. Jackson, Short Hills, and James T. Reynolds, Scotch Plains, N.J., assignors to Croll-Reynolds Company, Inc., Westfield, N.J., a corporation of the United States of America
Filed May 3, 1966, Ser. No. 554,249
3 Claims. (Cl. 55—20)



This invention relates to a process for the condensation, separation and recovery of vegetable oil distillates which comprises the steps of flowing in parallel-currents a vaporous stream containing steam and a vegetable oil distillate and a stream of previously condensed vegetable oil distillate of approximately the same composition as said distillate contained in said vaporous stream, controlling the temperature of said stream of previously condensed vegetable oil distillate at a temperature at which substantially all said vaporous vegetable oil distillate is

condensed but at which substantially none of said vaporous steam is condensed, contacting said concurrent vaporous stream and said temperature-controlled stream of previously condensed vegetable oil distillate in a constricted throat to effect condensation of said vegetable oil distillate in said vaporous stream, separating said condensed vegetable oil distillate from said steam in said vaporous stream beyond said constricted throat, collecting said separated condensed vegetable oil distillate and recycling a part of said condensed vegetable oil distillate as said stream of previously condensed vegetable oil distillate.

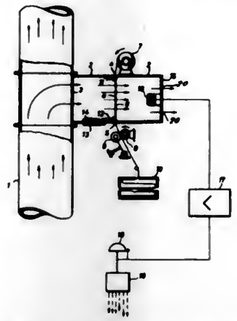
3,369,345
PROCESS FOR SEPARATING AND COLLECTING GAS FROM A LIQUIFORM SAMPLE
Pernell J. Moore and Lloyd W. Harbert, Houston, Tex., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 16, 1965, Ser. No. 479,871
3 Claims. (Cl. 55—50)



1. The process of isolating in a withdrawable condition gas occluded in a liquiform sample which may contain liquefiable hydrocarbons which comprises the steps of: placing said sample in a sample chamber fitted with a reflux head which is closed at the top; passing steam into said sample chamber and contacting said sample contained therein; simultaneously supplying cooling means to the lower part of said reflux head so as to condense said steam and said liquefiable hydrocarbons and permit them to fall back into said sample chamber by reflux action; continuing said admission of steam and said reflux action until any gas contained in said sample has been completely carried into the upper part of said reflux head and separated from said liquifiable hydrocarbons; thereafter inserting gas collection means into said reflux head and withdrawing said gas from said reflux head.

3,369,346
APPARATUS AND METHOD FOR DETECTING COMBUSTION PRODUCTS IN A PNEUMATIC CONVEYOR
Rudolf Wildbolz and Daniel Hanselmann, Winterthur, Switzerland, assignors to Maschinenfabrik Rieter A.G., Winterthur, Switzerland, a corporation of Switzerland
Filed Sept. 16, 1966, Ser. No. 580,110
Claims priority, application Switzerland, Sept. 22, 1965, 13,171/65
11 Claims. (Cl. 55—97)

An ionization fire alarm is used to detect the presence of combustion particles in the flow of fibers in a pneumatic conveyor. A perforated wall between the conveyor and chamber retains the fiber in the conveyor while a filter is disposed in the chamber to retain the dust particles



in the stream of air drawn off from the conveyor before reaching the ionization fire alarm.

3,369,347
UP FLOW ELECTRIC EMULSION TREATER FOR CRUDE OIL
Forrest L. Murdock, 2420 E. 24th St., Tulsa, Okla. 74114
Filed Oct. 22, 1965, Ser. No. 502,241
2 Claims. (Cl. 55—175)



1. An emulsion treater for crude oil comprising:
an upstanding closed vessel having a cylindrical wall, a water outlet adjacent the bottom and a gas outlet adjacent the top;
a horizontal partition dividing the interior of the vessel into an upper and lower chamber, the upper chamber serving as a gas separation chamber and having said gas outlet therein, the vessel having a crude oil inlet communicating with said gas separation chamber;
a vertical partition dividing the lower chamber into a vertical water separation chamber and a vertical treating chamber, said vertical partition extending downwardly from said horizontal partition and terminating adjacent the bottom of the vessel, said horizontal partition having a crude outlet opening therein communicating with said water separation chamber, the vessel having an oil outlet opening communicating with the upper portion of said treating chamber;
means for conducting emulsion from the upper portion of said water separation chamber to the lower portion of said treating chamber;

a heater positioned in the lower portion of said treating chamber;

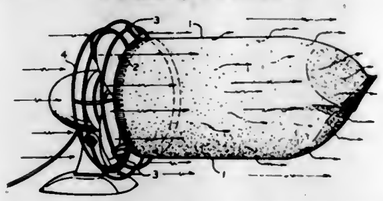
a lower imperforate baffle supported to said vertical partition and said vessel within said vertical treating chamber above said heater, said lower baffle having one edge affixed to said vertical partition and extending inclined upwardly therefrom terminating in an outer edge spaced from the interior wall of said vessel opposite said vertical partition, and an upper imperforate baffle above said lower baffle and below said oil outlet, said upper baffle having one edge affixed to the wall of said vessel and inclined downwardly toward said vertical partition and terminating in an outer edge spaced from said partition, said upper and lower imperforate baffles being substantially parallel to and spaced from each other and overlapping providing a flow direction changing path of fluid flow therebetween;

an upper horizontal substantially semi-elliptical perforate electrical grid positioned in insulated relationship between said lower imperforate baffle outer edge and the adjacent vessel interior walls;

a lower horizontal perforate grid parallel to and spaced from said upper grid and grounded to said vessel;

means of electrically charging said upper grid relative to said vessel and thereby said lower grid whereby an electrical field is created between said upper and lower grid through which crude oil emulsion passes as it flows upwardly in said treating chamber; means externally of said vessel for varying the horizontal spacing between said upper and lower grids.

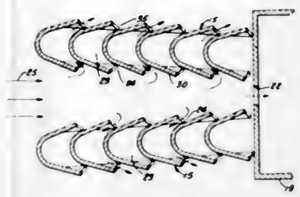
3,369,348
DISPOSABLE AIR FILTER BAG
David R. Davis, 804 N. Rexford Drive, Beverly Hills, Calif. 90210
Continuation of application Ser. No. 302,865, Aug. 19, 1963. This application May 2, 1966, Ser. No. 547,392
1 Claim. (Cl. 55—374)



A flexible bag of porous material impregnated with oil and suspended in front of a fan such as a conventional household fan. When the fan is operated, a portion of the air flow generated by the fan passes into the mouth of the bag to inflate the bag and hold it in a generally extended position. Air enters into the mouth of the bag and is turned around at the end of the bag and issues out of the mouth of the bag. Some of the air also goes through the bag itself. Other air in the air flow from the fan passes down the outside surfaces of the bag and dynamically serves to create a pressure differential which holds the bag in an extended, inflated condition. Dust particles and the like are trapped in the bag and thus the bag provides a simple means for filtering the air in a room.

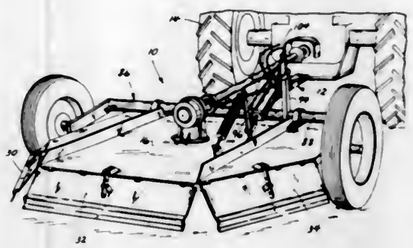
3,369,349
DUST SEPARATING DEVICE
Richard S. Farr, Los Angeles, Calif., assignor to Farr Company, El Segundo, Calif., a corporation of California
Filed Feb. 28, 1964, Ser. No. 348,158
10 Claims. (Cl. 55—442)

A construction for an inertial type dust separating apparatus having a panel of vanes forming direction-reversing passageways wherein each vane has a generally U-shaped cross section with slightly diverging skirt or end portions and integral spacer tabs formed in the skirt



portions to engage and space each vane from the next vane. The spacer tabs of the vanes are aligned to form a plane along which the vanes are welded together to assemble them as the panel.

3,369,350
SHREDDER IMPLEMENT
John Harlan Rogers and John W. Saxton, Fort Dodge, Iowa, assignors to The Standard Engineering Company, Fort Dodge, Iowa
Filed Nov. 24, 1964, Ser. No. 413,413
14 Claims. (Cl. 56—25.4)

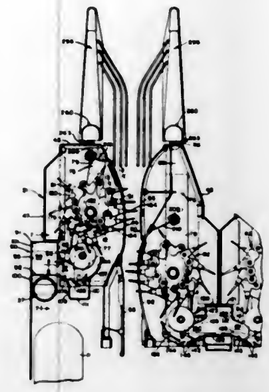


1. In a shredding implement,
a horizontally disposed frame,
a cutting blade assembly rotatably secured to the lower side of said frame,
said frame having a front edge, a pair of parallel side edges and a rear edge,
said rear edge having a plurality of edge portions, at least two of said edge portions extending diagonally of said side edges, and
a door pivotally connected to each of said two diagonally extending side edge portions and adapted to move from a first position extending vertically downwardly to a second position extending rearwardly of said frame.

3,369,351
COTTON PICKER
Arthur L. Hubbard, Des Moines, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Feb. 12, 1965, Ser. No. 432,092
11 Claims. (Cl. 56—44)

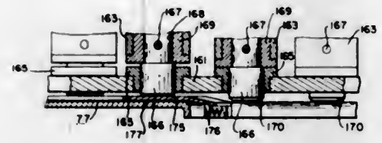
In a cotton harvester having an upright rotatable picking drum with laterally extending picking spindles adapted to move in lateral orbits, part of which is in a plant passage and a picker housing having a side structure adjacent the drum and forming a side of the passage, the side structure being composed of a plurality of fore-and-aft extending and vertically spaced hollow bars with

brush elements fixed thereto for the purpose of contacting the spindles as they move between the bars, and fluid



conduits opening into the brush elements for moistening the spindles.

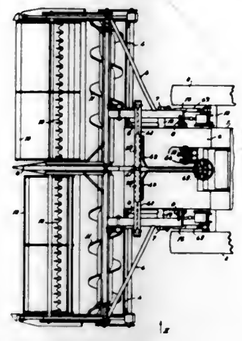
3,369,352
COTTON PICKER
Arthur L. Hubbard, Des Moines, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Feb. 12, 1965, Ser. No. 432,131
10 Claims. (Cl. 56—44)



In a cotton picker having a main frame and a doffing drum with vertically spaced doffing elements; a picking drum having a plurality of upright picking bars supported on a drum frame for vertical movement with each having a lower abutment end and a plurality of spindles carried thereon to move in a horizontal orbit as the picking drum rotates, part of the orbit being in an overlapping relation to the doffing elements; a ram and vertically adjustable horizontal plate carried on the frame beneath the abutment ends and positioned to cause the picking bars to rise as the respective spindles approach the overlapping position with the doffing elements and to fix the abutment ends to ride on the horizontal plate while in an overlapping relation to thereby assure proper stripping relation between the spindles and doffing elements.

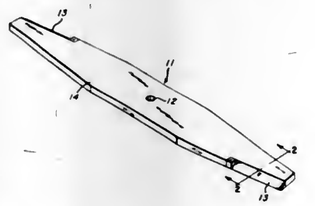
3,369,353
AGRICULTURAL MACHINES
Cornelis van der Lely, Zug, Switzerland, assignor to Texas Industries Inc., Willemstad, Curacao, Netherlands Antilles, a limited-liability company of the Netherlands Antilles
Filed Aug. 18, 1965, Ser. No. 480,623
Claims priority, application Netherlands, Sept. 29, 1964, 64—11,285
11 Claims. (Cl. 56—210)

A harvester having a pair of mowing and crop gathering members each of which are pivotable for being lifted about a pair of horizontal axes, one of the axes being normal to the operative direction of travel of the harvester and the other axis being parallel to such direction, the lifting means being hydraulic rams having linked con-



trols whereby when the members are lifted they are first pivoted upward about the axis normal to the harvester's direction of travel and then are pivoted together about axes parallel to such direction.

3,369,354
LAWN MOWER BLADE
Abraham L. Freedlander, Dayton, Ohio, and Leland E. Williams and Dana C. Strickler, Waynesville, N.C., assignors to Dayco Corporation, Dayton, Ohio, a corporation of Delaware
Filed Mar. 24, 1967, Ser. No. 625,657
14 Claims. (Cl. 56—295)

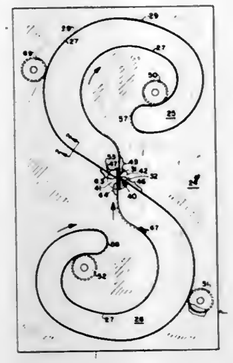


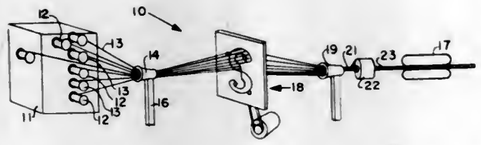
A flexible lawn mower blade for mounting on a power driven rotary lawn mower. The blade is designed for safety as the material permits it to flex when striking an object to avoid serious damage to the object or the blade. The blade is partially composed of a flexible elastomeric material such as a urethane elastomer and a dissimilar material which may be a different type of urethane elastomer or may be a plastic material.

3,369,355
STRANDING APPARATUS AND METHOD AND CABLE MADE THEREBY
Harvey Burr, Bronxville, N.Y., assignor to Anaconda Wire and Cable Company, a corporation of Delaware
Filed June 13, 1966, Ser. No. 557,087
18 Claims. (Cl. 57—34)

1. A stranding apparatus comprising:
(A) means paying off a plurality of strands,
(B) means advancing said strands,
(C) means comprising a path in the form of a figure-8 transverse to the advance of said strands,
(D) means continuously urging said strands to move consecutively around said path,

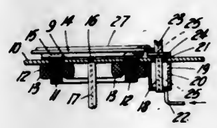
(E) means downstream of said path gathering said strands to form a cable, and





(F) means downstream of said path binding said strands.

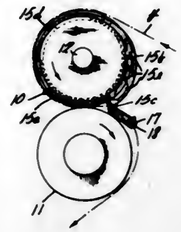
3,369,356
FALSE TWISTING APPARATUS
Denis Albert Edward Mattingly, London, England, assignor to The Klinger Manufacturing Company Limited, London, England, a British company
Continuation of application Ser. No. 396,061, Sept. 14, 1964. This application Nov. 10, 1966, Ser. No. 593,583
Claims priority, application Great Britain, Sept. 16, 1963, 36,414/63
27 Claims. (Cl. 57—77.45)



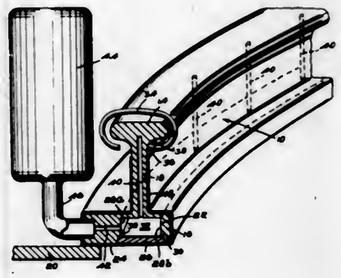
In an apparatus for false twisting yarn, a spindle, having a bore through which the yarn passes, is supported by air bearing means. The spindle is rotated about its own axis by means of a disc-like driving member having a peripheral surface in frictional engagement with the spindle. The driving member may also be supported by an air bearing. A magnetic system is employed for locating and maintaining the position of the spindle relative to the drive means.

3,369,357
DEVICE FOR AUTOMATICALLY SEPARATING A PAIR OF YARN GUIDING ROLLERS
Manuel Prat Fontellas, Avenida 28 de Enero 18, Balsareny, Barcelona, Spain
Filed June 6, 1967, Ser. No. 643,869
Claims priority, application France, June 8, 1966, 64,697, Patent 1,504,508
10 Claims. (Cl. 57—84)

The specification describes a device for automatically separating a pair of yarn guiding rollers which normally engage and feed the yarn but are mounted for separation in the event of breakage of the yarn. The device includes a pair of cams accommodated in grooves of one of the yarn guiding rollers and a yarn engaging pin carried between the cams. The yarn exerts a force on the pin which maintains the low portions of the cams between the rollers. In the event of breakage of the yarn the cams are frictionally driven by the rotating roller to bring the high portions thereof between the rollers to separate them.



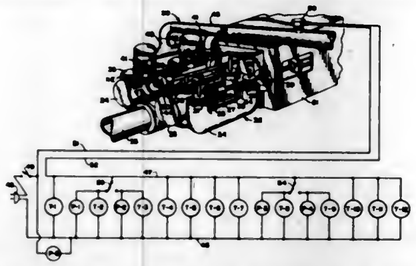
3,369,358
LUBRICATED SPINNING RING
Andrew J. Wayson, Needham, Mass., assignor to Merriman, Inc., a corporation of Massachusetts
Filed Jan. 4, 1966, Ser. No. 518,621
2 Claims. (Cl. 57—120)



This invention relates to horizontal type porous metal spinning and twisting rings used in the textile machinery industry. Horizontal rings have relatively thin circular webs supporting the upper flanges about which the traveler moves. The construction herein disclosed presents means for getting the oil quickly up through the supporting web to the locality of the surfaces on which the traveler bears. The oil may then spread laterally through the flanges to produce a lubricating film on the surface.

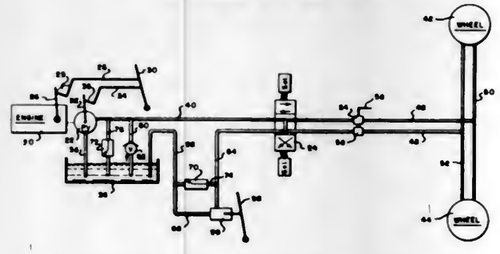
3,369,359
MACHINE COMPONENT TIME RECORDER
George T. Mays, 135 W. Henfer Park, New Orleans, La. 70123
Filed Aug. 18, 1965, Ser. No. 480,716
7 Claims. (Cl. 58—145)

A method and apparatus for carrying out a preventative maintenance program on a machine. Electrical circuit means are provided to automatically determine the individual total operating time of various critical components in the machine. These components are removed at the end of predetermined time intervals and replaced with new components according to a schedule based on the average useful safe life for the respective critical components. The invention is particularly adapted for use



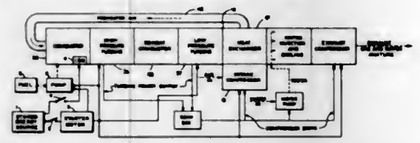
in a preventative maintenance program on a dual cylinder reciprocating mud pump.

3,369,360
HYDRAULIC PROPULSION AND BRAKING SYSTEM FOR VEHICLES OR THE LIKE
Charles P. de Blasi, 74 Braman Road, Waterford, Conn. 06385
Filed Nov. 18, 1965, Ser. No. 509,263
18 Claims. (Cl. 60—19



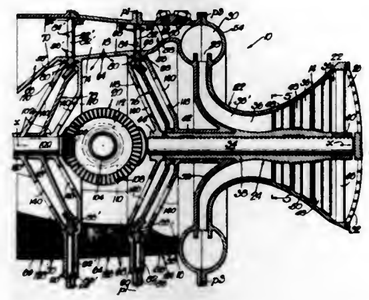
This invention relates to a hydraulic propulsion and braking system for vehicles or the like in which pressurized fluid is delivered to a hydraulically driven wheel in response to operator manipulation of controls. Pressurized fluid may be delivered through either of parallel circuits to drive the fluid powered wheel in either a forward direction or a reverse direction. Controls for the prime mover and the pump are provided and are interrelated through an operation of an accelerator to control the speed and torque of the fluid powered wheels. The vehicle with which the system is associated is braked by restricting the effective size of the passageway leading from the fluid powered wheels to a reservoir by the use of a valve associated with a brake pedal.

3,369,361
GAS TURBINE POWER PLANT WITH SUB-ATMOSPHERIC SPRAY-COOLED TURBINE DISCHARGE INTO EXHAUST COMPRESSOR
Gale M. Craig, 2906 Walton St., Anderson, Ind. 46011
Continuation-in-part of application Ser. No. 346,246, Feb. 20, 1964. This application Mar. 7, 1966, Ser. No. 540,130
2 Claims. (Cl. 60—39.5)



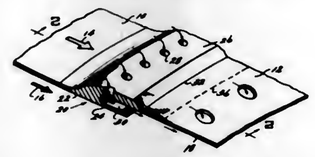
Gas turbine power plant including intake compressor, combustor, gas turbine, water spray injection into turbine discharge gases for direct-contact mixing and cooling, with compression thereof from sub-atmospheric pressure to atmospheric pressure exhaust of the mixture of injected water and gases.

3,369,362
GAS TURBINE ENGINE
Cadwallader W. Kelsey, Guilford, Conn., assignor to Skycar, Inc., New Haven, Conn., a corporation of Connecticut
Filed Sept. 26, 1966, Ser. No. 581,796
14 Claims. (Cl. 60—39.16)



1. In a turbine engine, the combination with an air compressor having a drive shaft with an axis and an outlet, of a casing having spaced duct formations with through-passages about and longitudinally of said axis, of which said passages have spaced opposite first and second surfaces most remote from and nearest to said axis, repectively, and a rib formation transversely of and joining said duct formations and forming about said axis an annular groove with a closed bottom and open top, said groove intersecting said passages, and said first and second passage surfaces being at the groove-intersections cylindrical about said axis, with said groove bottom being continuous with said first cylindrical passage surfaces, and said open groove top facing said axis and being spaced therefrom closer than said second cylindrical passage surfaces; a turbine wheel carried by said shaft and having an annular rim and therefrom outwardly projecting blades received with a running fit in said groove, with said rim extending between said groove top and second passage surfaces and said blades extending in the remainder of said groove, said blades dividing said passages into combustion and exhaust chambers, and said duct formations being externally exposed to the atmosphere peripherally throughout except at said rib formation; and conduit means between said compressor outlet and combustion chambers.

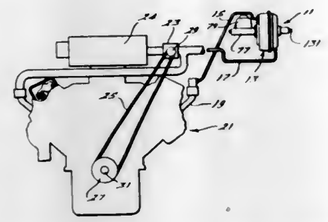
3,369,363
INTEGRAL SPACING RINGS FOR ANNULAR COMBUSTION CHAMBERS
Thomas C. Campbell, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Jan. 19, 1966, Ser. No. 521,571
2 Claims. (Cl. 60—39.65)



An annular combustion chamber wall includes annular, radially offset panels joined by an integral ring having

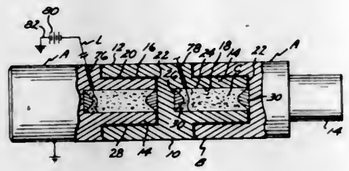
means for providing effective film cooling of the downstream panel.

3,369,364
VEHICLE POWER BRAKE MECHANISM
David T. Ayers, Jr., Birmingham, and Lawrence E. Pulkownik, Plymouth, Mich., assignors to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Feb. 9, 1966, Ser. No. 526,153
7 Claims. (Cl. 60—54.5)



A power braking system for a motor vehicle driven by an internal combustion engine. The braking system includes a booster unit that is actuated in part by the air pressure generated by an air compressor that is driven by an internal combustion engine and which air compressor is used in conjunction with a smog emission reducing system of the engine.

3,369,365
SOLID PROPELLANT ROCKET MOTOR
Henry A. Olson, 3313 Danaha St., Torrance, Calif. 90505
Filed Oct. 18, 1965, Ser. No. 497,096
3 Claims. (Cl. 60—225)



A solid propellant rocket motor in which a plurality of longitudinally spaced charges are consecutively fired to thrust portions of the motor rearwardly, and move that portion of the motor containing the unfired charges forwardly with increasingly greater velocity.

3,369,366
JET ENGINE SUPPORT STRUCTURE
Werner Ernst Howald, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed May 28, 1964, Ser. No. 370,825
7 Claims. (Cl. 60—271)

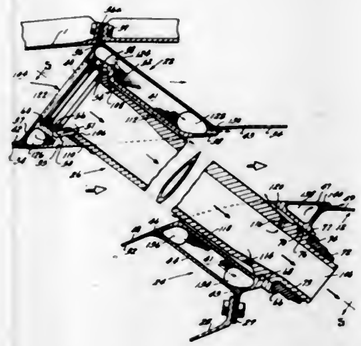
2. In a lightweight axial-flow gas turbine having an outer casing with means thereon for mounting said engine in an aircraft, an outer liner spaced inwardly of said casing, and an inner liner, said outer and inner liners forming a flowpath for the engine exhaust gas stream, an improved support structure subjected to said exhaust gas stream and comprising:

a first annular structural member, said first annular member being affixed to the outer casing and being located axially of said engine approximately in the plane of said mounting means;

a second annular structural member, said second annular member being displaced radially inwardly and axially downstream of said first annular member and being affixed to said inner liner;

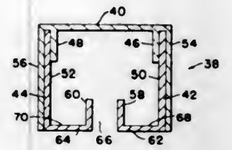
a plurality of pairs of elongated hollow struts, said pairs being equally spaced about the engine axis and extending from one to the other of said annular structural members, with the struts of each pair arranged so that their outer ends are in juxtaposition and their inner ends are spaced circumferentially;

means supported from said second annular member including a frusto-conical member having its axis colinear with the engine axis and having its larger circumferential edge affixed to said second annular member and its smaller circumferential edge located axially of said engine approximately in the plane of said mounting means, a radial flange at said smaller circumferential edge, turbine rotor bearing means supported from said flange, and an axially-extending annular exhaust nozzle member affixed to said inner liner adjacent said second annular member, said bearing means and said exhaust nozzle member imposing axial and radical loads directly onto said second annular structural member during operation of said engine;



means connecting the juxtaposed outer ends of said pairs of struts to said first annular structural member and said circumferentially spaced inner ends to said second annular structural member, said connecting means including first and second spherical seat portions in said first and second annular members, respectively, like spherical seat portions on said juxtaposed outer strut ends and said spaced inner strut ends adapted to mate with said first and second structural member, seat portions, respectively, first locking means for maintaining said first annular member seat portions in close apposition to said like portions on said outer strut ends, and second locking means adapted to maintain said second spherical seat portions in close apposition to said like seat portions on said inner strut ends, said connecting means providing limited relative movement between said first and second annular structural members and said hollow struts at the ends thereof to permit said struts to transmit the axial and radial loads directly imposed on said second annular structural member by said supported means to said first annular structural member as substantially compressive and tensile loads only so as to limit radial and axial deflection of said second annular member and bending in said struts.

3,369,367
DRAIN TILE STRUCTURE
Oscar C. Saad, 12851 Bender Drive, Utica, Mich. 48087, and James T. Otenbaker, Utica, Mich.; said Otenbaker assignor to said Saad
Filed Feb. 2, 1966, Ser. No. 524,379
2 Claims. (Cl. 61—11)



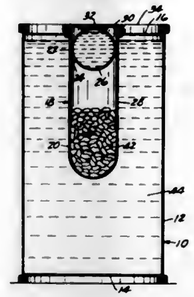
Drain tile structure comprising an elongated hollow member having an over-flow slot extending the entire length of the bottom thereof and means forming a drain channel along at least one side of said slot. The elongated hollow member may be fabricated of three separate parts, one of which is an inverted U-shaped part and the other two of which are L-shaped parts adapted to fit within the inverted U-shaped part and form the over-flow slot therebetween. Complementary bevelled surfaces may be provided on the U-shaped part and L-shaped parts for maintaining the parts in assembly when the elongated hollow member is fabricated of three separate parts.

3,369,368
DIVING STRUCTURE
Hugh D. Wilson, Goleta, Calif., assignor to Union Carbide Corporation, a corporation of New York
Continuation of application Ser. No. 344,680, Feb. 13, 1964. This application May 11, 1967, Ser. No. 637,848
3 Claims. (Cl. 61—69)



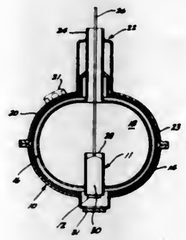
1. A diving structure comprising a pair of spherical units rigidly interconnected by a common hatchway communicating the interiors thereof with each other; hatch means at each end of the hatchway for selectively sealing off the interior of each unit from the other; separate pressure adjusting and maintaining means associated with each of the units for regulating the breathing gas pressure within each unit, and a separate hatchway including a hatch means communicating at least one of the units with the exterior for diver ingress and egress.

3,369,369
FOOD CONTAINER
Joseph F. Weiss, Lakeland, Minn. (Rte. 5, Stillwater, Minn. 55082)
Filed Dec. 21, 1964, Ser. No. 419,817
6 Claims. (Cl. 62—4)



A can or like container which has a sealed off heat-conductive chamber therein. The chamber contains per se known chemicals which when mixed produced or absorb heat thereby changing the temperature of the contents of the container. One of the chemicals is enclosed in a sealed frangible generally spherical capsule that is loosely fitted in the chamber between a flexible cap end and indentations in the wall of the chamber. Thumb pressure on the cap will fracture the capsule allowing admixture of the chemicals.

3,369,370
METHOD OF DETECTOR COOLING AND DEVICE THEREFOR
Marion N. Todd, Jr., Santa Monica, and Franklin J. Meyers, Woodland Hills, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Dec. 3, 1965, Ser. No. 511,400
2 Claims. (Cl. 62—45)



1. In a method of providing detector cooling under zero gravity and vacuum condition where the detector is mounted in thermal transfer association with a Dewar having separate chambers in direct conductive thermal transfer relation,

the Dewar being carried into said zero gravity and vacuum condition requiring an elapsed pre-launch countdown time under gravity condition and elapsed time under thrust condition during launch;

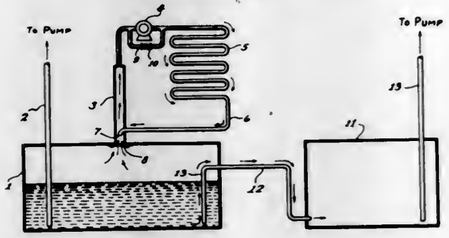
the steps of filling one of said chambers with a cryogenic liquid,

filling the second chamber with a cryogenic fluid,

solidifying said fluid by accommodating the vaporization of said liquid and allowing vapor escape to ambient condition during said elapsed times,

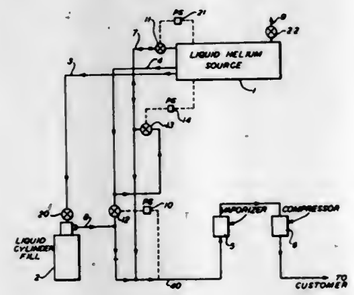
further accommodating the escape of said liquid and vaporized liquid from said one container under zero gravity condition to effect a vacuum in said one container surrounding said second container,
and accommodating the escape of vaporized fluid from said solidified fluid to ambient vacuum condition under zero gravity condition.

3,369,371
GAS SAVER AND POLLUTION ELIMINATOR
Robert J. Holly, 1641 W. Greenleaf Ave. 60626, and Joseph T. Vinci, 3251 Bryn Mawr Ave. 60645, both of Chicago, Ill.
Filed Oct. 5, 1966, Ser. No. 584,568
3 Claims. (Cl. 62—54)



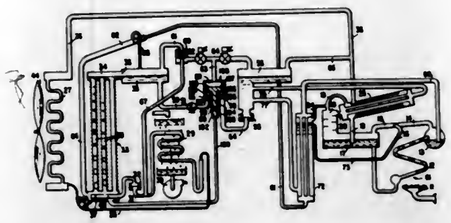
Apparatus for preventing pollution of the atmosphere by means of vapors from gasoline and similar volatile hydrocarbons in which any vapors formed in the storage vessel are withdrawn through a vapor-tight system, compressed, condensed and returned to the storage tank. By-pass means are provided around the compressor and means are provided to withdraw liquid from the tank automatically upon the pressure therein reaching a predetermined level.

3,369,372
LIQUID HELIUM DISTRIBUTION SYSTEM
Joseph Kleinhaut, Livingston, Mark M. Lee, North Bergen, and Arno Rasg, West New York, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 550,751, May 17, 1966. This application Apr. 17, 1967, Ser. No. 631,550
14 Claims. (Cl. 62—52)



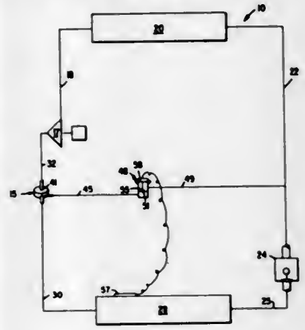
An apparatus and process for the efficient handling of liquid helium supplied to a demand in either liquid or gaseous form through a simple and efficient distribution system in a manner so as to minimize losses.

3,369,373
SOLUTION TRANSFER APPARATUS
Richard H. Merrick, Indianapolis, Ind., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed July 1, 1966, Ser. No. 562,166
8 Claims. (Cl. 62—141)



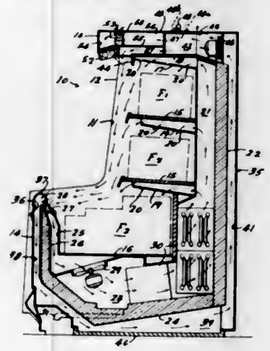
An absorption refrigeration system having a low pressure side including an evaporator and an absorber, a high pressure side including a generator and a condenser, and a solution transfer apparatus for passing weak absorbent solution from the absorber to the generator. The solution transfer apparatus includes a piston having a large area face exposed to a large area pressure chamber and a small area face exposed to a small area pressure chamber. The large area pressure chamber is alternatively pressurized with high pressure and low pressure vapor and the small area pressure chamber is continuously exposed to low pressure vapor. The space between the two piston faces forms a liquid transfer region for admitting low pressure weak solution from the absorber and discharging it under high pressure to the generator.

3,369,374
CAPACITY CONTROL FOR REFRIGERATION SYSTEMS
Kenneth H. Miller, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed June 20, 1966, Ser. No. 558,709
6 Claims. (Cl. 62—197)



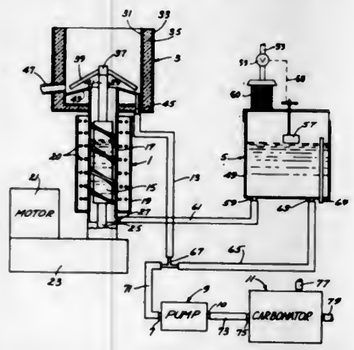
1. In a refrigeration system, the combination of: compression means; a first heat exchanger for condensing refrigerant discharged from said compression means; refrigerant metering means connected with said first heat exchanger; a second heat exchanger for evaporating refrigerant, said second heat exchanger being arranged between said metering means and said compression means; and means for controlling capacity of said system including a fluid flow regulator forming a vortex chamber through which system refrigerant passes en route to said compression means; a source of pressurized control fluid in substantially tangential communication with said vortex chamber, said control fluid being adapted to cause refrigerant flowing through said regulator vortex chamber to follow a vortex-like path, and means for varying discharge of said control fluid into said regulator vortex chamber in response to system load conditions to vary flow of refrigerant through said fluid regulator and capacity of said system in response to changes in system load.

3,369,375
REFRIGERATED DISPLAY CASE
Leonard J. Gerweck, George K. Bently, and Glenn W. Mathis, Kendallville, Ind., assignors to McCray Refrigerator Company, Inc., Kendallville, Ind., a corporation of Indiana
Filed Dec. 13, 1965, Ser. No. 513,462
6 Claims. (Cl. 62—256)



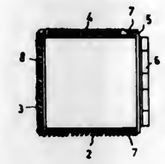
A refrigerated display case having a moving air curtain across an open reach-in portion of the case. The air curtain includes an air bleed vent for discharging from the curtain air passage a volume of air drawn into the air curtain inlet in excess of the volume of air discharged from the air curtain outlet; the excess air can be discharged down the outside back of the display case. A portion of the curtain air is used to cool display case lighting elements such as fluorescent lamp ballasts.

3,369,376
MELT WATER DISPOSAL SYSTEM FOR COLD DRINK VENDOR WITH ICE MAKER
Richard S. Klous, St. Ann, Mo., assignor to UMC Industries, Inc., St. Louis, Mo., a corporation of Delaware
Filed Apr. 17, 1967, Ser. No. 631,413
10 Claims. (Cl. 62—344)



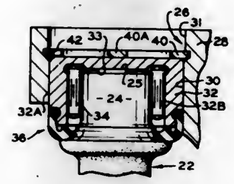
A vendor for cold drinks with ice, having an ice maker for supplying ice to a hopper from which a quantity of ice is dispensed into a cup along with a drink, is provided with a system for disposing of water resulting from melting of ice in the hopper, which system is such as to avoid build-up of slime in the melt water.

3,369,377
FREEZING BOX FOR PACKED LIQUIDS AND FOODSTUFFS
Hendrikus M. Wenting, 43 Past. Vranckenlaan, Reuver, Netherlands
Filed June 30, 1966, Ser. No. 561,820
Claims priority, application Netherlands, July 6, 1965, 65—8,699
1 Claim. (Cl. 62—457)



A freezing box or mold is disclosed. The box includes three fixed side walls secured to a bottom, and a fourth wall is pivotally attached to the bottom. A spiral spring, secured to the latter wall is stretched around the other side walls when the box is closed, to prevent expansion of the side walls and to permit easy removal of the frozen material from the box.

3,369,378
RETAINING RING AND GROOVE ASSEMBLY FOR A UNIVERSAL JOINT
Fred F. Miller, Jr., Sylvania, Ohio, assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Filed Feb. 9, 1966, Ser. No. 526,088
18 Claims. (Cl. 64—17)

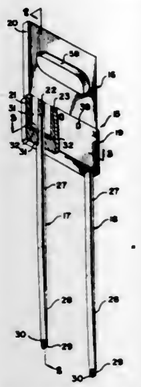


A snap ring arrangement for preventing relative axial movement between a first member having an open bore therein and a second member received in this bore. One of the members has a shoulder thereon abutting the snap ring and the other member has a groove therein which receives the snap ring; the groove being shaped so as to prevent the snap ring from dishing when the second member attempts to move out of the bore of the first member.

3,369,379
JACK FOR AUTOMATIC KNITTING MACHINE
Richard W. Shepard, Torrington, Conn., assignor to The Torrington Company, Torrington, Conn., a corporation of Maine
Filed May 28, 1965, Ser. No. 459,604
14 Claims. (Cl. 66—126)

This disclosure relates to a jack assembly for a pattern guide, the assembly including a jack having one or more guides secured thereto by a lead or other low temperature

encasement forming interlocks between the jack and the



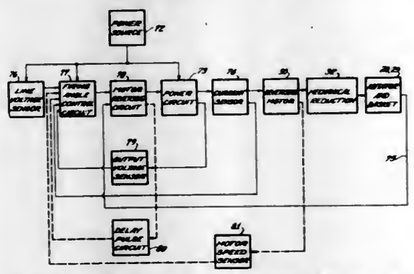
guides, with the jack being adjustably positionable on a guide bar through the use of identifying indicia.

3,369,380
THREAD-CUTTING DEVICE FOR STRAIGHT BAR KNITTING MACHINES
Prosper Dhondt, Wondelgem, Belgium, assignor to Fabrique National d'Armes de Guerre Societe Anonyme, Herstal, near Liege, Belgium
Filed Oct. 21, 1965, Ser. No. 500,088
Claims priority, application Belgium, Sept. 14, 1965, 44,931, Patent 669,577
6 Claims. (Cl. 66—145)



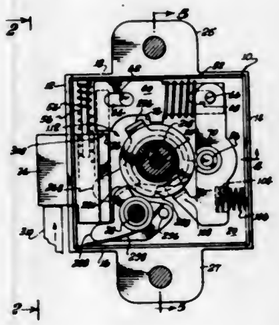
Mechanism for severing end threads of completed fabric panels produced by a plurality of side by side units of a knitting machine comprising an axially movable rod common to all units carrying thread-lowering and electric resistance thread-cutting devices for each unit, a cooperating axially movable rod common to all units for actuating said thread-lowering devices for severing of the threads, and control means for actuating said rods after knitting of several rows of new fabric panels.

3,369,381
ELECTRONIC CONTROL CIRCUIT FOR DIRECT DRIVE AUTOMATIC
Burke J. Crane, Riverside, Ill., and Douglas J. Walker and George H. Myers, St. Joseph, Mich., assignors to Whirlpool Corporation, Benton Harbor, Mich., a Delaware corporation
Filed Sept. 13, 1965, Ser. No. 487,019
35 Claims. (Cl. 68—12)



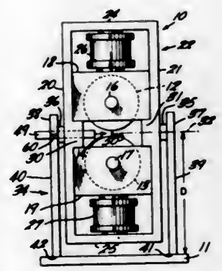
A control circuit for a laundry machine motor which generally includes a power circuit coupled with a reversing circuit. A firing angle control circuit regulates the amount of power supplied to the motor from the power circuit and the reversing circuit controls the power circuit to establish the desired direction of rotation of the motor. In particular, the reversing circuit is operative to cyclically reverse the motor or to drive the motor in a single direction.

3,369,382
COMBINATION SLIDE BOLT LOCK
Fred J. Russell, 8635 Otis St., South Gate, Calif. 90280, and George B. Solovieff, San Clemente, Calif.; said Solovieff assignor to said Russell
Filed Jan. 11, 1965, Ser. No. 424,541
13 Claims. (Cl. 70—156)



A slide bolt lock having a lock bolt movable between locking and unlocking positions by external means when the lock bolt is internally released and including both a combination lock mechanism and a key lock mechanism, either of which may independently release the lock bolt and further including means for readily changing the combination of the combination lock mechanism without disassembling the lock. The lock includes scrambler means for the combination mechanism automatically operated by movement of the lock bolt to unlocking position.

3,369,383
ROLLING MILL SYSTEM
Peter J. Barnikel, New London, Conn., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed July 16, 1965, Ser. No. 472,637
16 Claims. (Cl. 72—237)

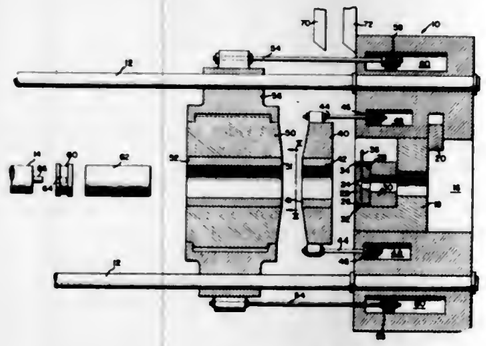


In the particular embodiments of the invention described herein, the passline of a material being rolled in a rolling mill is maintained at a constant height by causing variations in the size of the gap between the

working rolls of the mill to be distributed equally on opposite sides of the passline. In addition, the gap between working rolls is maintained substantially constant by driving the chocks supporting the working rolls against rigid spacers on opposite sides with a force greater than the roll separating force resulting from rolling of a material.

In one embodiment, hydraulic pistons drive each chock toward the rigid spacer and the frame in which the rolls are supported is suspended at the plane of the passline. In another embodiment, the chocks on one side of the working rolls are driven toward the rigid spacers by a piston and the chocks on the opposite side engage the frame, which is movable with respect to the spacers, the entire system being suspended from the spacers.

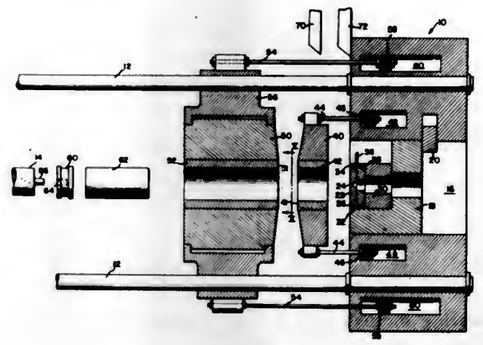
3,369,384
METAL EXTRUSION
Charles J. Beneke, Richmond, and David S. McLellan, Chesterfield County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed July 7, 1965, Ser. No. 470,120
12 Claims. (Cl. 72—272)



Continuous, "buttless" metal extrusion is performed by an extrusion press having sealed to the rear of a die means a secondary container substantially shorter than the billets to be extruded. With a primary container abutted coaxially against the rear of the secondary container to form a seal which is metal-tight but no air-tight, the billet is extruded until its rear surface is adjacent the rear end of the secondary container. Then extruding is ceased. After another billet is loaded into the primary container and extruding resumed, the metal of the two billets is pressure welded and amalgamated within the secondary container and extruded to form a continuous extrusion, with air which would otherwise to entrapped being expelled through the seal between the primary and secondary containers.

3,369,385
METAL EXTRUSION APPARATUS
Alfred M. Murphy and Nicholas A. Wagner, Chester, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed July 7, 1965, Ser. No. 470,121
4 Claims. (Cl. 72—272)

Continuous, "buttless" metal extrusion is performed by an extrusion press having sealed to the rear of a die means a secondary container substantially shorter than the billets to be extruded. With a primary container abutted coaxially against the rear of the secondary container to form a seal which is metal-tight but not air-tight, the billet is extruded until its rear surface is adjacent the rear end of the secondary container. Then extruding is ceased. After another billet is loaded into the primary container and extruding resumed, the metal of the two billets is pressure welded and amalgamated within the secondary container



and extruded to form a continuous extrusion, with air which would otherwise be entrapped being expelled through the seal between the primary and secondary containers.

3,369,386
WIRE DRAWING APPARATUS
Thomas C. McGeary and Lewis M. Cowden, Indianapolis, Ind., assignors to Union Carbide Corporation, a corporation of New York
Continuation of abandoned application Ser. No. 408,279, Nov. 2, 1964. This application Mar. 13, 1967, Ser. No. 622,826
5 Claims. (Cl. 72—289)

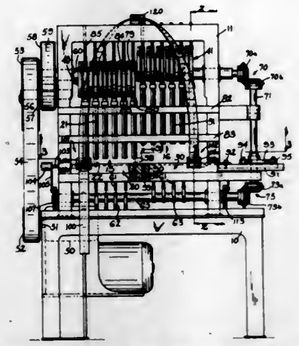


1. Wire drawing apparatus comprising a metal draw block having an outer coating of refractory material the minimum thickness of which is 0.010 inch, a hardness of of between 850 and 1,300 V.P.N., and a micro-lamellar structure.

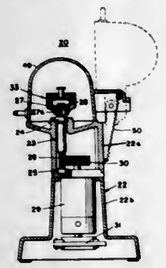
3,369,387
DOUBLE STRAND FEED PRESS
Charles R. Bradlee, Cheshire, Conn., assignor to Textron, Inc., Providence, R.I., a corporation of Rhode Island
Filed Oct. 15, 1965, Ser. No. 496,648
8 Claims. (Cl. 72—335)

This invention is directed to a double strand feed press such as a cam eyelet machine and the like and, more particularly, comprises a machine tool for forming metal articles which, in combination, includes a frame, a first tool set mounted on one side of the frame, said first tool set including a plurality of plungers having punches mounted thereon and mating dies positioned with respect to each other such that the plungers may advance the punches toward and away from said mating dies, a second tool set mounted adjacent to said first tool set and positioned on the other side of said frame, said second tool set including a plurality of plungers having punches mounted thereon and mating dies positioned with respect to each other such that the plungers may advance the

punches toward and away from said mating dies, and transfer means mounted in said frame for sequentially advancing through said first and second tool sets metal blanks being formed by the first and second tool sets, respectively.

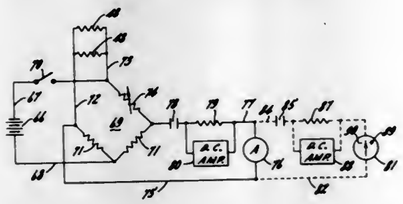


3,369,388
METHOD AND APPARATUS FOR FORMING METAL
Ivar Jepson, P.O. Box 526, South Duxbury, Mass. 02332
Filed Oct. 21, 1965, Ser. No. 499,213
17 Claims. (Cl. 72—367)



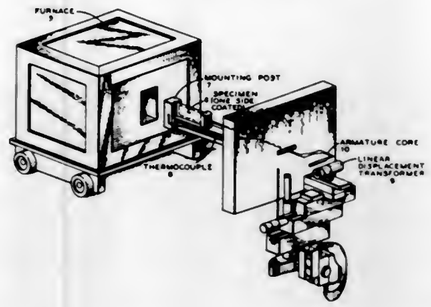
An apparatus and method is provided for cold forming of metal parts by centrifugal force. The metal blank to be formed is placed within an enclosed mold cavity and spun on a high speed spindle to produce centrifugal force stresses in the metal blank exceeding the yield point thereof.

3,369,389
THERMAL TESTING APPARATUS
Rudi M. Schroeer and Thomas A. Garmhausen, Yellow Springs, Ohio, assignors to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana
Filed Oct. 9, 1964, Ser. No. 402,841
11 Claims. (Cl. 73—15)



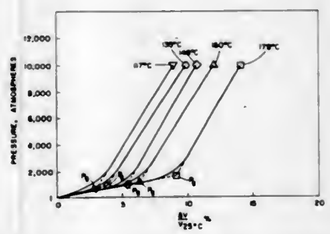
A thermal testing apparatus comprising a probe having a heat source and a plurality of sensing elements, the latter sensing the heat transmitted through a work-piece from a localized area heated by said heat source. Said sensing elements are wired in parallel and are connected to a measuring circuit for determining the average rate of temperature change through said work-piece.

3,369,390
APPARATUS FOR TESTING STRAIN
Gordon P. K. Chu, New Brunswick, N.J., and Naohiro Soga, Pearl River, N.Y., assignors to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 19, 1964, Ser. No. 404,610
4 Claims. (Cl. 73—15.6)



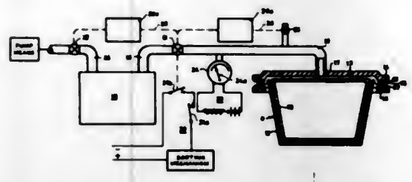
The present invention provides an apparatus for measuring the stress-strain in a ceramic-metal system which comprises in combination a furnace, a mounting post therein from which a ceramic-metal specimen is suspended within the furnace, an extension rod attached to the free end of the suspended specimen and extending axially therefrom to the outside of the furnace. Attached to the outside end of the rod is a magnetic core, extending therefrom at a right angle and interacting with a linear displacement transformer whereby the displacement of the rod is measured. In addition thereto means are provided for recording the measurement of the displacement, means for measuring and recording the temperature of the specimen and also means for controlling the temperature of the furnace.

3,369,391
GLASS TRANSITION TEMPERATURE DEPENDENCY ON PRESSURE FOR AMORPHOUS SUBSTANCES
Robert W. Warfield, Germantown, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 7, 1965, Ser. No. 462,148
6 Claims. (Cl. 73—17)



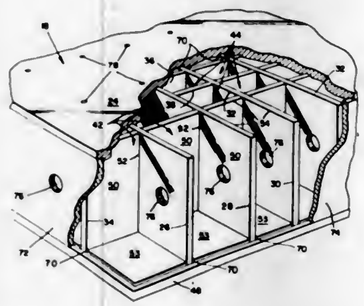
A method for determining the glass transition temperature of amorphous materials such as polystyrene by measuring the volume change of the test substances while varying the pressure at constant temperatures.

3,369,392
METHOD AND APPARATUS FOR VACUUM TESTING PLASTIC LINED CARD-BOARD CARTONS
Od Wikar Christensson, Ekbacksvagen 32–34, Ulvsunda, near Stockholm, Sweden
Filed Sept. 13, 1965, Ser. No. 486,821
Claims priority, application Sweden, Mar. 8, 1965, 2,984/65
21 Claims. (Cl. 73—49.2)



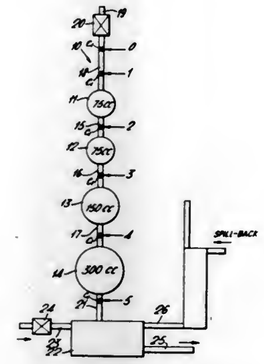
A method and apparatus for testing the air-tight integrity of a plastic-lined cardboard carton. A mandrel shaped to fit the inner contour of the carton and having an uneven surface is placed in the carton. With the use of a separate pre-evacuated vacuum chamber the carton is evacuated and any subsequent increase in pressure due to air leakage is observed. The pressure increase could close an electrical circuit to automatically operate a mechanism to reject unacceptable cartons.

3,369,393
MULTIPLE ELEMENT FABRICATED TEST FIXTURE
Everett W. Farmer, Reeds Ferry, N.H., assignor to Sanders Associates Inc., Nashua, N.H., a corporation of Delaware
Filed Nov. 27, 1964, Ser. No. 414,163
19 Claims. (Cl. 73—71.6)



Apparatus is herein disclosed for a mechanical test fixture of the kind used to subject a component attached thereto to mechanical stresses as produced by vibration, shock and acceleration. The disclosure includes a lightweight multiple-element fabricated test fixture having an essentially invariant, unity mechanical transmissibility over a broad spectrum, even when the fixture is loaded with a component under test. The test fixture comprises a plurality of hollow cells having side walls which are formed by sheet members. Top and bottom plates are secured to the sheet members and form the end walls of these cells. The side and end walls of the cells are continuously secured to each other along their respective intersecting edges.

3,369,394
METERS FOR NON-CONDUCTING LIQUIDS
Harry Goldsworthy Higgs, 2 Wensleydale, Luton, Bedfordshire, England
Filed Dec. 23, 1964, Ser. No. 420,494
Claims priority, application Great Britain, Jan. 1, 1964, 32/64
3 Claims. (Cl. 73—113)



The invention is a liquid metering device, primarily for metering fuel to engines under test, in which a column consisting of one or more accurately calibrated chambers opens at its lower end into a fuel reservoir and is vented at its upper end to atmosphere, preferably through a valve. An outlet from the reservoir leads to the engine under test, while a spill-back circuit from the engine pump is connected back to the reservoir under pressure equilibrium conditions. A fuel supply pipe feeds the reservoir through a solenoid-operated inlet valve. A series of capacitor probes are accurately positioned on the column, preferably at narrow-bore sections, for sensing the presence of an interface between the fuel and the air or the like above it in the column. The probes trigger a timer and circuits for opening and closing the inlet valve.

3,369,395
FORMATION PRESSURE TESTER
J. O. Scott, Tulsa, Okla., and Ronald G. Nelson, Omaha, Nebr., assignors to Cities Service Oil Company, a corporation of Delaware
Filed Nov. 3, 1964, Ser. No. 408,599
1 Claim. (Cl. 73—152)

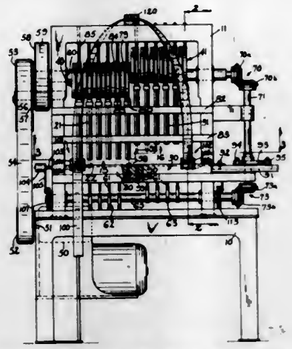
1. A bottom hole formation pressure tester capable of determining pressure build-up at the producing interval of production wells said device comprising in combination:

(a) a production string having ports therein, mounted above the well bore and extending downwardly into the well bore.

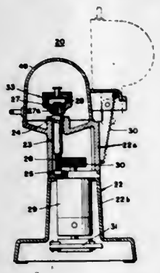
(b) an elastic, expandable pressure-responsive bladder mounted on the production string, said pressure bladder having an elastic wall capable of withstanding an internal pressure sufficient to inflate the pressure element so that it contacts the wall of the well or the well casing and substantially fills the space between the well or casing and the production string, the size of said pressure bladder being sufficient to remain in an expanded state at the end of the pressure build-up test;

(c) a packer mounted on said production string just above said bladder, the packer when set serving to isolate the producing interval and to prevent afterflow into the well following cessation of production;

punches toward and away from said mating dies, and transfer means mounted in said frame for sequentially advancing through said first and second tool sets metal blanks being formed by the first and second tool sets, respectively.

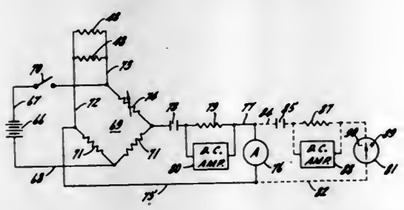


3,369,388
METHOD AND APPARATUS FOR FORMING METAL
Ivar Jepson, P.O. Box 526, South Duxbury, Mass. 02332
Filed Oct. 21, 1965, Ser. No. 499,213
17 Claims. (Cl. 72—367)



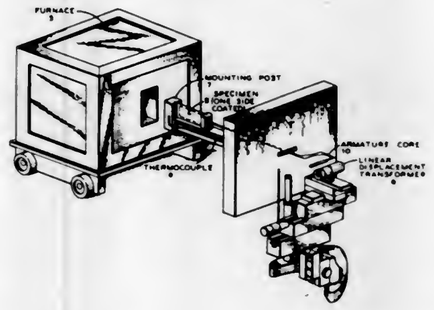
An apparatus and method is provided for cold forming of metal parts by centrifugal force. The metal blank to be formed is placed within an enclosed mold cavity and spun on a high speed spindle to produce centrifugal force stresses in the metal blank exceeding the yield point thereof.

3,369,389
THERMAL TESTING APPARATUS
Rudi M. Schroeer and Thomas A. Garmhausen, Yellow Springs, Ohio, assignors to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana
Filed Oct. 9, 1964, Ser. No. 402,841
11 Claims. (Cl. 73—15)



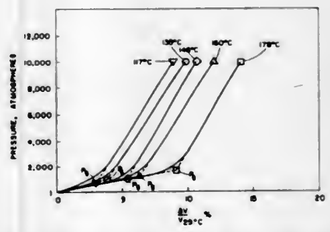
A thermal testing apparatus comprising a probe having a heat source and a plurality of sensing elements, the latter sensing the heat transmitted through a work-piece from a localized area heated by said heat source. Said sensing elements are wired in parallel and are connected to a measuring circuit for determining the average rate of temperature change through said work-piece.

3,369,390
APPARATUS FOR TESTING STRAIN
Gordon P. K. Chu, New Brunswick, N.J., and Naohiro Soga, Pearl River, N.Y., assignors to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 19, 1964, Ser. No. 404,610
4 Claims. (Cl. 73—15.6)



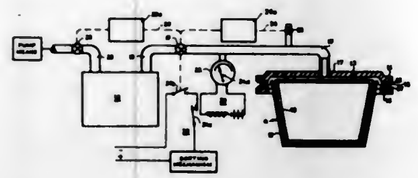
The present invention provides an apparatus for measuring the stress-strain in a ceramic-metal system which comprises in combination a furnace, a mounting post therein from which a ceramic-metal specimen is suspended within the furnace, an extension rod attached to the free end of the suspended specimen and extending axially therefrom to the outside of the furnace. Attached to the outside end of the rod is a magnetic core, extending therefrom at a right angle and interacting with a linear displacement transformer whereby the displacement of the rod is measured. In addition thereto means are provided for recording the measurement of the displacement, means for measuring and recording the temperature of the specimen and also means for controlling the temperature of the furnace.

3,369,391
GLASS TRANSITION TEMPERATURE DEPENDENCY ON PRESSURE FOR AMORPHOUS SUBSTANCES
Robert W. Warfield, Germantown, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 7, 1965, Ser. No. 462,148
6 Claims. (Cl. 73—17)



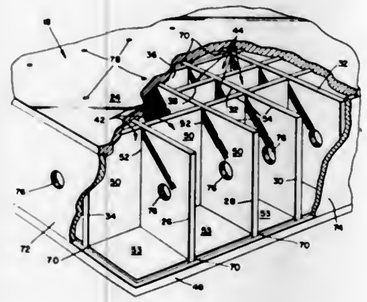
A method for determining the glass transition temperature of amorphous materials such as polystyrene by measuring the volume change of the test substances while varying the pressure at constant temperatures.

3,369,392
METHOD AND APPARATUS FOR VACUUM TESTING PLASTIC LINED CARD-BOARD CARTONS
Od Wikar Christensson, Ekbacksvagen 32–34, Ulvsunda, near Stockholm, Sweden
Filed Sept. 13, 1965, Ser. No. 486,821
Claims priority, application Sweden, Mar. 8, 1965, 2,984/65
21 Claims. (Cl. 73—49.2)



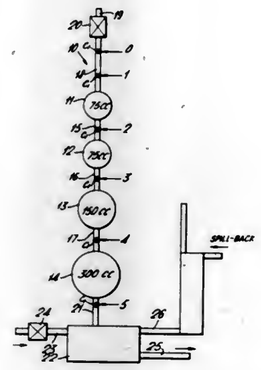
A method and apparatus for testing the air-tight integrity of a plastic-lined cardboard carton. A mandrel shaped to fit the inner contour of the carton and having an uneven surface is placed in the carton. With the use of a separate pre-evacuated vacuum chamber the carton is evacuated and any subsequent increase in pressure due to air leakage is observed. The pressure increase could close an electrical circuit to automatically operate a mechanism to reject unacceptable cartons.

3,369,393
MULTIPLE ELEMENT FABRICATED TEST FIXTURE
Everett W. Farmer, Reeds Ferry, N.H., assignor to Sanders Associates Inc., Nashua, N.H., a corporation of Delaware
Filed Nov. 27, 1964, Ser. No. 414,163
19 Claims. (Cl. 73—71.6)



Apparatus is herein disclosed for a mechanical test fixture of the kind used to subject a component attached thereto to mechanical stresses as produced by vibration, shock and acceleration. The disclosure includes a lightweight multiple-element fabricated test fixture having an essentially invariant, unity mechanical transmissibility over a broad spectrum, even when the fixture is loaded with a component under test. The test fixture comprises a plurality of hollow cells having side walls which are formed by sheet members. Top and bottom plates are secured to the sheet members and form the end walls of these cells. The side and end walls of the cells are continuously secured to each other along their respective intersecting edges.

3,369,394
METERS FOR NON-CONDUCTING LIQUIDS
Harry Goldsworthy Higgs, 2 Wensleydale, Luton, Bedfordshire, England
Filed Dec. 23, 1964, Ser. No. 420,494
Claims priority, application Great Britain, Jan. 1, 1964, 32/64
3 Claims. (Cl. 73—113)



The invention is a liquid metering device, primarily for metering fuel to engines under test, in which a column consisting of one or more accurately calibrated chambers opens at its lower end into a fuel reservoir and is vented at its upper end to atmosphere, preferably through a valve. An outlet from the reservoir leads to the engine under test, while a spill-back circuit from the engine pump is connected back to the reservoir under pressure equilibrium conditions. A fuel supply pipe feeds the reservoir through a solenoid-operated inlet valve. A series of capacitor probes are accurately positioned on the column, preferably at narrow-bore sections, for sensing the presence of an interface between the fuel and the air or the like above it in the column. The probes trigger a timer and circuits for opening and closing the inlet valve.

3,369,395
FORMATION PRESSURE TESTER
J. O. Scott, Tulsa, Okla., and Ronald G. Nelson, Omaha, Nebr., assignors to Cities Service Oil Company, a corporation of Delaware
Filed Nov. 3, 1964, Ser. No. 408,599
1 Claim. (Cl. 73—152)

1. A bottom hole formation pressure tester capable of determining pressure build-up at the producing interval of production wells said device comprising in combination:

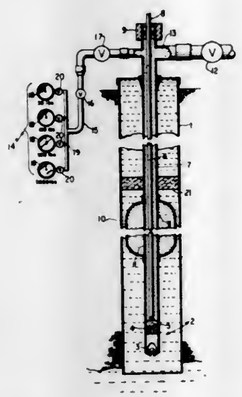
(a) a production string having ports therein, mounted above the well bore and extending downwardly into the well bore.

(b) an elastic, expandable pressure-responsive bladder mounted on the production string, said pressure bladder having an elastic wall capable of withstanding an internal pressure sufficient to inflate the pressure element so that it contacts the wall of the well or the well casing and substantially fills the space between the well or casing and the production string, the size of said pressure bladder being sufficient to remain in an expanded state at the end of the pressure build-up test;

(c) a packer mounted on said production string just above said bladder, the packer when set serving to isolate the producing interval and to prevent afterflow into the well following cessation of production;

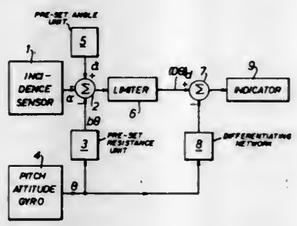
(d) hydraulic means operable from the surface for applying an internal pressure through said production string to the bladder sufficient to inflate said bladder, said hydraulic means serving also to transmit internal pressure variations through the production string between said bladder and the surface;

(e) pressure measuring means in communication with the production string for recording internal pressure variations transmitted from said bladder;



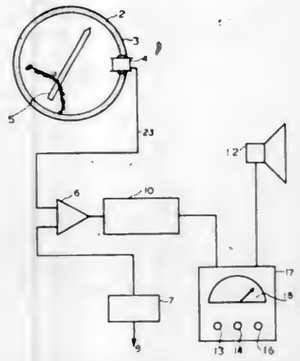
whereby the internal pressure within the inflated bladder is greater than the external pressure in the well when the pressure build-up test is initiated, the external pressure change in the well being superimposed upon the higher internal pressure within said bladder, the increased volume of deformation per increment of pressure change increasing the amplitude of internal pressure change transmitted to the surface so that the pressure change may be observed at the surface by said conventional pressure sensing system.

3,369,396
AIRCRAFT OVERSHOOT DIRECTOR
Michael King Russell, Leckhampton, Cheltenham, and Eric Raymond Kendall, Woodmancote, Cheltenham, England, assignors to Smiths Industries Limited, London, England, a British company
Filed Jan. 18, 1966, Ser. No. 521,372
Claims priority, application Great Britain, Jan. 20, 1965, 2,464/65
18 Claims. (Cl. 73—178)



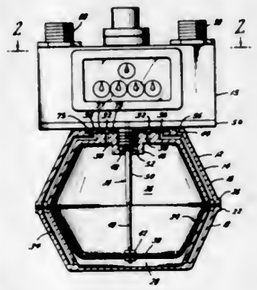
An aircraft overshoot director computes a demand for pitching movement of the aircraft as the difference from a programmed constant value of the sum of two terms, one term being proportional to the aircraft incidence-angle and the other to the aircraft pitch-angle. The difference is either displayed directly, or is compared with aircraft pitch-rate to provide a notional pitch-rate demand.

3,369,397
RATE OF CLIMB INDICATOR
Max Alth, 6 Tamarack Road, Port Chester, N.Y. 10573
Filed Jan. 26, 1966, Ser. No. 523,219
4 Claims. (Cl. 73—179)



A disc incorporating magnetized particles is mounted on the shaft of the pointer used in an altimeter. Changes in altitude cause both the pointer and the disc to rotate. Rotation induces a voltage in a nearby coil. Amplitude and frequency of generated signal is proportional to disc r.p.m. and thus to vertical velocity. Signal amplitude is read out on a meter calibrated in feet per minute. Frequency is converted to an audible signal to keep the pilot aware of his vertical velocity without necessitating his visual attention.

3,369,398
GAS METER
Charles R. Porter, Lester A. Bailey, and Don A. Culwell, Houston, Tex.; said Porter assignor, by direct and mesne assignments, of 19/560 to D. R. Bernard; 1/28 each to J. R. Curbo, Shelby E. Liss, George Morte, L. G. Myers, A. H. Rabensburg, and J. B. Richardson, all of Houston, Tex.; and 1/560 to D. M. Johnston, Arlington, Mass.
Filed Apr. 6, 1964, Ser. No. 366,213
4 Claims. (Cl. 73—270)



1. A gas meter comprising:

(a) a case assembly including;

(1) a case having first and second gas metering chambers therein,

(2) a movable diaphragm in the case forming a wall of both metering chambers,

(3) for each chamber, a gas passageway between that chamber and a port at the exterior of the case,

(b) a gas distributing and valve assembly releasably secured to the case assembly and including;

(1) a plate having a surface mating the exterior surface of the case at the ports, said plate being releasably secured to the case with the mating surfaces adjoining each other,

(2) passageways through the plate in communication with the ports,

(3) valve means having a movable valve element operable between the first and second positions, said valve means successively directing gas through the aforesaid passageways to one of the metering chambers and draining gas from the other metering chamber through the passageways upon operation of the movable valve element,

(4) a gas supply passageway to and a gas drain passageway from the valve means, and

(c) valve element operating linkage extending through the case and plate said linkage being actuated by movement of the diaphragm and having one end connected to the diaphragm and another end connected to the valve element, the linkage including;

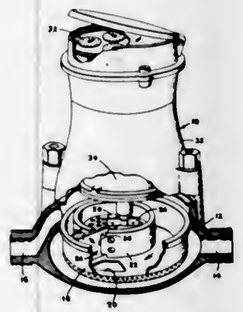
(1) a rod moved in a reciprocating movement by movement of the diaphragm,

(2) spaced contacts carried by the rod,

(3) means to adjust the effective distance between the contacts, and

(4) a rock arm releasably connected to the rod and caused to move by bearing against the contacts on the rod.

3,369,399
MEASURING CHAMBER BRIDGE FOR USE IN WATER METERS
J. D. Coffman and Wilford G. Brown, Fort Worth, Tex., assignors to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed May 6, 1965, Ser. No. 453,739
1 Claim. (Cl. 73—272)



A measuring chamber bridge for use in water meters. The bridge is constructed from a metal reinforced, plastic material and comprises a perforated, metal reinforcing member surrounded and completely enclosed by a plastic body member which is formed by flowing the plastic, in the liquid state over the reinforcing member and allowing it to harden.

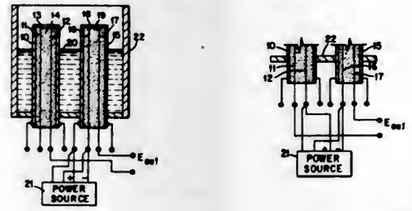
3,369,400
CRYOGENIC LIQUID LEVEL INDICATOR
Pierre Maurice Roubeau, Palaiseau, France, assignor to Commissariat à l'Energie Atomique, Paris, France
Filed Sept. 30, 1963, Ser. No. 312,489
Claims priority, application France, Oct. 9, 1962, 911,649
2 Claims. (Cl. 73—295)

1. A gauge for cryogenic liquids comprising, a source of electrical energy, an ohmic resistance arranged to be immersed in said cryogenic liquid, an indicator responsive to current variations connected in series with said resistance, a switch for connecting said source of electrical energy to said current-variation indicator and said resistance whereby to make it possible to determine the position of said resistance relative to the level of said cryogenic liquid, said resistance being a metal wire, strain hardened to provide a characteristic curve of $I=f(V)$



having a substantially horizontal plateau over a wide voltage range, said wire being wound into a coil having turns of small pitch, the diameter of said coil being as small as possible and preferably having a value of 70 microns for a wire of 40-micron diameter in order to produce a threshold of calefaction in respect of very low current intensities which are preferably within the range of 0.16 to 0.22 amp.

3,369,401
TEMPERATURE-GRADIENT-INSENSITIVE RESISTANCE-TYPE LIQUID METAL LEVEL DETECTOR
Norman H. Briggs, Oak Ridge, and Charles M. Burton and Glenn W. Greene, Knoxville, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Aug. 19, 1966, Ser. No. 574,274
4 Claims. (Cl. 73—304)

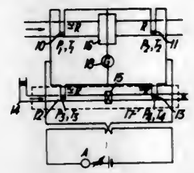


1. A device for continuously measuring the level of liquid metal in a vessel comprising a vessel for receiving a liquid metal, a pair of closely spaced probes disposed within the vessel and extending upwardly from the bottom thereof to a predetermined height above the bottom, each said probe including an outer shell and a plurality of conductors positioned within the shell and electrically jonied to the upper extremity of the shell, the outer shells of the pair of probes being composed of the same type of resistive material, a source of potential coupled to one of the conductors of each of said probes, and signal responsive means coupled to another one of said conductors of each of said probes whereby thermally created signals generated in the device are internally cancelled so as to provide an accurate indication of liquid level.

3,369,402
HYDRAULICALLY BALANCED BRIDGE FOR MEASURING TEMPERATURE DIFFERENCES
Ahmed A. R. Elagib, Khartoum, Sudan, assignor of one-half to The University of Khartoum
Filed May 28, 1965, Ser. No. 459,640
2 Claims. (Cl. 73—342)

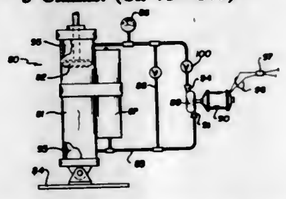
A bridge having temperature-sensitive resistance elements as arms, two of which are in a fluid flowing through

a pipe at points the temperature difference of which is to be measured. The other two arms are in a pipe having a fluid flow and are separated by an adjustable throttling



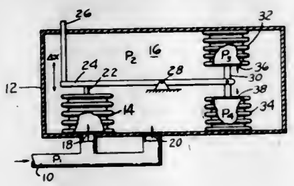
device, the amount of throttling necessary to balance the bridge being an indication of the temperature difference to be measured.

3,369,403
HYDRAULIC MUSCLE STRENGTH DEVELOPING APPARATUS
Edwar M. Carlin, White Rock, British Columbia, and Douglas A. Dean, Burnaby, British Columbia, Canada, assignors to Exotronic Systems Ltd.
Filed Oct. 23, 1965, Ser. No. 503,378
3 Claims. (Cl. 73—379)



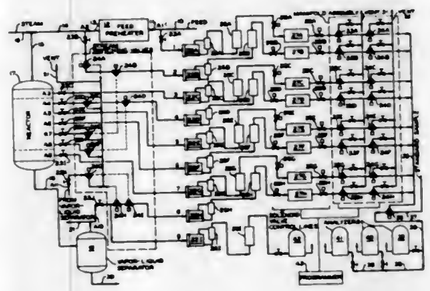
Hydraulic muscle strength developing apparatus having a cylinder, anchored at one end, and a piston equipped with an operating handle to permit the exerciser to resist movement of the piston caused by the introduction of a pressurized hydraulic fluid into the opposite end of the cylinder.

3,369,404
PERCENT RATE OF CHANGE PRESSURE SENSOR
Bartholomew J. Davison, Windsor, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 1, 1966, Ser. No. 562,209
15 Claims. (Cl. 73—407)



1. A percent rate of change pressure sensor including:
a casing defining a chamber having a fluid therein, said casing having first and second orifices therein, the area of said first orifice being greater than the area of said second orifice, said second orifice communicating with the fluid in said chamber;
first pressure responsive means in said chamber communicating with said first orifice and being exposed to the fluid in said chamber;
means for delivering a pressurized fluid of variable pressure to said first and second orifices to generate a force from said first pressure responsive means proportional to the rate of change of pressure of said pressurized fluid;
fluid spring means in said chamber for generating a spring rate proportional to the steady state pressure of said pressurized fluid; and
output means connected to receive force signals from said first pressure responsive means and said fluid spring means to generate a signal commensurate with the percent rate of change of pressure of said pressurized fluid.

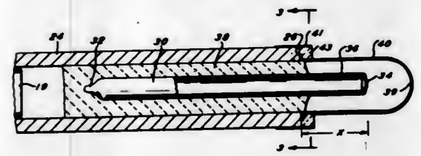
3,369,405
SAMPLING SYSTEM
Robert R. Galegar, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 3, 1964, Ser. No. 408,633
7 Claims. (Cl. 73—421)



A system for obtaining an analytical profi'e across a process stream wherein a plurality of samples are simultaneously taken at different locations within the process, each being then separately stored in a separate container. The samples are then sequentially analyzed by a single analyzer. A cross section of the composition of the process materials is thus obtained for the instant that the samples were taken.

Method for obtaining an analytical profile across a process system comprising obtaining a plurality of sample streams simultaneously from the process, separately storing each sample stream and sequentially analyzing the individually stored samples to obtain the analytical profile; and apparatus for trapping a plurality of samples which are collected simultaneously for subsequent individual analysis by means of a system of solenoid valves and tanks.

3,369,406
MOLTEN MATERIAL SAMPLING APPARATUS AND METHOD
Marvin J. Lowdermilk, Haddonfield, N.J., and Frank A. Herbsleb, Langhorne, and Frank C. Arrison, Huntingdon Valley, Pa., assignors to Electro-Nite Co., a corporation of Pennsylvania
Filed Dec. 29, 1964, Ser. No. 421,792
12 Claims. (Cl. 73—425.6)



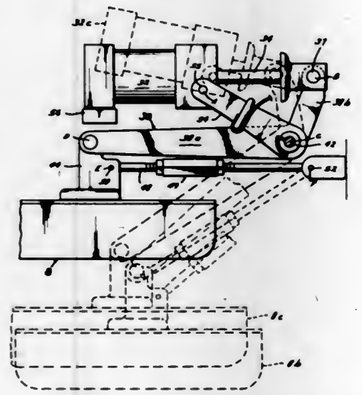
An expendable evacuated vitreous vessel closed at both ends and partially surrounded by insulating refractory is provided for sampling molten metal. One end of the vessel projects beyond the refractory by a distance of 3 to 5 times its inner diameter and is closed by a vitreous button having a lower melting point.

3,369,407
DOSING SPOON
Gary L. Hein, Decatur, Ill., assignor to Lincoln Laboratories Inc., Decatur, Ill., a corporation of Indiana
Filed Apr. 2, 1965, Ser. No. 445,195
5 Claims. (Cl. 73—427)



An inexpensive dosing spoon is provided for accurate administering of a liquid dose of a therapeutic without spillage. The spoon is provided with measuring indicia molded into the bowl portion. Spillage is prevented by means including a handle connecting to the upper edge of the bowl portion and a smooth, rounded bead provided along the remainder of the edge of the bowl portion and in part projecting inwardly of the bowl. The bead provides reinforcement for the thin plastic bowl and for the juncture between the bowl and handle.

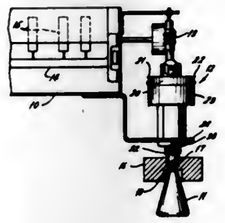
3,369,408
UNIVERSAL PROBE MOUNTING APPARATUS
Richard E. Bach, Hilliard, and Donald J. Tompos, Kettering, Ohio, assignors to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Jan. 11, 1965, Ser. No. 424,499
12 Claims. (Cl. 73—432)



An actuating linkage for positioning a probe against a sheet to be measured wherein an air cylinder is supported from an axle about which the linkage pivots. The piston rod of the cylinder is connected to one end of the linkage and extended to position the probe against the sheet. A spring torsion member is connected between the axle and the cylinder support to rotate the cylinder about the axle when the piston rod is fully extended as the probe follows the sheet.

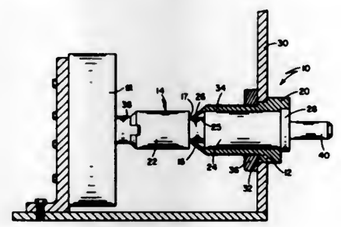
3,369,409
CONTROL MECHANISM
Robert J. Cinkutis, Croydon, and Stanley R. Kuczynski, Philadelphia, Pa., assignors to Philco-Ford Corporation, a corporation of Delaware
Filed Feb. 16, 1966, Ser. No. 527,940
8 Claims. (Cl. 74—10)

7. Control mechanism for a radio receiver, comprising a tuner; inner and outer shafts, one of said shafts being arranged for setting said tuner, the other shaft having means mounted thereon for controlling the volume of the sound output of the receiver and said inner shaft being journalled in the outer shaft; and as means for preventing



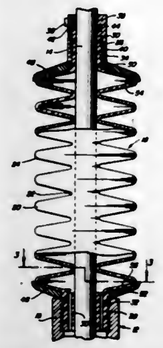
inadvertent turning of said one shaft, a brake drum rotatable with said shaft, and stationary brake shoe means permanently bearing against said drum, said shafts, brake drum, brake shoe means and means for controlling volume being in nested concentric relation.

3,369,410
BUSHING STOP MECHANISM
John Clayton, Jr., Stow, Mass., assignor to Waters Manufacturing, Inc., Wayland, Mass., a corporation of Massachusetts
Filed Feb. 24, 1966, Ser. No. 529,807
8 Claims. (Cl. 74—10.2)



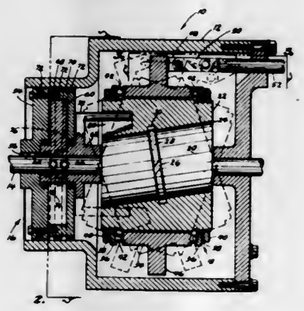
8. A rotary adjustable shaft and bushing assembly comprising, in combination;
a substantially cylindrical bushing element; and
a substantially cylindrical shaft element mounted coaxially within for rotation relative to said bushing element,
said shaft element comprising first and second coaxial, axially-spaced body portions having therebetween a cylindrical resilient plastic intermediate surface portion having a smaller diameter than either of said body portions, and
said bushing element including an inwardly deformed end portion having a diameter less than the diameter of either of said body portions of said shaft element located within and in running contact with said intermediate portion of said shaft element and spaced from the walls thereof for preventing substantial axial movement of said shaft element relative to said bushing element,
said shaft and bushing elements each including integral stop means for limiting the rotation of said shaft element relative to said bushing element,
said stop means each being of V shape with their mutually contacting surfaces relatively flat and parallel to one another on contact.

3,369,411
ACCORDION TYPE PUMP ROD SEAL
James L. R. Hines, 826 Rivercrest, Abilene, Tex. 79605
Filed Oct. 5, 1965, Ser. No. 493,010
4 Claims. (Cl. 74—18.2)



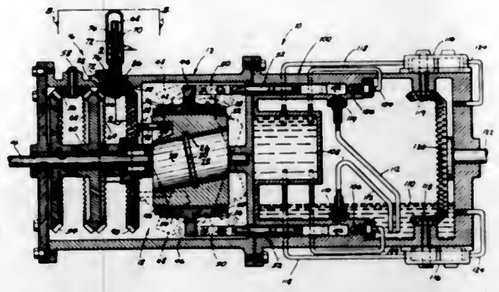
A one piece elongated longitudinally compressible bellows member including opposite end outwardly projecting neck portions provided with aligned bores opening into the interior of the bellows member, one of the neck portions being adapted to be secured to the neck portion of a pumping T and the other of the neck portions being adapted to be secured to an associated pump rod for reciprocation therewith and each of the neck portions including an annular abutment member secured on its inner end and abuttingly engaged with the remote surfaces of the endmost greater dimensioned sections of the bellows member.

3,369,412
VARIABLE SPEED TRANSMISSION
Douglas F. McFarland and David Lee McFarland, both of Davis City, Iowa 50065
Filed Aug. 30, 1965, Ser. No. 483,748
10 Claims. (Cl. 74—60)



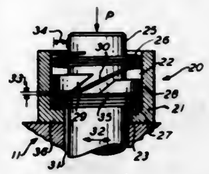
A swash plate assembly having an elongated shaft, a cylindrical member mounted on the shaft at an angle to the longitudinal axis of the shaft, a second cylindrical member having an opening therethrough and said first cylindrical member mounted in said opening, said first cylindrical member and the opening of the said second cylindrical member having a common longitudinal axis, control means for selectively interconnecting and rotating said first and second cylindrical members relative to each other wherein the outer peripheral surface of the second cylindrical member has a uniform radius of curvature about its center longitudinal axis at times and at other times has a radius of curvature which varies along the length of the outer surface of the second cylindrical member whereby in the latter positions points on the outer surface of the second member move back and forth along the longitudinal axis of the shaft as the shaft is rotated.

3,369,413
VARIABLE SPEED TRANSMISSION
Douglas F. McFarland and David Lee McFarland, both of Davis City, Iowa 50065
Continuation-in-part of application Ser. No. 483,748, Aug. 30, 1965. This application Dec. 30, 1965, Ser. No. 517,612
9 Claims. (Cl. 74—60)



A transmission having a swash plate assembly including an elongated shaft, a cylindrical member mounted on the shaft at an angle to the longitudinal axis of the shaft, a second cylindrical member having an opening therethrough and said first cylindrical member mounted in said opening, said first cylindrical member and the opening of the second cylindrical member having a common longitudinal axis, control means for selectively interconnecting and rotating the first and second cylindrical members relative to each other wherein the outer peripheral surface of the second cylindrical member has a uniform radius of curvature about its center longitudinal axis at times and at other times has a radius of curvature which varies along the length of the outer surface of the cylindrical member whereby in the latter positions points on the outer surface of the second cylindrical member move back and forth along the longitudinal axis of the shaft as the shaft is rotated, and said first and second members being rotatably mounted in a nonrotatable sleeve member to thereby cause rectilinear movement of the sleeve member, a plurality of piston assemblies connected to the sleeve member and being in communication with a manifold which in turn is in communication with one or more hydraulic motors, which are coupled to a common output drive gear.

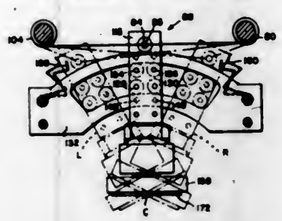
3,369,414
FLEXIBLE THREAD SYSTEM
Jerry P. Helck, Summit, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed June 2, 1966, Ser. No. 554,813
13 Claims. (Cl. 74—89)



1. An adjustable force transmitting mechanism comprising, a housing means having an opening, shaft means movably mounted in said opening, a helical member co-

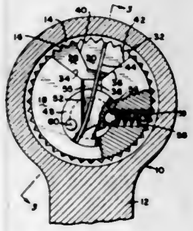
axial with said shaft means and surrounding the same, said helical member being compressible wi.h respect to said shaft means and being fixedly connected at one of its ends to one of said means, a second coaxial helical member surrounding said shaft means and being threaded between the convolutions of said first helical member, said second helical member being fixedly connected to one of said means and being substantially incompressible.

3,369,415
MECHANISM FOR PRODUCING PIVOTAL MOVEMENT OF AN ARM
Stanley M. Slawsky, Rydal, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 1, 1965, Ser. No. 468,702
8 Claims. (Cl. 74—89.22)



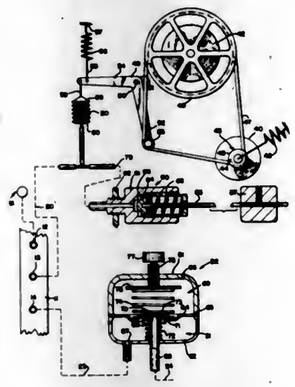
An arm is mounted by means spaced inwardly from the outer end of the arm to provide for pivotal movement of the arm about a point on the arm intermediate the mounting means and the outer end of the arm and is provided with means to oscillate the arm about said point.

3,369,416
RATCHET MECHANISM
Luther E. Kliness, 211 E. Philadelphia St., Rapid City, S. Dak. 57701
Continuation-in-part of application Ser. No. 837,259, Aug. 31, 1959. This application Sept. 26, 1960, Ser. No. 58,408
17 Claims. (Cl. 74—157)



1. In a reversible ratchet mechanism, the combination of two body members mounted together for relative rotary motion, one of said body members having a cylindrical surface and the other of said body members having an arcuate surface, said surfaces being complementary and positioned one inside the other, said one body member having a series of ratchet teeth on the cylindrical surface thereof and said other body member having a recess therein confronting said ratchet teeth, a pawl carried in the recess having an arcuate side provided with a plurality of teeth, the teeth of said pawl being adapted to concurrent driving engagement with the ratchet teeth of said one body member, the pawl being sufficiently smaller than the recess to permit circumferential displacement therein as well as withdrawal of the pawl from the ratchet teeth of said one body member, said pawl having an inclined bearing surface on each end of the arcuate side of the pawl with each bearing surface being generally inclined toward the other in a direction away from the arcuate side of the pawl, said recess having two bearing surfaces positioned to engage the pawl bearing surfaces, one recess bearing surface serving as the thrust bearing for one driving direction and the other recess bearing surface serving as the thrust bearing for the other driving direction, and control means for urging the pawl into reversible driving engagement with the ratchet teeth of said one body member, said control means comprising a flexible and resilient control element engaging the pawl centrally of said pawl teeth for urging the pawl selectively against either bearing surface of the recess, said control means further including a manually operable shift element mounted on said other body member for rotary movement and engaging said control element such that on manual rotation of said shift element said control element is angularly displaced to urge the pawl against a selected bearing surface of the recess.

3,369,417
PNEUMATIC SPEED CONTROL MEANS AND METHOD
Douglas R. Scott, Santa Ana, and Roy W. Houser, Orange, Calif., assignors to Robertshaw Controls Company, Richmond Va., a corporation of Delaware
Filed Feb. 23, 1965, Ser. No. 434,476
11 Claims. (Cl. 74—230.17)

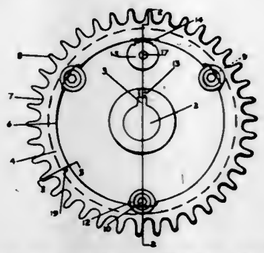


This disclosure relates to a washing apparatus or the like that has the cycle of operation thereof automatically controlled by a timer movable program member that interconnects and disconnects a vacuum source to and from various pneumatically operated actuator means to control the operation of the apparatus, one of the actuator means controlling the position of a movable sheave relative to a fixed sheave of a motor driven pulley arrangement to vary the speed of spin and/or movement of a movable part of the washing machine in relation to the magnitude of the vacuum signal directed to such actuator means with such magnitude of signal being preselected by a separate selector means of the control system.

3,369,418
TIMING SPROCKET
Karl H. Young, 232 E. Main St., Louisville, Ky. 40202
Filed Jan. 11, 1966, Ser. No. 519,937
5 Claims. (Cl. 74—395)

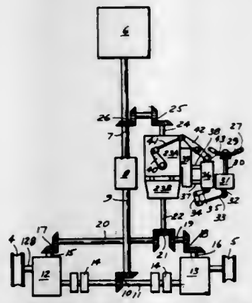
Discloses a timing sprocket for a chain drive, consisting of a hub and sprocket plate in which a series of teeth forming a rack are broached in the step of the plate

sprocket so as to engage with a pinion gear mounted in the shoulder portion of the hub. Therefore, in order to advance or delay the sprocket a fraction of the tooth of the sprocket wheel, the pinion gear is turned to move the sprocket plate while the hub remains locked to the shaft of the driving device. The sprocket plate is clamped



to the hub by the means of clamping bolts which fit into threaded holes in the hub and over elongated notches around the circumference of the inner periphery of the sprocket plate. Thus, when an adjustment is made, the clamping bolts are loosened to allow the sprocket plate to be advanced or delayed relative to the hub.

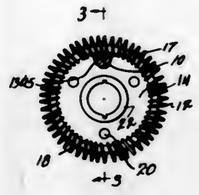
3,369,419
CONTROL DEVICE FOR TRACK-LAYING VEHICLES
Sten August Henstrom, Bofors, and Sven Erik Berge, Stockholm, Sweden, assignors to Aktiebolaget Bofors, Bofors, Sweden, a corporation of Sweden
Filed May 3, 1965, Ser. No. 452,733
Claims priority, application Sweden, May 6, 1964, 5,620/64
6 Claims. (Cl. 74—720.5)



A device for directional control of a track-laying vehicle particularly a combat vehicle which provides for superimposing a driving force to the power driven wheels of the vehicle so that the wheels on one side of the vehicle are driven at a rotational speed different from that of the wheels on the other side of the vehicle, or so that the wheels on one side are driven forwardly and the wheels on other side are driven in reverse to effect a rapid and accurate turning of the vehicle. The device also permits superimposition of directional forces while the vehicle is at a standstill for the purpose of aiming a gun mounted on the vehicle.

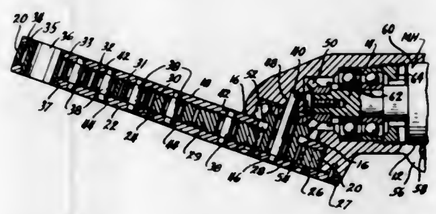
3,369,420
POWER TRANSMISSION MECHANISM
Rudolf A. Spyra, % Burghof Engineering & Manufacturing Co., 1720 W. Diversey, Chicago, Ill. 60614
Filed Nov. 7, 1966, Ser. No. 592,466
10 Claims. (Cl. 74—411)

Power transmission mechanism in the form of coil springs and supports therefor, which can be either rotor or gear type transmission elements, or rack type transmission elements. The coil spring is held against the support by a rigid retainer element for firm anchorage of the spring to the support, and the convolutions of the spring are held accurately spaced by spacer elements which have spaced notches receiving the convolutions of



the coil spring adjacent one or both sides of the support. Thus, the coil spring is rigidly mounted throughout the portion of each convolution adjacent the support to provide a commercially practical gear or rack in which the teeth are resilient yet are not unduly deflected during heavy loading.

3,369,421
POWERED TOOL TRANSMISSION
R. Stanford Short, Bryan, and Phil D. Thorp, Montpelier, Ohio, assignors to The Aro Corporation, Bryan, Ohio, a corporation of Delaware
Filed Aug. 1, 1966, Ser. No. 569,364
6 Claims. (Cl. 74—421)

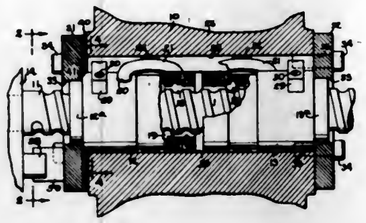


1. In a powered tool of the character disclosed, a head element having means to secure the same to a motor housing and adapted to receive a power shaft projecting from the motor housing and rotated by a motor therein, an elongated substantially flat gear train housing mounted on said head element and comprising a top plate, a bottom plate and an intermediate plate, said intermediate plate having within its outline a cavity for a plurality of intermeshing gears of a gear train, said top and bottom plates having pintle receiving openings, pintles therein, a gear on each pintle, the pintle at one end of said elongated gear train housing being adapted to rotate a tool, the gear surrounding said last mentioned pintle being secured thereto, and the gear at the other end of said gear train housing being operatively connected within said head element to said power shaft.

3,369,422
PRELOADED BALL NUT AND SCREW DEVICE
Richard E. Sears, Birmingham, Mich., assignor to Beaver Precision Products, Inc., Clawson, Mich., a corporation of Delaware
Filed Feb. 16, 1966, Ser. No. 527,832
8 Claims. (Cl. 74—424.8)

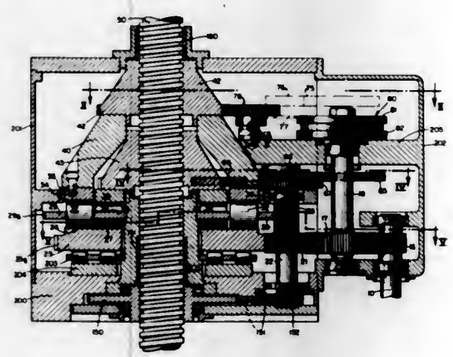
For preloading a series of balls interconnecting and circulating within the raceways of a screw and a pair of

ball nuts telescoped over the screw, a housing surrounds the nuts and keys the nuts against rotation relative to one another so that, when an axial force is exerted on the



nuts by adjustable end plates attached to the housing, the nuts are shifted axially along the screw to preload the balls between the sides of the raceways.

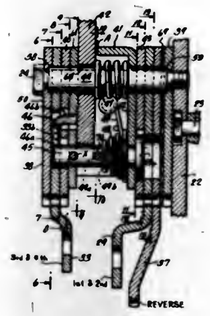
3,369,423
ROLLER ACTUATOR
John M. Hamilton, King of Prussia, and Leonard L. Haas, Downingtown, Pa., assignors to King of Prussia Research and Development Corporation, King of Prussia, Pa., a corporation of Pennsylvania
Filed Nov. 28, 1966, Ser. No. 597,336
11 Claims. (Cl. 74—424.8)



A roller actuator having rotationally-driven concentric inner and outer cam surfaces develops thrust forces which are applied alternately to first and second nuts to move a load stem axially. The first nut is surrounded by a non-rotatable thrust member. This member is interposed between an outer non-rotatable cam and the second nut. The member has an access slot for receiving a gear which is coupled to a non-concentric form of intermittent drive to return the first nut rotationally during the non-thrust-applying part of its cycle. A simple form of nut is used to return the stem in the no-load direction.

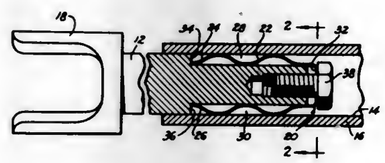
3,369,424
TRANSMISSION CONTROL MECHANISMS
Fred Frey, 501 Grandview Ave., Brooklyn, N.Y. 11237
Filed Oct. 20, 1965, Ser. No. 498,521
11 Claims. (Cl. 74—473)

This invention relates to a transmission control for use in vehicles equipped with manually operated transmissions which have four speeds forward and a reverse speed, whereby to dispense with the "H" pattern of hand movement for the forward speeds and to substitute a shifting pattern in which hand movement from first speed to sec-



ond to third to fourth is in a single plane thus eliminating any lateral hand movement when shifting from first gear through to fourth gear.

3,369,425
ADJUSTABLE NO-LASH AXIALLY MOVABLE STEERING COLUMN
Dean E. Runkle and Richard W. Euler, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Filed Dec. 23, 1965, Ser. No. 515,870
9 Claims. (Cl. 74—493)

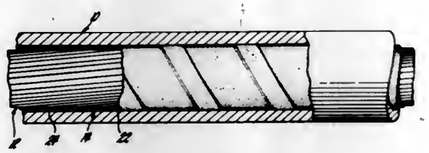


1. An axially movable steering column comprising first and second shafts, one of which is axially movable with respect to the other of said shafts, said first shaft having a polygonal shape and said second shaft having a corresponding polygonal bore therein receiving said first shaft, preloaded means operatively connected to said first and second shafts for causing rotation and continuous frictional engagement of one of said shafts with respect to the other of said shafts to thereby eliminate torsional lash therebetween, and means operatively connected to said preloaded means for varying the preload thereof.

3,369,426
PLASTIC-LINED CONDUIT
Allen S. Matz, Jr., North Wales, Pa., assignor to Teleflex, Incorporated, North Wales, Pa., a corporation of Delaware
Filed Nov. 30, 1964, Ser. No. 414,815
11 Claims. (Cl. 74—501)

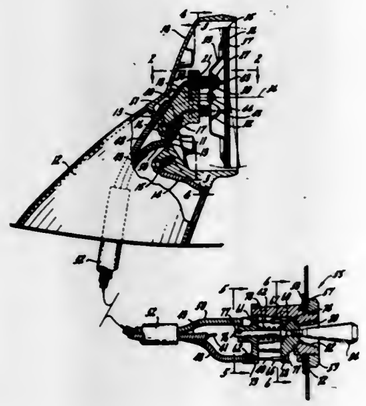
A plastic conduit assembly in which an inner liner is formed of a plastic material, wrapped around an aluminum mandrel in such way as to overlap a portion of the preceding wrap, thereby providing a helical ridge along the length of the liner member. The helical ridge spaces the remaining portions of the liner member away from the guide conduit, so that when bonding material is used to

secure the liner in the conduit a bulk or mass of the bonding material will be disposed between the conduit and the liner. This provides additional mechanical strength for



securing the liner member in the guide conduit. Additionally, by overlapping a portion of the material when wrapping, an inner helical groove is formed to provide lubricant retaining means on the inner side of the liner member.

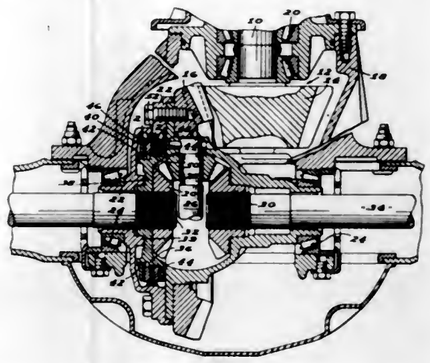
3,369,427
REMOTE CONTROLLED MIRROR
John C. Brighton and George E. Scheitlin, Columbus, Ind., assignors to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana
Filed Oct. 18, 1965, Ser. No. 497,287
7 Claims. (Cl. 74—501)



A remote controlled rear view mirror having a housing containing a support block from which a plurality of pins are biased outwardly. The pins pivotally engage a mirror carried in the housing to form a plurality of pivot points for said mirror. A plurality of cables are connected at one of their ends to the mirror at said pivot points and at their opposite ends to a control member for moving said cables to tilt said mirror.

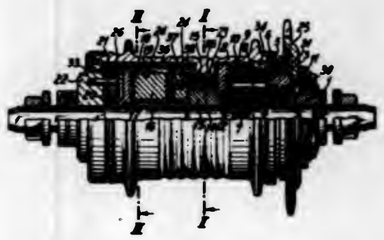
3,369,428
LOCKING DIFFERENTIAL
Douglas Hughson, Southfield, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,863
8 Claims. (Cl. 74—710.5)

A motor vehicle differential assembly having a normally disengaged clutch unit between the differential carrier and one side gear, the clutch consisting of a disc axially slidably splined to the carrier and interleaved with a pair of friction discs loosely mounted on the side gear and axially spaced from a pair of side gear reaction members; whereby, rotation of the carrier in either direction with respect to the side gear causes wedge-like members on the carrier disc to axially spread the loosely mounted



side gear discs into frictional engagement with the reaction members to thereby lock the differential gearset to rotate as a unit, slippage, however, being permitted between the discs during a cornering action of the vehicle.

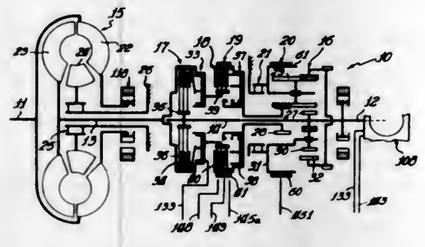
3,369,429
MULTIPLE SPEED HUB WITH AUTOMATICALLY VARYING TRANSMISSION RATIO
Max Kimpflinger and Hans Joachim Schwerdhofer, Schweinfurt am Main, Germany, assignors to Fichtel & Sachs A.G., Schweinfurt am Main, Germany, a corporation of Germany
Filed Nov. 29, 1962, Ser. No. 240,804
Claims priority, application Germany, Dec. 22, 1961, F 35,619
2 Claims. (Cl. 74—752)



1. A multiple speed bicycle hub comprising, in combination:
(a) a shaft having an axis;
(b) a driver member mounted on said shaft for rotation about the axis thereof;
(c) a hub shell mounted on said shaft and rotatable about said axis;
(d) multiple-ratio transmission means mounted in said hub shell and interposed between said driver member and said hub shell for rotating said hub shell at one of the multiple transmission ratios of said transmission means responsive to rotation of said driver member;
(e) centrifugal actuating means rotatably mounted in said hub shell and operatively connected to said transmission means for changing said one transmission ratio thereof to another one of said transmission ratios when the rotary speed of said actuating means differs from a predetermined speed;

(f) motion transmitting means in said hub shell and interposed between the same and said actuating means for rotating the latter at a speed higher than the speed of said hub shell when said hub shell rotates;
(g) wherein said transmission means include a plurality of meshingly engaged transmission members, one of said transmission members being connected to said driver member for joint rotation, and two free-wheeling clutch means respectively interposed between two of said transmission members and said hub shell, said two transmission members being operatively connected for simultaneous rotation at different speeds, and said actuating means include means for disengaging one of said free-wheeling clutch means when the rotary speed of said actuating means differs from said predetermined speed.

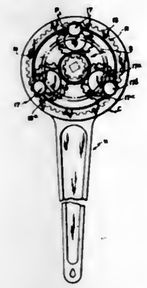
3,369,430
TRANSMISSION CONTROLS
William J. Haley, Muncie, Ind., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 20, 1965, Ser. No. 514,782
5 Claims. (Cl. 74—752)



5. In a tranmission mechanism for an automotive vehicle having an engine and a throttle and throttle actuator for controlling the engine, a drive shaft, a driven shaft, means including a first fluid pressure actuated servomotor for completing a low speed power train between said shafts, means including a second pressure actuated servomotor for completing a high speed power train between said shafts, a source of fluid pressure, a shift valve connected to said source and operable to direct fluid from said source to said servomotors for completing the power trains, said shift valve having a downshifted position in which said low speed power train is completed and upshifted position in which said high speed power train is completed, a governor valve connected to said driven shaft and to said source and adapted to supply a governor fluid pressure that varies with driven shaft speed, a first valve connected between said source of pressure and said servomotor for said low speed power train, said first valve being connected to said governor fluid pressure, said first valve being operable to regulate the fluid pressure being supplied to said low speed power train servomotor in accordance with the speed of the driven shaft to provide for a smooth shift from said high speed drive train to said low speed drive train.

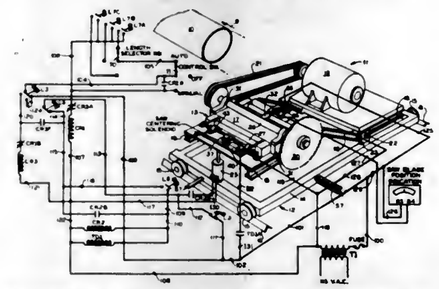
3,369,431
WRENCH
Henry J. Srsen, 6510 Ridgeburg Blvd., Mayfield Heights, Ohio 44124
Filed Nov. 30, 1966, Ser. No. 597,933
7 Claims. (Cl. 81—53)

An internal or external surface gripping, work-end approaching apparatus comprising an internally toothed ring gear joined to a casing to which external torque is applied; a coaxial sun gear; planetaries meshed between the gears, each bearing endwise projecting eccentric work-gripping surfaces and loosely supported in the casing allowing cocking of the axes out of parallelism with the



sun and ring gear axes; and an external accessible sun gear rotating handle for setting the planetaries into work-gripping relation with cocked axes thereby to effect a gearing lock-up, avoiding increasing radial forces on the work with increasing external torque application.

3,369,432
PIPE CUTOFF CONTROL APPARATUS
Paul K. Davis, Alameda, Calif., assignor, by mesne assignments, to First Western Bank and Trust Company, San Francisco, Calif., a banking corporation
Filed Aug. 16, 1965, Ser. No. 479,978
5 Claims. (Cl. 82—53.1)

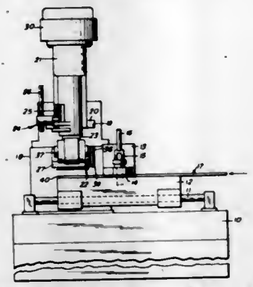


In apparatus for cutting into discrete lengths sheet metal pipe continuously being discharged longitudinally of its axis from a forming machine, including a cutting means carried by a carriage driven axially at approximately the same speed as the pipe during each cutting cycle, a control system which senses axial displacement between the pipe and the cutting means, varies the speed of the carriage to maintain the displacement during the cutting cycle, and returns the cutting means to a neutral position on the carriage between cutting cycle.

3,369,433
APPARATUS FOR CUTTING TRANSVERSE NOTCHES IN A BELT END
Ingvar O. Johansson, Skokie, Ill., assignor, by mesne assments, to Burrell Belting Company, Skokie, Ill., a corporation of Illinois
Filed July 22, 1964, Ser. No. 384,347
5 Claims. (Cl. 83—3)

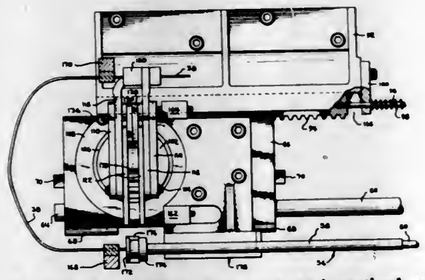
1. In a device of the character described a base, a flat belt supporting table mounted on the support for horizontal reciprocatory movement in a straight path, a belt clamping bar extending across the width of the table, a horizontally elongated arm mounted on the support for horizontal reciprocatory movement in a straight path at right angles to said first straight path, a belt cutting means,

vertically adjustable means for supporting said cutting means at one end of said arm said belt cutting means including a dish-shaped rotary knife mounted above the plane of the table on an axis at right angles to the surface thereof, a second dish-shaped rotary knife mounted on an axis parallel with the path of movement of the table



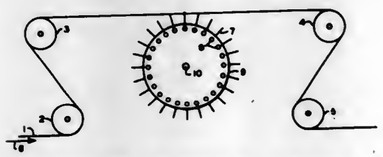
and intersecting the axis of the first rotary knife, said knives being also positioned with their peripheries tangent to each other at one point, the convex surfaces of said knives being disposed adjacent each other, whereby when the end of a belt is clamped on said table a succession of vertically and horizontally offset transverse notched portions may be cut and removed at the end of the belt.

3,369,434
WIRE FEED AND CUTOFF
Glendon Henry Schwalm, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Jan. 28, 1966, Ser. No. 523,656
11 Claims. (Cl. 83—17)



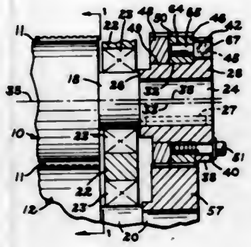
A material handling apparatus and method are provided for loading a predetermined length of wire onto a conveyor. The wire is fed in a first direction and turned to form a U-shaped configuration whereby both ends of the wire are facing the same direction which is opposite to the direction in which the wire was fed.

3,369,435
METHOD AND APPARATUS FOR FIBRILLATING
Harold D. Boultinghouse, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 6, 1965, Ser. No. 511,694
5 Claims. (Cl. 83—30)



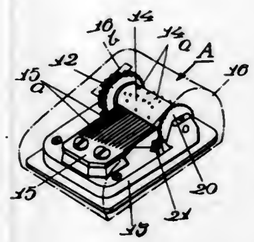
Fibrillatable film fibrillated by impinging thereon a plurality of freely movable, rotating needle means.

3,369,436
APPARATUS FOR PROCESSING A WEB OF MATERIAL
Raymond M. Loase, Dayton, Ohio, assignor to The Schriber Company, Dayton, Ohio, a corporation of Ohio
Filed Mar. 30, 1966, Ser. No. 538,641
7 Claims. (Cl. 83—324)



1. In apparatus for performing successive operations at predetermined intervals along the length of a continuously moving web of material and including a pair of parallel spaced shafts supporting a corresponding pair of cylinders between which the web is guided, one of the cylinders having element means mounted thereon and adapted to perform the operations on the web; an improved drive mechanism for maintaining precisely uniform spacing between the successive operations on said web, comprising a gear having a plurality of teeth, means mounting said gear on one of said shafts for movement of the pitch circle axis of said gear teeth relative to the axis of said shaft, means for driving said gear in timed relationship with the movement of the web, and means for adjusting the pitch circle axis of said gear teeth relative to the axis of said shaft to provide for precision positioning of said teeth on said gear relative to said element means and said axis of said shaft.

3,369,437
SOUND PRODUCING DEVICE SUCH AS A MUSIC BOX OR THE LIKE
Yosiro Osuzyo, Tokyo, Japan, assignor to Kabushiki Kaisha Sankyo Seiki Seisakusho Shimosuwa-machi, Suwa-gun, Nagano Prefecture, Japan
Filed July 27, 1966, Ser. No. 568,247
4 Claims. (Cl. 84—94)



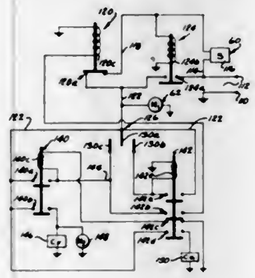
A music box is disclosed including a driving unit, arranged for mounting in a jewel box or the like, to which there may be interchangeably secured, in driving relation, different sound producing units.

The driving unit includes a frame or base for mounting in the jewel box or the like, a motor mounted on the frame, a gear rotated by the motor, and a seat for the sound producing unit. This seat is formed with an aperture aligned with the gear, for exposing the gear.

The sound producing unit includes a reed plate having reeds mounted thereon, the reed plate being mounted on the base of a casing. A rotatable drum is provided with pins arranged to engage and vibrate the reeds to produce the tune. This drum is rotated by a gear which is arranged adjacent an aperture in the casing so that the gear on the sound unit is also exposed.

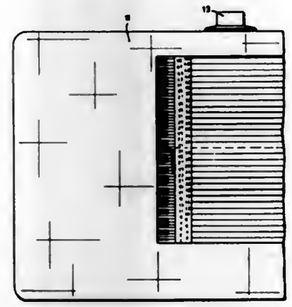
Interengageable means are provided on each sound producing unit and on the seat of the driving unit so that a sound producing unit may be disengageably connected to or mounted upon the driving unit with the two gears in mesh with each other for driving of the sound producing unit drum by the motor of the driving unit. A locking means is provided on the driving unit arranged to normally arrest operation thereof by the motor, which may be a spring motor, for example, and this locking means has a finger or the like engageable by a sound producing unit, when the latter is disengageably connected to the seat of the driving unit, to operate the lock to disengage the driving unit so that the latter may rotate the drum of the sound producing unit.

3,369,438
COIN-OPERATED PLAYER PIANO
Jack H. Lindsey, 703 Betty Hill, Duarte, Calif. 91010, and Thomas W. Rose, 673 Eremland, Covina, Calif. 91722
Filed Feb. 15, 1965, Ser. No. 432,607
10 Claims. (Cl. 84—123)



1. An automatic reversing feed mechanism comprising an elongate driven member to be driven in a forward longitudinal direction from an initial position to a limiting position and in the reverse longitudinal direction from said limiting position to said initial position, means for driving said member between said positions including a unidirectional motor, and a reversible rotary transmission drivably coupling said motor to said member, said transmission including a reversing member movable between a forward position wherein said transmission is conditioned to drive said driven member in said forward direction and a reverse position wherein said transmission is conditioned to drive said driven member in said reverse direction, and electrical operating means for selectively moving said reversing member to said positions thereof, first and second selectively activatably sensing means stationarily mounted proximate to said driven member, first activating means on said driven member for activating said first sensing means when said driven member occupies said initial position, second activating means on said driven member for activating said second sensing means when said driven member occupies said limiting position, and an electrical control system operatively connecting said motor, said operating means, and said sensing means including selectively operable switch means having a normal position and a second position, means responsive to momentary operation of said switch means to said second position thereof simultaneously with activation of said first sensing means for establishing a holding circuit through said motor and simultaneously operating said operating means to move said reversing member to said forward position thereof, thereby to drive said driven member from said initial position to said limiting position, means responsive to activation of said second sensing means while said holding circuit is completed for operating said operating means to move said reversing member to said reverse position thereof, thereby to drive said driven member from said limiting position to said initial position, and means responsive to actuation of said first sensing means while said switch means occupies said normal position for breaking said holding circuit, thereby to terminate driving of said driven member.

3,369,439
MUSICAL SCORE, AND MEANS FOR READING THIS SCORE, PARTICULARLY DESIGNED FOR TEACHING A MUSICAL INSTRUMENT
Ernest Burdet, 39a Ave. des Cerisiers, Pully, Vaud, Switzerland
Filed Aug. 13, 1964, Ser. No. 389,289
Claims priority, application Switzerland, Aug. 15, 1963, 10,087/63; Mar. 11, 1964, 3,105/64
5 Claims. (Cl. 84—483)



1. Apparatus for teaching the playing of a musical instrument comprising a frame, an elongated horizontal band extending lengthwise of said frame, a plurality of spaced parallel lines extending lengthwise of said band and defining at least one musical stave, a plurality of tracks of different position and different length on said stave representing different notes of a score by their position on said stave and representing different note values by their lengths, a plurality of transverse lines on said band defining measures and beats, a vertical reference member transversely overlying said band, a series of indicia on said reference member coinciding respectively with the lines and spaces of said stave and indicating points of actuation of the instrument to be played, means for producing relative movement of said band and reference member in a direction lengthwise of said band, means for regulating the velocity of said relative movement in accordance with the tempo of the music represented by said notes on said stave, and an indicating member applied to the instrument to be played and having adjacent the respective points of actuation of said instrument indicia corresponding to the indicia of said reference member, to assist the player in locating the points of actuation of said instruments corresponding to the notes of the score represented by said tracks on said band, the width of said band and length of said reference member being less than the length of said indicating member.

3,369,440
LIGHTWEIGHT FASTENER
John O. King, Jr., 110 Lake Forrest Lane, Atlanta, Ga. 30305
Filed Feb. 7, 1966, Ser. No. 525,416
6 Claims. (Cl. 85—9)



A lightweight fastener including a head, a tapered shank portion and an attaching portion integral with each other, the head being integral with the larger end of the shank portion and the attaching portion being integral with the other end of the shank portion. A recess is defined in the head and the shank portion so that the wall thickness of the shank portion decreases as the external diameter of the shank portion increases.

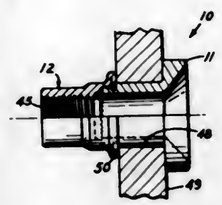
3,369,441
FASTENER WITH TAPERED TOOL ENGAGING SURFACES
John Kosar, % Anchor Engineering Co., 29—09 Bridge Plaza North, Long Island City, N.Y. 11101
Continuation-in-part of application Ser. No. 324,804, Nov. 19, 1963. This application May 4, 1966, Ser. No. 547,624
10 Claims. (Cl. 85—45)



1. In a fastener having a head portion defined by a top surface, said head portion having a central axis and is provided with a plurality of circumferentially disposed driving tool engaging surfaces which are taperingly inclined to the axis of said head portion, and said taperingly inclined driving tool engaging surfaces comprise at least two frusto-conical driving tool engaging surface portions having each an axis of revolution and which axes of revolution are spaced from and parallel to each other so as to provide relative to the central axis radially eccentrically offset frusto-conical portions, and each of said frusto-conical driving tool engaging surface portions provides a rotary driving tool holding wedging surface region which is angularly spaced from the adjacent other driving tool holding wedging surface region, and said frusto-conical driving tool engaging surface portions permit a close driving tool engaging fit so as to produce a tool holding wedging action through a limited rotation of said tool relative to said frusto-conical tool engaging surfaces, hence a relative minimum spacing of said axes of revolution is required.

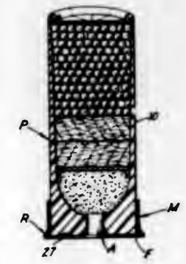
3,369,442
BLIND NUT ASSEMBLY JOINT
Vene L. Darby, Redondo Beach, and Edwin E. Hatter, Torrance, Calif., assignors to Hi-Shear Corporation, Torrance, Calif., a corporation of California
Continuation of application Ser. No. 431,293, Feb. 9, 1965. This application Dec. 8, 1966, Ser. No. 611,502
1 Claim. (Cl. 85—70)

This invention relates to a blind nut assembly and to the joint formed of this assembly and a workpiece. The blind bolt includes a headed sleeve with an external groove near its non-headed end. A nut is adapted to be pulled over the end of the sleeve, its end deflected into the groove, and a mid-portion expanded to form a bulge that



completes the rivet structure. In a preferred embodiment, axial striations are provided on the nut in that region of the bulge which abuts the workpiece, these striations forming rotation-resisting means with the workpiece.

3,369,443
SHOT SHELL PROCESS
John W. Shansey, Alton, Ill., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Oct. 4, 1966, Ser. No. 584,191
3 Claims. (Cl. 86—10)

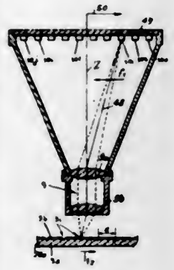


A method of combining a one-piece plastic shot shell case having a flange with a metallic cup having a rim, while insuring that the flange is fully received within the rim and the case is fully seated.

3,369,444
DEVICES FOR READING THE DISPLACEMENTS OF A GRADUATED SCALE
Leonida Patrignani, Florence, Italy, assignor to Mavilor Manufacture de Vilebrequins de Lorette, Lorette (Loire), France, a society of France
Filed June 4, 1963, Ser. No. 285,400
Claims priority, application Italy, June 6, 1962, 25,830
2 Claims. (Cl. 88—14)

1. A device for indicating displacements of a graduated scale as small as the *n*th portion of the distance between two consecutive graduations of said scale which comprises, in combination,
- a first elongated member and a second elongated member, said elongated members being movable relative to each other in a given direction,
- a graduated scale carried by said first member and extending in said direction,
- moving means for moving said members relative to each other in said direction,

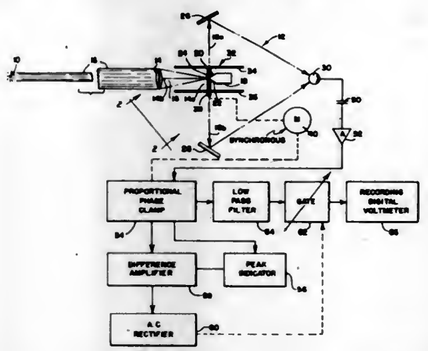
- a multiplicity *n* of photo-electric transducers carried by said second member and spaced at equal intervals to form a row of a length L equal to a multiple of the distance between two consecutive graduations of the scale, the said row having at least a first and a last transducer, the said equal intervals being equal to $1/n$ times the product of said multiple, multiplied by the distance between two consecutive graduations of said scale,
- optical imaging means having a magnification corresponding to said multiple and carried by said second member for projecting an image of a light beam from one of said graduations onto any one of the transducers in said row so that as the first and second members are moved relative to each other in said direction through the distance between two consecutive graduations on the scale, the said image scans a distance across the said row equal to the distance L,



the said imaging means being positioned on an optical path between said graduations and said row such that as the said image scans the row, the image is projected onto each successive transducer of the row and the linear position of the image along the row at any instant during the scanning is dependent upon the position of said one graduation relative to the imaging means,
- the light beam from a graduation of the scale leaving the last of the transducers of the row as the light beam from the successive graduation is about to arrive at the first transducer of the row,
- and a counting means for instantaneously counting the successive passages of the said image on every transducer.

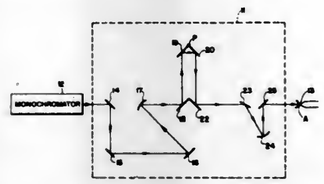
3,369,445
OPTICAL ALIGNMENT ASCERTAINING DEVICE AND PROCESS FOR ELIMINATION OF REFRACTIVE EFFECTS
Douglas A. Kohl, Osseo, Minn., assignor, by mesne assignments, to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed Sept. 9, 1963, Ser. No. 307,516
12 Claims. (Cl. 88—14)

5. Apparatus for determining the extent of misalignment between an axis of a sighting instrument and a line of sight from said instrument to a source of light, wherein light from said source is refracted to produce different wavelength components, which apparatus comprises:
- beam splitting means having an axis of symmetry for separating light incident thereon into first and second paths, said beam splitting means being effective to split each of said different wavelength components according to the location of incidence thereof relative to said axis;
- means for detecting for each said different wavelength component of said components the difference in the intensity of said component in said first path from that of said component in said second path to produce a difference output for each of said different wavelength components;
- means for comparing the maximum one of said difference outputs with each of said difference outputs;
- means for generating a signal indicative of the relative magnitude of said maximum ones of said difference outputs and said difference outputs; and
- means rendered effective when said signal reaches a predetermined level for determining the difference between the intensity of said different wavelength components in said first path and that of said different wavelength components in said second path to indicate the extent of said misalignment.



12. The process of eliminating the effect of refraction in the alignment of a reference line of a sighting device with a line of sight extending from a source of light to said sighting device, which comprises the steps of:
- pointing said sighting device generally toward said line of sight to permit light from said source to impinge upon said reference line, refraction of said light being effective to produce spaced, different wavelength light components, said light which is unrefracted having said different wavelength components bunched so that said spacing is less than a given amount;
- measuring the amount of said spacing of said different wavelength components; and
- when said measured amount of spacing is less than said given amount of said spacing measuring the distance between said bunched components and said reference line to indicate the alignment of said sighting device with said line of sight.

3,369,446
REFLECTANCE ACCESSORY
Donald Everett McCarthy, La Habra, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Dec. 16, 1963, Ser. No. 330,775
9 Claims. (Cl. 88—14)



A reflectance accessory for use in optical analyzers is disclosed which may be interposed in the sample compartment of such analyzers without changing the position

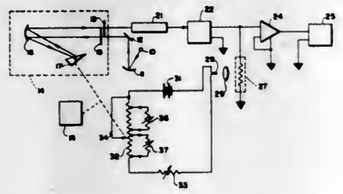
of focus of the original source image. The reflectance accessory generally consists of a collimating device for collimating radiation from the source which is then reflected to a corner reflector, which may consist of a sample surface and a reflecting surface mounted at right angles or in the case of attenuated total reflectance work a right angle prism, mounted for rotation such that the angle of incidence of the radiation may be varied. Radiation from the sample is then refocused at the point of original focus of the source image.

3,369,447

GAIN CONTROL FOR SPECTROPHOTOMETERS

William S. Gallaway, Fullerton, and Franklyn L. Waska, La Habra, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed June 10, 1964, Ser. No. 374,056
7 Claims. (Cl. 88—14)



1. In a spectrophotometer having a wavelength drive means and a radiation sensing means wherein the electrical output signal varies as a function of wavelength, the improvement comprising:

a radiation source;

a photosensitive impedance means connected to said radiation sensing means for controlling the output thereof and positioned to receive radiation from said source; and

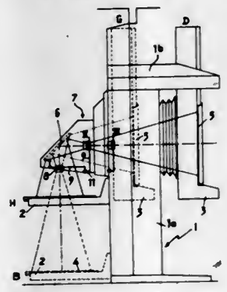
means for controlling the intensity of the radiation impinging upon said photosensitive impedance means as a function of the wavelength of the radiation impinging upon said radiation sensing means, such that variations in the output of said radiation sensing means as a function of wavelengths in the absence of absorption by a sample are substantially compensated.

3,369,448

PHOTOGRAPHIC REPRODUCING APPARATUS

Henri Dacquay, 180 Ave. de Paris, Chatillon Sous Bagneux, Seine, France

Filed Jan. 28, 1965, Ser. No. 428,719
Claims priority, application France, Feb. 3, 1964, 962,439; Dec. 24, 1964, 999,924
10 Claims. (Cl. 88—24)



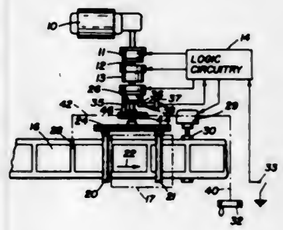
A photographic reproduction apparatus is disclosed as including a positive document carrier, a negative film carrier, an objective carrier and optical image transfer means, such as a mirror, between the document carrier and the film carrier, and at least one objective on the objective carrier means, to obtain on the negative film an enlarged or reduced image of the positive document. Means are provided to mount the objective carrier for selective pivotal movement relative to the optical image transfer means between a first position, wherein an objective is positioned between the document carrier and the optical image transfer means and provides a first scale of reproduction, and a second position wherein an objective is positioned between the film carrier and the optical image transfer means and provides a second scale of reproduction.

3,369,449

WEB DRIVING MECHANISM

Ralph E. Klauss and Michael A. Petranto, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Apr. 12, 1965, Ser. No. 447,386
13 Claims. (Cl. 88—24)



1. A film metering device for advancing a film strip along a predetermined path to a printing location comprising:

a pointer positionable along the predetermined path according ot the location of a trailing edge of a frame of the film strip prior to its advance to the printing location;

means for positioning said pointer;

metering rollers drivable to advance the film toward said location;

roller drive means;

a stop switch;

a member drivable between a first position and a second position during film advancing by said metering rollers, for operating said stop switch upon reaching said second position;

means coupled to said pointer and under the control of said positioning means for determining the first position of said member; and

means responsive to operation of said stop switch for de-energizing said roller drive means and for causing said member to return to the first position.

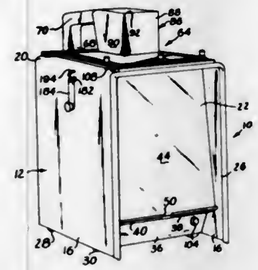
3,369,450

MICROFICHE VIEWER

Arnis Edward Peters, La Crosse, Wis., assignor to The Microcard Corporation, a corporation of Wisconsin

Filed Sept. 10, 1965, Ser. No. 486,303
6 Claims. (Cl. 88—24)

A portable microfiche viewer is provided by a rectangular box-like frame enclosing therein enlarging and projecting means with one side of the box defined by an inclined and recessed translucent viewing screen. The microfiche is supported on a holder and frame positioning means carried on the top side of the box. A source of light is spaced above the microfiche holder and is carried by an arm that is constructed to serve as a carrying handle for the viewer and to accommodate the full range of movement of the holder and frame positioning means. The microfiche holder and positioning means employs two sets of oppositely facing tracks and two separate manual controls for selectively transporting the microfiche in di-



rections perpendicular to each other so as to align selective frames of the fiche with the source of light. Two controls on a side wall of the box permit of selective use of two different magnification lenses and focusing of the projected image.

3,369,451

MOUNTING BELT FOR FILM TRANSPARENCIES

Ralph H. Brandt, 123 Columbia St., and John P. Schoentgen, 390 S. Grand Ave., both of Pasadena, Calif. 91105

Continuation-in-part of application Ser. No. 320,992, Nov. 4, 1963. This application July 27, 1966, Ser. No. 568,242
12 Claims. (Cl. 88—26)



The present invention is directed to mounting means for film strip and slides and more particularly to such a mounting including an optically clear supporting belt carrying a clear shield strip parallel thereto and with the film strip or slide supported between the belt and shield strip.

3,369,452

PROJECTOR FOR DIAPOSITIVES WITH DOUBLE OPTICAL PROJECTION SYSTEM

Georges Grenier, 95 Rue des Entrepreneurs 15 (Seine), Paris, France

Filed Oct. 20, 1966, Ser. No. 588,021
Claims priority, application France, Oct. 22, 1965, 35,963
4 Claims. (Cl. 88—28)

4. Apparatus for projection of diapositives, comprising, in combination:

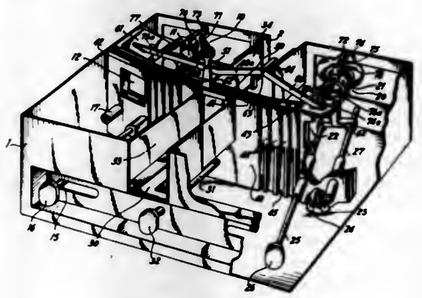
(a) a casing,

(b) a first and a second optical system each comprising a source of light, means for concentrating the rays coming from said source of light, a projection lens, and at least one total-closure diaphragm arranged in front of said lens and constituted by two pivoted blades mounted on horizontal shafts rigidly fixed to said lens, said optical systems comprising at their lower portions, housings of oval shape adapted to cooperate with the horizontal shafts rigidly fixed to said casing,

(c) a magazine for diapositives arranged between said optical systems, said magazine comprising a front compartment and a rear compartment, a threaded rod supported on said casing and permitting the axial displacement of said magazine,

(d) a first and a second projection window interposed between said sources of light and said respective lenses,

(e) two deformable passage elements arranged transversely on each side of said magazine and communicating with the two compartments of said magazine, said passage elements coupling said compartments to said projection windows, the passage elements being constituted by a plurality of vertical portions articulated on each other,



(f) a flexible tongue comprising a central portion and two terminal portions articulated with respect to said central portion and comprising a horizontal shaft, said tongue comprising an abutment on each of the rear faces of said terminal portions and wedge-shaped lugs on the front face of each of said terminal portions,

(g) a balance comprising a beam and two trays, said trays acting on cams rigidly fixed to said horizontal shafts carrying said pivoted blades of said total-closure diaphragms.

3,369,453

RECOIL BOOSTER FOR FULLY AUTOMATIC, SEMI-AUTOMATIC AND/OR SINGLE-SHOT FIRING WEAPONS

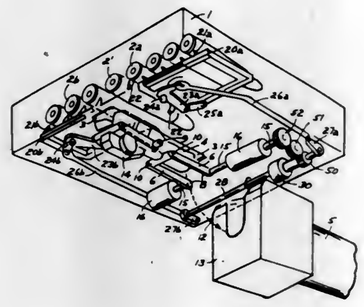
Hartmut Menneking and Hermann Henning, Dusseldorf, Germany, assignors to Firma Rheinmetall G.m.b.H., Dusseldorf, Germany

Filed Dec. 10, 1965, Ser. No. 512,900
Claims priority, application Germany, Dec. 19, 1964, R 39,505
3 Claims. (Cl. 89—14)



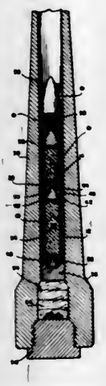
A recoil booster for fully or semi-automatic and single shot firing weapons in which the barrel of the weapon has a mouthpiece arranged near the front end of the barrel and a stub barrel is inserted in the weapon barrel with a mouthpiece in the rear end of the stub barrel. The mouthpieces have nozzle-like bores which are coaxial with each other.

3,369,454
DEVICE FOR FEEDING CARTRIDGES DEPOSITED IN A TWIN CARTRIDGE MAGAZINE OF A GUN
Arent Gustav Carlsson, Karlskoga, Sweden, assignor to Aktiebolaget Bofors, Bofors, Sweden, a company of Sweden
Filed Apr. 28, 1966, Ser. No. 546,034
Claims priority, application Sweden, May 6, 1955, 5,959/65
6 Claims. (Cl. 89—33)



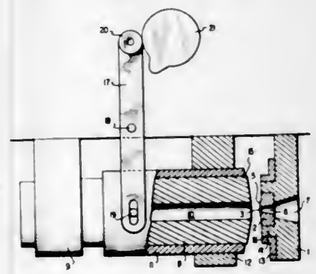
There is disclosed a cartridge feeding device for a gun the magazine of which includes two compartments disposed on opposite sides of the gun and a common discharge opening for cartridges. Cartridge transfer means feed the cartridges, one by one, alternately from the two compartments to the discharge opening. Such alternate feeding of the cartridges is effected when and while the cartridge loading mechanism transports a cartridge picked-up at the discharge opening of the magazine to a position for ramming the cartridge. The movements of the cartridge transfer means and the loading mechanism are synchronized by linkage means interconnecting the transfer means and the loading mechanism.

3,369,455
GUN-LAUNCHED VEHICLES
John W. Jones, Redlands, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Feb. 25, 1965, Ser. No. 435,184
3 Claims. (Cl. 89—1.818)



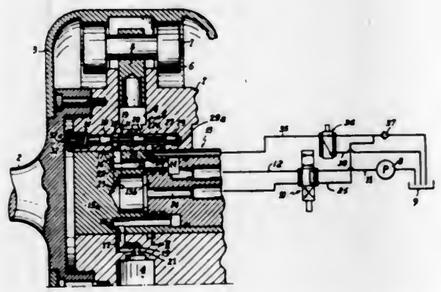
1. A vehicle launching system comprising: a gun having a tube and a propellant charge; a vehicle having rocket propulsion means and being disposed in said tube for launch by said charge; a liquid fluid retained in said tube and suspending said vehicle so that the vehicle case walls on the outside and inside are supported by the fluid during launch, said fluid having a density approximating the density of the vehicle; and an obturator in said tube for transmitting the launch forces from said propellant charge to said vehicle and fluid.

3,369,456
SCALPING APPARATUS
Pier Luigi Lazzerini Fornaci di Barga, Italy, assignor to Società Metallurgica Italiana
Filed Feb. 9, 1966, Ser. No. 526,132
Claims priority, application Italy, Mar. 11, 1965, 5,960/65
9 Claims. (Cl. 90—24)



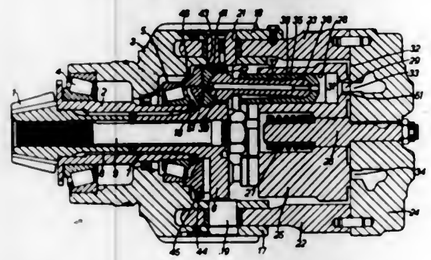
1. Apparatus for scalping elongated work of uniform cross section, comprising a stationary die holder, a scalping die mounted on the die holder, a stationary shearing tool having a cutting edge encompassing the axis of the die, a movable shearing tool having a cutting edge encompassing the axis of the die, and means for moving said movable shearing tool toward and away from said stationary shearing tool to cause the two said cutting edges to coact to cut off material scalped from the work by the die.

3,369,457
HYDRAULIC MOTOR WITH SPEED CHANGE DEVICE
Gabriel L. Guinot, Le Plessis-Belleville, France, assignor to Societe Anonyme Poclain, Le Plessis-Belleville, France, a society of France
Filed May 28, 1965, Ser. No. 459,864
Claims priority, application France, June 3, 1964, 976,862
10 Claims. (Cl. 91—16)



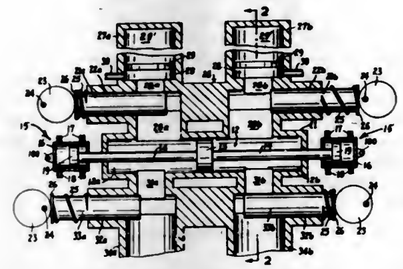
A multi-cylinder hydraulic motor having selective cylinders disconnectable from the source of power fluid having an auxiliary system for continuously supplying low-pressure fluid to those cylinders that are disconnected to prevent undue vibrations and wear.

3,369,458
HYDRAULIC APPARATUS
Victor R. Slimm, Winchcombe, near Cheltenham, England, assignor to Dowty Technical Developments Limited, Cheltenham, England
Filed July 5, 1966, Ser. No. 562,667
11 Claims. (Cl. 91—31)



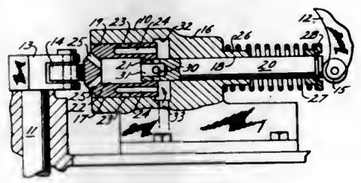
1. A hydraulic motor having the following features in combination:
(a) a rotatable cylinder block intended for rotation in either direction having or supporting cylinders parallel or inclined to the block rotation axis,
(b) pistons in the cylinders reciprocated during block rotation by means external to the block, such for example, as a swash plate,
(c) a non-rotary valve on which the block is arranged to rotate,
(d) a flat valve surface of the valve in rotary contact with a flat block surface of the block,
(e) a pair of main ports in the valve surface having supply and return functions,
(f) cylinder ports in the block surface arranged to pass alternately over the main ports during block rotation,
(g) the cylinder block being arranged for axial and tilting movement to ensure that the valve and the block surfaces remain in close contact,
(h) the holding force exerted on the block by the pressure in the cylinders holding the block against axial or tilting movement away from the valve surface by a parting force generated by hydraulic pressure at the ports,
(i) the two pairs of adjacent ends of the main ports in the valve surface are spaced apart by portions of the valve surface referred to as bridges of which at least one bridge which is of considerably greater angular extent than a cylinder port,
(j) as the center of each cylinder port passes at or near the center of the bridge, the associated piston passes a dear-centre position,
(k) from each main port a restricted flow passage opens into the valve surface in the bridge in the path swept by the cylinder ports,
(l) a small auxiliary valve port is located near the bridge but spaced from the path swept by the cylinder ports,
(m) the auxiliary port is connected by connecting means to the pressure of the main port on to which each cylinder will pass from the bridge near the auxiliary port in accordance with the direction of rotation, and
(n) a plurality of auxiliary cylinder ports extend from the cylinder ports each being arranged for connection to the auxiliary valve port when the associated cylinder port is passing over the bridge.

3,369,459
HYDRAULIC INTAKE AND EXHAUST VALVING ARRANGEMENT
Earl H. Fisher, 630 Casgrain Ave., St. Lambert, Quebec, Canada
Filed Jan. 4, 1965, Ser. No. 423,073
11 Claims. (Cl. 91—39)



1. In a double-acting hydraulic cylinder assembly, the combination of a casing having a chamber therein, a piston positioned in said chamber and having a piston rod projecting at least at one end thereof to the outside of said casing, said casing and said piston being reciprocable relative to each other, said piston dividing said chamber into a pair of chamber portions, said casing being provided with a pair of hydraulic fluid inlet ports and with a pair of exhaust ports communicating with the respective chamber portions, a pair of oppositely acting inlet valves and a pair of oppositely acting exhaust valves provided in the respective inlet and exhaust ports, valve actuating means coordinating opening and closing of said inlet and exhaust valves to produce relative reciprocation of said casing and piston, an external piston provided on the projecting end of said piston rod exteriorly of said casing, an external cylinder containing said external piston, said external cylinder being separate and detached from said casing, said external piston and said external cylinder being reciprocable relative to each other independently of movement of said piston rod, and means for admitting fluid under pressure into said external cylinder selectively to either side of said external piston and discharging fluid from the relatively opposite side.

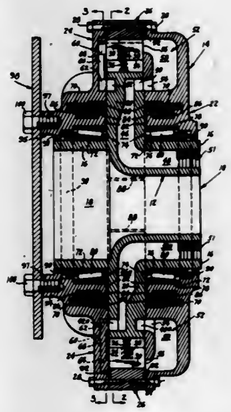
3,369,460
HYDROMECHANICAL LOST MOTION SERVO VALVE
Charles C. Ehlke and Donald K. Strohschein, Naperville, and John W. Yancey, East Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Continuation-in-part of application Ser. No. 363,241, Apr. 28, 1964. This application Apr. 15, 1966, Ser. No. 542,837
3 Claims. (Cl. 91—49)



1. A hydromechanical lost motion servo valve comprising, in combination with a source of fluid pressure and a reservoir therefor: a valve housing having first and second concentric axial bores; a hollow piston disposed for reciprocal movement in the first axial bore, and having third and fourth concentric axial bores, and also hav-

ing first passage means in the head of the piston between atmosphere and the third axial bore, and also having second passage means in the side walls of the piston between the rear surface of the piston and the surface of the side walls of the piston at a point substantially at its mid portion; a plunger of uniform diameter disposed for reciprocal movement in the second axial bore of the housing and in the third and fourth axial bores of the piston and having surface-opening, continuously interconnected axial and radial fluid passageways in the forward end of the plunger; wherein, upon forward axial movement of the plunger to the extent that the radial fluid passageways in the forward end thereof are blocked by the fourth axial bore of the piston, fluid entering the rear portion of the first bore from a port adjacent the forward portion of the second bore causes the piston to advance under hydraulic pressure.

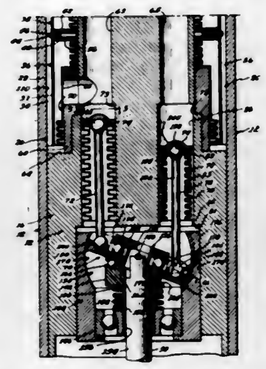
3,369,461
AUTO KINETIC WHEEL OR FLUID MOTOR
Charles P. De Blasi, 74 Braman Road, Waterford, Conn. 06385
Continuation-in-part of application Ser. No. 397,740, Sept. 21, 1964. This application June 9, 1966, Ser. No. 556,489
11 Claims. (Cl. 91—73)



This invention relates to a hydraulic wheel having an internal stationary shaft and an outer segment rotatably mounted thereon for driving a suitable work member, such as a wheel. In accordance with one embodiment of the invention, the propulsion fluid is directed through the stationary portion of the wheel, then through a part of the rotating portion and then to a suitable working segment where the fluid reacts against movable vanes to propel the outer rotary portion of the wheel. In accordance with another embodiment of the invention, the propulsion fluid is directed through the stationary shaft of the wheel into the working segments. Suitable bearings are positioned between the rotary and stationary parts of the wheel and are lubricated by allowing a small portion of the propulsion fluid to leak into the bearing area.

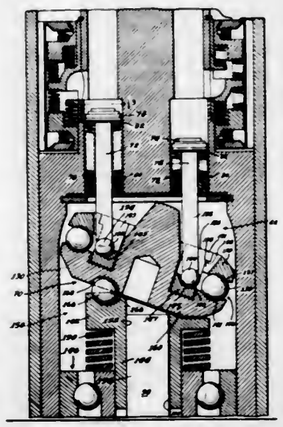
3,369,462
LINEAR ACTUATOR
Richard B. Stanley, 618 Edgemont Lane, Park Ridge, Ill. 60068
Filed Feb. 1, 1966, Ser. No. 524,037
9 Claims. (Cl. 91—413)

The invention relates to a linear actuator, and more particularly to a device for converting rotary motion to linear motion, or vice versa, employing a novel and highly simplified hydraulic collet device for gripping the member to be moved, which involves a series of bladders or chambers filled with hydraulic liquid and arranged in a hermetically sealed relation to lock and release in a



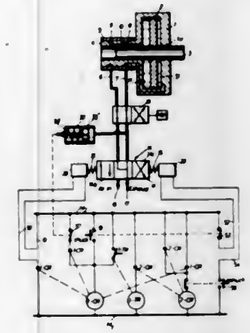
sequential manner to effect a step by step relative movement of, or a secure holding action between, two telescopingly related members under infinitely variable load conditions between no load and maximum design conditions of the device.

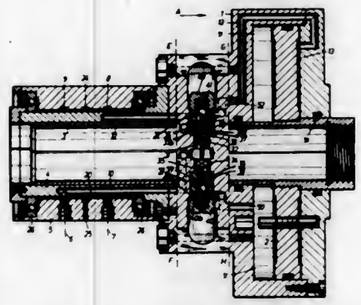
3,369,463
LINEAR ACTUATOR
Richard B. Stanley, 618 Edgemont Lane, Park Ridge, Ill. 60068
Continuation-in-part of application Ser. No. 524,037, Feb. 1, 1966. This application Mar. 2, 1967, Ser. No. 619,988
12 Claims. (Cl. 91—413)



My invention relates to a linear actuator, and more particularly, to a device for converting rotary motion to linear motion, or vice versa, employing a novel and highly simplified hydraulic collet device for gripping the member to be moved, which involves a series of hermetically sealed bladders or chambers filled with hydraulic liquid and arranged to lock and release in a sequential manner to effect a step by step relative movement of, or a secure holding action between, two telescopingly related members under infinitely variable load conditions between no load and maximum design conditions of the device.

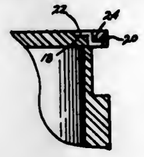
3,369,464
METHOD OF AND APPARATUS FOR ACTUATING DOUBLE-ACTING ROTATABLE CLAMPING MEANS, ESPECIALLY FOR WORKING SPINDLES
Johann Blättry, Dusseldorf, Germany, assignor to Paul Forkardt Kommanditgesellschaft, Dusseldorf, Germany
Filed Jan. 22, 1965, Ser. No. 427,387
5 Claims. (Cl. 91—420)





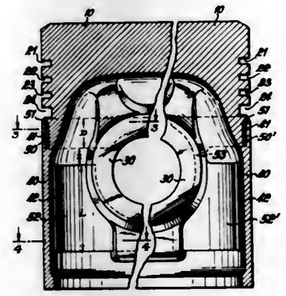
2. A double-acting clamping cylinder piston arrangement for rotatable working spindles of machine tools, which includes: a cylinder, a double-acting piston reciprocable in said cylinder and having a first side and a second side, a rotatable member connected to said cylinder and provided with first and second passage means respectively communicating with said first and second side, a stationary tubular member surrounding said rotatable member in radially slightly spaced relationship thereto so as to confine with said rotatable member a relatively narrow annular gap, said tubular means having its inner periphery provided with axially spaced first and second annular groove means arranged within the range of said annular gap, said first and second annular groove means respectively communicating with said first and second passage means, first and second check valve means respectively interposed in said first and second passage means and operable to open in response to a certain pressure in the respective groove means, first control means interposed between said check valve means and movable from a central position to a first end position and an oppositely located second end position in response to a certain minimum pressure in said first and second groove means respectively to open that one of said check valves which is associated with the respective piston side to be vented, second control means operatively connected to said first and second groove means and operable to vent said first and second groove means when said piston has completed its clamping stroke to thereby cause both of said check valves to close and a venting bore intermediate said grooves continuously venting the radial space between said tubular member and said rotatable member at a point therealong between said grooves to the atmosphere.

3,369,465
PISTONS FOR INTERNAL COMBUSTION ENGINES
John L. Harrah, 79 W. Glendale St., Bedford, Ohio 44014
Filed Feb. 8, 1965, Ser. No. 431,099
1 Claim. (Cl. 92—218)



1. A piston having a cylindrical main body having a skirt with wrist pin bosses positioned immediately above said skirt, said piston being closed at one axial end and open at the opposite end and having a reduced area smaller in diameter than said skirt and extending immediately above said wrist pin bosses, said reduced area to receive an improved form of piston packing, the upper outer peripheral surface of said reduced area having two relatively short annular grooves, the top surface of said piston having shallow rectangularly shaped recesses; an annular retaining ring having tongue-like lugs extending inwardly and downwardly therefrom and having recessed sections on the inside and bottom surfaces; a holding clip placed in said recessed sections of said retaining ring; said retaining ring with holding clip being received on said reduced area of said piston top with said lugs and holding clip out of register with said annular grooves and shallow recesses, said retaining ring with holding clip being rotated to bring said lugs and holding clip into register with said grooves and one of said recesses and being locked against rotation on said piston top by the bending of said holding clip into said shallow recess such that said clip is flush with said piston top.

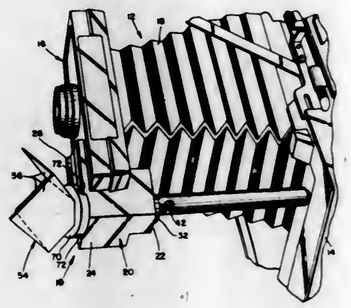
3,369,466
LIGHT METAL PISTON
Rudolf Maier, Stuttgart-Weilimdorf, and Werner Gessinger, Kornwestheim, Germany, assignors to Mahle Komm.-Ges., Stuttgart-Bad Cannstatt, Germany
Filed Dec. 22, 1965, Ser. No. 515,599
Claims priority, application Germany, Jan. 23, 1965, M 63,902
7 Claims. (Cl. 92—229)



In a light metal piston having a skirt joined over its entire circumference to the ring zone of the piston head, the radial heat expansion of the skirt is controlled by two differently shaped inserts having a lower coefficient of

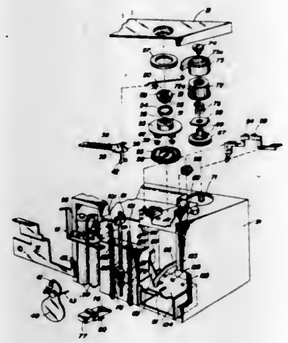
expansion. Ring members are inserted at the top of the skirt and partial cylindrical elements line portions of the interior of the skirt. The upper edge of the ring member is exposed through the outer surface of the skirt to reduce the flow of heat from the piston head to the skirt.

3,369,467
PHOTOGRAPHIC FLASH APPARATUS
Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 24, 1964, Ser. No. 420,985
14 Claims. (Cl. 95—11)



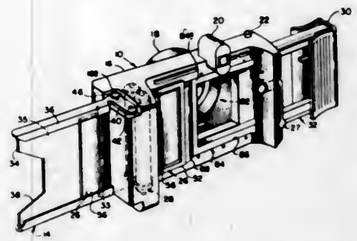
Photographic apparatus employing flash apparatus wherein the amount of light reflected towards the subject to be photographed is varied in relation to the distance between the photographic apparatus and the subject.

3,369,468
CAMERA WITH MULTILAMP PHOTOFLASH MEANS
Hubert B. Sapp, Jr., Edmund F. Deffenbaugh, and Roy E. Merkel, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 30, 1965, Ser. No. 468,211
8 Claims. (Cl. 95—11.5)



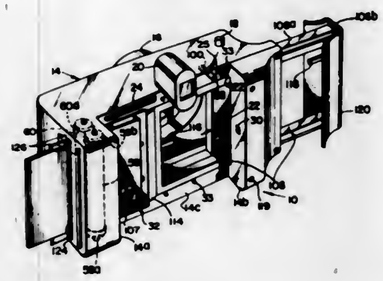
A photographic still camera having a rotatable multilamp photoflash package receiving socket that is coupled to the camera shutter mechanism to rotate the socket and package during resetting of the shutter for successively placing fresh lamps in the camera flash circuit with successive camera operations. A spring motor drive to effect shutter resetting and socket rotation is described.

3,369,469
PHOTOGRAPHIC APPARATUS
Rogers B. Downey, Lexington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 27, 1965, Ser. No. 516,415
16 Claims. (Cl. 95—13)



14. In a camera including a housing, means for effecting a photographic exposure of a multilayered film assembly, and means for transporting said film assembly, after its exposure, between compressive processing means and through an exit aperture of said housing, apparatus complementing said transporting and compressive means for effecting the final processing and physical form of said film assembly, said apparatus comprising a film-assembly receiving chamber adjustably mounted externally of said housing adjacent to said exit aperture, means for holding said chamber, optionally, at an extended position for receiving said film assembly when ejected through said exit aperture, and at a position folded against said housing for compactness when transporting said camera, and means interlocking said chamber and said first processing means for rendering said first processing means inoperative except when said chamber is located at said extended position.

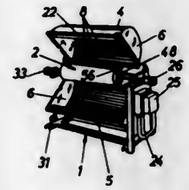
3,369,470
CAMERA APPARATUS
Rogers B. Downey, Lexington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 27, 1965, Ser. No. 516,416
18 Claims. (Cl. 95—13)



9. In a miniature camera including a housing, a lens, shutter and diaphragm assembly, an exposure aperture and means for effecting a photographic exposure, apparatus for so treating a plurality of semi-mounted photographic film assemblies embodying a releasably-confined processing liquid, carried in a magazine and adapted to a diffusion-transfer process of image formation, as to produce finished transparencies for direct viewing and projection, said apparatus comprising mounting and positioning means incorporated with said camera housing and

magazine for mounting said magazine on said housing so that a substantially open face of said magazine is aligned with said exposure aperture, a rectangular frame-like film-assembly transporting element including, respectively, a pair of longitudinal bar members, each projecting at one end through and in slidable engagement with a separate closely-fitting aperture formed in an end of said camera housnig, a pair of transverse bar members interconnecting the extremities of said longitudinal bar members, a contacting member extending at an acute angle rearwardly from the leading one of said transverse bar members in terms of the direction of its film-assembly transporting function, a pair of stud members projecting substantially at 90° inwardly toward one another from said transverse bar members, and a handle for manually actuating said film-assembly transporting element attached to that transverse bar member interconnecting said longitudinal bar members exteriorly of said housing, a pair of rotatable separable pressure rolls having their axes disposed at 90° to said longitudinal bar members and positioned adjacent to an exit-aperture end of said housing, a pair of channel means formed in said housing and extending substantially from one end thereof past said exposure aperture to a location proximate to said pressure rolls, said channel means slidably mounting said longitudinal bar members of the transporting element to enable longitudinal movement of the latter, limit stop means defining the extremes of slidable movement of said transporting element, means providing an elongated light-shielded aperture formed at said exit-aperture end of said housing for passage of said film assemblies therethrough after their photographic exposure and movement between said pressure rolls, and locking means for engaging said transporting element at a given stage of movement thereof to prevent its complete return to a location for engaging a second film assembly before it has completed its transporting function relative to a preceding film assembly, said locking means being mounted within said housing adjacent to said closely-fitting apertures and operative in response to contact by said stud members.

3,369,471
CIRCULAR EXPOSING DEVICE
Kurt Fries and Helmar Weis, Solingen, Germany, assignors to Werner Moll, Solingen-Wald, Germany, a citizen of Germany
Filed June 1, 1965, Ser. No. 460,385
Claims priority, application Germany, May 30, 1964, M 61,196; Aug. 1, 1964, M 619,661; Feb. 5, 1965, M 64,052
10 Claims. (Cl. 95—77.5)



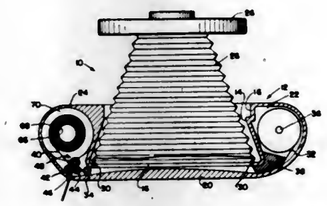
1. A circular exposing device for photo-polymer printing plates, comprising

a rotatable supporting cylinder having a shaft and adapted to carry printing plates,

two tiltable half cups coupled together for a mutual weight balance and defining in their closed position a hollow cylinder disposed coaxially with the longitudinal axis of said supporting cylinder and surrounding said supporting cylinder,

said hollow cylinder having closed end faces and containing a plurality of lighting tubes disposed around the outside of and of about the length of said supporting cylinder and mounted along a curved line.

3,369,472
PHOTOGRAPHIC METHOD OF EXPOSING PHOTOSENSITIVE IMAGE-RECORDING SHEETS
Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Continuation of application Ser. No. 182,243, Mar. 26, 1962. This application Jan. 28, 1965, Ser. No. 428,822
1 Claim. (Cl. 95—79)



1. In a method of producing a succession of positive photographic prints comprising image-forming substances formed from unexposed photosensitive material in areas of a photosensitive image-recording sheet and having image-free borders, the steps comprising:

intermittently moving a photosensitive image-recording sheet to locate a succession of spaced areas of said sheet in position for exposure to light from first exposure means capable of forming images in said areas;

while said image-recording sheet is motionless, exposing one of said areas to light from said first exposure means to form an image therein, and exposing transverse portions of said image-recording sheet extending from side to side thereof and bordering said one area to actinic radiation from second exposure means sufficiently to prevent the subsequent transfer of image-forming substances from said portions;

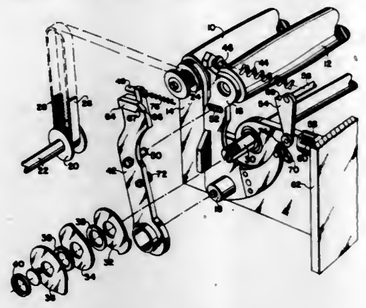
continuously exposing a transverse portion of said image-recording sheet extending from side to side thereof to actinic radiation from said second exposure means at a predetermined intensity level;

and between exposure to light from said first exposure means exposing said spaced areas of said image-recording sheet upon which an image is formed to said second exposure means while moving said image-recording sheet relative to said second exposure means at a rate so related to said predetermined intensity level that said actinic radiation from said second exposure means is insufficient to produce an image in said areas of said image-recording sheet during movement thereof.

3,369,473
PHOTOGRAPHIC PROCESSING APPARATUS
Philip D. Bartlett, Worcester, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed July 12, 1965, Ser. No. 471,314
12 Claims. (Cl. 95—89)

The present invention relates to a photographic apparatus for processing a composite film assembly or unit embodying a releasably-contained processing liquid by compressing and thereby releasing and spreading the liquid throughout at least an exposed photosensitive area. More particularly, the apparatus includes a mechanism having a

plurality of cams, cam followers, and tensioning springs thereon to vary the compressive force applied to the film



assembly or unit and the liquid contained therewith as the photosensitive area is being processed.

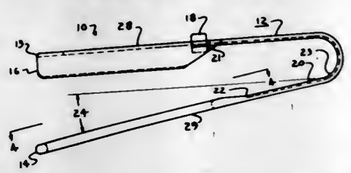
3,369,474

COATING CARTRIDGE HOLDER

William I. Callaghan, 9296 Johnnycake Ridge Road, Mentor, Ohio 44060

Filed Feb. 20, 1967, Ser. No. 617,238

5 Claims. (Cl. 95—89)



A holder for carrying a cartridge which holds an absorbent material which in turn carries a fluid for coating the face of photographs (for example). The holder is a generally U-shaped unitary member with one side having a channel to hold and carry the cartridge and having an ejection member for ejecting the same when desired. The other side of the U-shaped member normally extends at a small acute angle with respect to the first mentioned side so a photograph may be easily inserted between the same and the absorbent material of the cartridge. The two sides can then be pushed together to firmly engage the absorbent material with the face of the photograph.

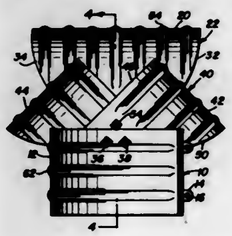
3,369,475

CHIMNEY VACUUM CAP ASSEMBLY

Edward J. Artis, 1201 Harrison Blvd. 83702, and Samuel W. Artis, Jr., 1202 S. Orchard 83705, both of Boise, Idaho

Filed July 1, 1966, Ser. No. 562,270

8 Claims. (Cl. 98—66)



A chimney cap including a slitted tubular body with clamping means for attachment to a chimney top and including a pair of U-shaped gore assembly plates adjustably connected together above the tubular body and fastened to the top of same. The plates are inclined downwardly in a mutually perpendicular fashion. A horizontally oriented U-shaped top plate is positioned above the gore assembly. The leg portions of the top plate are fastened to the tubular body.

3,369,476

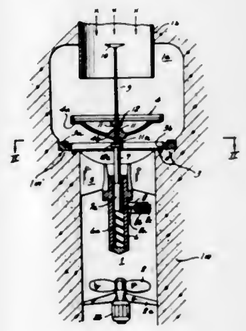
SAFETY VALVE FOR VENTILATING SHAFTS OF SHELTERS AND THE LIKE

Rudolf Seiz and Heinz Eickhoff, Bochum, Germany, assignors to Bochumer Eisenhutte Heintzmann & Co., Bochum, Germany

Filed Sept. 20, 1965, Ser. No. 488,334

Claims priority, application Germany, Sept. 28, 1964, B 78,692

20 Claims. (Cl. 98—119)



7. A safety valve for preventing penetration of shock waves through an elongated ventilating shaft leading to a shelter or the like, comprising a valve seat mounted in the shaft; a main valve member provided in said shaft upstream of said valve seat; hinge means pivotally securing said main valve member to the material surrounding said shaft so that the main valve member is pivotable about an axis which is normal to the longitudinal direction of the shaft and is movable between a normal open position and a second position of sealing engagement with the valve seat; and an auxiliary valve member provided upstream of said main valve member and operatively connected to said main valve member for moving the same from said open position in response to pressure exerted upon said auxiliary valve member by a shock wave which enters the shaft and advances toward said valve seat so that said main valve member is set in motion toward said second position prior to being subjected to the impact of the shock wave.

3,369,477

COFFEE-BREWING DEVICE

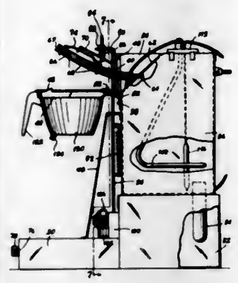
Enioch C. Vittoe, 1213 S. Pasfield Ave., Springfield, Ill. 62704

Filed May 13, 1965, Ser. No. 455,435

13 Claims. (Cl. 99—282)

A coffee-brewing device has a water-heating chamber, a cool water chamber that is connected to the water-heating chamber and that is connectable to a source of water, a float valve in the cool water chamber to control the water levels in that chamber and in the water-heating

chamber, a thermostat in the water-heating chamber that is in the path of cool water entering that chamber so it can quickly initiate heating of the water in that chamber, a filter-receiving funnel that can hold coffee, and a flexible tube that is connected to the water-heating chamber and that can spray hot water onto the coffee in the filter-receiving funnel.



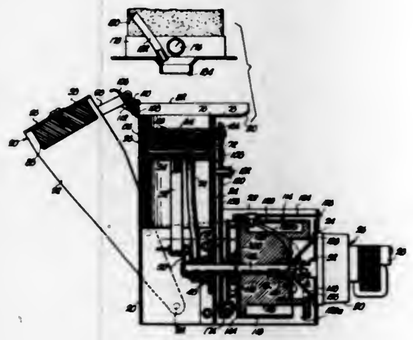
3,369,478

SINGLE CUP, DRY WASTE COFFEE BREWING AND DISPENSING MECHANISM

Stewart L. Black, Lee's Summit, Mo., assignor to The Vendo Company, Kansas City, Mo., a corporation of Missouri

Filed Apr. 22, 1966, Ser. No. 544,435

12 Claims. (Cl. 99—289)



1. In a coffee brewing and dispensing machine:
an unpright brewing cylinder having an open top;
a piston reciprocable up and down in said cylinder;
a filter mounted on the piston thereabove and reciprocable therewith in the cylinder for receiving hot water and ground coffee delivered into the cylinder upon the filter;
power means coupled with the piston for reciprocating the same;
structure operable by said power means to effect closure of said top after delivery of hot water and ground coffee into the cylinder and for opening said top after evacuation of the cylinder of brewed coffee;
means beneath the filter for evacuating the cylinder of brewed coffee flowing through the filter in response to upward movement of the piston while said top is closed; and mechanism operable by said power means for scraping spent coffee grounds off the filter upon said opening of the top.

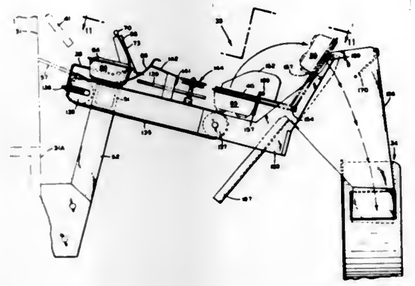
3,369,479

STORAGE, DISPENSING, AND COOKING SYSTEM

Edgar Davidson Oppenheimer, Mamaroneck, N.Y., and Humfrey N. Udall, Darien, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed Oct. 15, 1965, Ser. No. 496,422

8 Claims. (Cl. 99—325)



A food preparing and dispensing apparatus for delivering containers of food received from a plurality of locations into a common dumping mechanism which comprises a collector platform contiguous to said dumping mechanism and whereon material in open containers is deposited for collection, means for depositing open containers on said platform; a collector element movable with respect to said platform to collect containers deposited on said platform and convey them to said dumping mechanism, means to transversely align, on said platform with said collector element containers deposited on the platform, means to actuate said collector element to carry said containers to the dumping mechanism of said platform and a cooking apparatus to receive food separated from the containers.

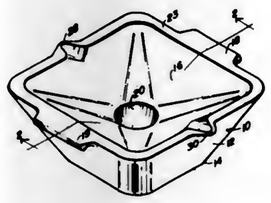
3,369,480

EGG COOKER

Jean-Paul L. Dreyfus, Rego Park, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Jan. 18, 1965, Ser. No. 426,218

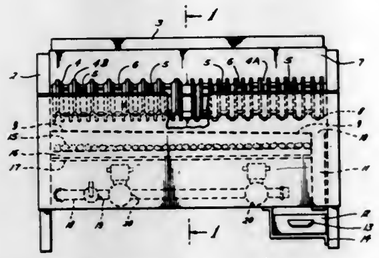
7 Claims. (Cl. 99—440)



1. An egg cooker comprising a massive, unitary body and base, said body being hollow and having an internal taper and said base having one flat surface and a surface opposite said flat surface defining a cavity suitable for accommodating one end of a chicken's egg shell, said base being integral with said body at the tapered end

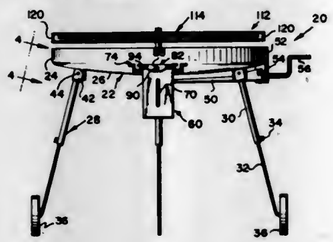
thereof so that the cavity and the internally tapered surfaces smoothly and continuously adjoin, the other end of said body being open.

3,369,481
BROILER
Phillip Miller Pappas, 2318 Bluebonnet Blvd., Houston, Tex. 77025
Filed June 22, 1965, Ser. No. 466,036
7 Claims. (Cl. 99—445)



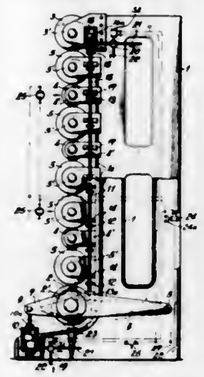
A food broiler having removable, reversible grid sections inclined above a firebox with heated refractory coals with grid sections in one position having multiple U shaped parallel channels with alternate openings between with the channels receiving about two-thirds of the liquefied fats from broiling foods and inclining this fat to a well. The remainder of the fat drops on the heated refractory coals through the alternate openings. With the grid sections reversed the U channels are inverted downward exposing a flat supporting rib on the top portion of each inverted U channel with the alternate openings between directing all of the liquefied fat on the heated refractory coals. A rear exhaust flue passage the full width of the fire box is provided to prevent over-drafts or under-drafts with varying amounts of foods being broiled covering over varying amounts of the alternate openings.

3,369,482
PORTABLE APPARATUS FOR PREPARING EDIBLE PRODUCTS
Richard A. Kahn, 123—60 83rd Ave., Kew Gardens, N.Y. 11415, and Joseph Fanok, 32 Butterfly Drive, Hauppauge, N.Y. 11787
Filed Nov. 12, 1965, Ser. No. 507,412
8 Claims. (Cl. 99—450)



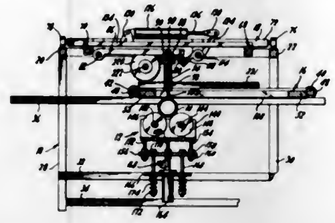
Portable cooking apparatus for use with a solid fuel such as charcoal or the like comprising a bowl provided with an aperture in the bottom thereof, a first set of channels secured relative to the under side of the bowl, a closure slidably supported by the channels beneath the aperture to enable the aperture to be selectively opened and closed, a second set of channels secured relative to the under side of the bowl and an ash container slidably supported by the second set of channels beneath the aperture to enable ashes to be easily emptied from the bowl.

3,369,483
ADJUSTING DEVICE FOR FAST VENTING AND ROLLER FINE ADJUSTMENT, ESPECIALLY FOR PAPER SATINING CALENDERS
Gernot Müller, Krefeld, Germany, assignor to Joh. Kleinewefers Sohne, Krefeld, Germany
Filed Apr. 13, 1966, Ser. No. 542,251
Claims priority, application Germany, Apr. 14, 1965, K 55,816
9 Claims. (Cl. 100—47)



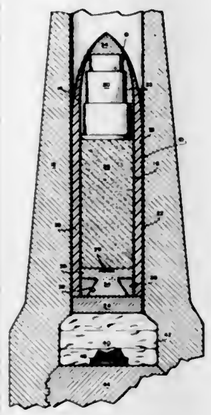
1. A paper satining calender which comprises: frame means, substantially vertical guiding means supported by said frame means, a plurality of bearing means superimposed in vertically spaced relationship to each other and vertically movable on said guiding means, a plurality of first abutment means supported by said frame means and arranged in vertically spaced relationship to each other for limiting the downward movement of said superimposed bearing means on said guiding means, roller means respectively supported by said superimposed bearing means, first additional bearing means arranged above the uppermost one of said superimposed bearing means and stationarily arranged with regard to said frame means, first additional roller means rotatably supported by said first additional bearing means and adapted selectively to be engaged and disengaged by the uppermost one of the roller means supported by said superimposed bearing means, second additional bearing means arranged below the lowermost one of said superimposed bearing means and movable relative to said frame means, second additional roller means rotatably supported by said second additional bearing means and adapted selectively to be moved from a position out of engagement with the lowermost one of the roller means supported by said superimposed bearing means into engagement with said lowermost one of said roller means for causing all of said roller means to engage the respective adjacent roller means, first pressure fluid operable means operatively connected to said second additional bearing means and operable selectively to move the same and thereby said second additional roller means downwardly and upwardly, substantially vertical spindle means axially movable relative to said superimposed bearing means, second pressure fluid operable means operatively connected to said spindle means for selectively moving the same into and holding the same in a first and second position, and a plurality of second abutment means arranged on said spindle means in vertically spaced relationship to each other and also operable to limit the downward movement of said superimposed bearing means, the spacing between said first abutment means and the spacing between said second abutment means increasing progressively in the downward direction but the spacing between said second abutment means being less than the spacing between corresponding first abutment means.

3,369,484
DIAGONAL-PRINTING SCREENING MACHINE
Earl G. Cross, Du Quoin, Ill., assignor to Turco Manufacturing Company, Du Quoin, Ill., a corporation of Missouri
Filed Mar. 9, 1967, Ser. No. 621,860
10 Claims. (Cl. 101—38)



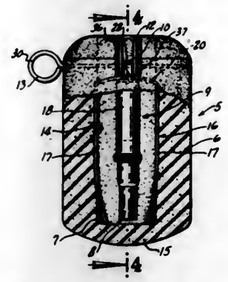
A screening machine for printing multi-color spiral patterns around the circumference of a cylindrical object. A screen frame partitioned into diagonal color compartments is moved across the object, with the screen in contact therewith, in one uni-directional printing stroke normal to the axis of the object, while the object is supported for rotation therebeneath. A squeegee member is located within each diagonal compartment of the screen frame and the squeegee members are moved together in synchronization with the movement of the screen frame, in a direction axially of the object to follow the diagonal extent of the moving color compartments.

3,369,485
THIN-WALLED, GUN-LAUNCHED VEHICLES
John W. Jones, Redlands, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Apr. 12, 1965, Ser. No. 447,429
14 Claims. (Cl. 102—49.3)



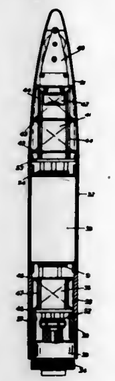
1. A gun-launched vehicle comprising: a thin-walled vehicle casing with a cylindrical body and a converging nose portion; a payload in the nose portion; a sheath around said casing body, said sheath containing a medium which acts like a fluid in transmitting pressure under high acceleration; an end-burning solid propellant grain contained in said casing; a cavity in the casing below said grain; discharge nozzle means disposed below said cavity; a fluid in said cavity and in the nozzle opening, said medium and fluid serving to minimize load differentials across the casing walls during launch of the vehicle; and a casing base detachable upon launch to permit discharge of the fluid.

3,369,486
TRAINING HAND GRENADE
Ander Karl Holger Wrennstad and Bror Teofild Kluft, Halmstad, Sweden, assignors to Saab Aktiebolag, Linkoping, Sweden, a corporation of Sweden
Filed July 12, 1966, Ser. No. 564,609
Claims priority, application Sweden, July 19, 1965, 9,505/65
7 Claims. (Cl. 102—64)



1. A training hand grenade of the character described, comprising:
A. a body having substantially thick wall portions of soft spongy material defining an elongated bore;
B. means for producing an identifying flash comprising
(1) a combustible cartridge having an igniter, and
(2) a firing pin biased toward the cartridge; and
C. substantially rigid means for supporting the cartridge and the firing pin in coaxial relationship in the bore in the body, said supporting means having portions engaging opposite surfaces of the bore, along a substantial portion of the length thereof, under radially outward bias to afford form retaining support to the body and to confine the flash producing means against axial displacement out of the bore.

3,369,487
PROXIMITY FUZES FOR PROJECTILES
William Alan Stewart Butement, Edward Samuel Shire, and Amherst Felix Home Thomson, London, England, assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 23, 1943, Ser. No. 503,523
13 Claims. (Cl. 102—70.2)

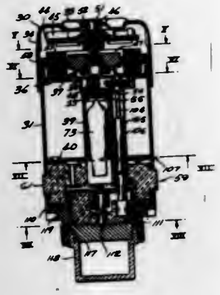


1. In a projectile, a proximity fuze comprising a radio transmitter and receiver, a common aerial for said transmitter and receiver, and a relay arranged to initiate operation of the fuze on receipt of triggering energy, said receiver being respective to radio frequency energy transmitted from said aerial to and reflected back to said aerial from a target to trigger said relay.

3,369,488
ELECTRONICALLY ENERGIZED DEVICE

Edwin T. Sherwood, Herbert L. White, Harry W. Rubinstein, and George M. Ehlers, Milwaukee, Wis., assignors to Globe-Union, Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed May 31, 1946, Ser. No. 673,460
2 Claims. (Cl. 102—70.2)

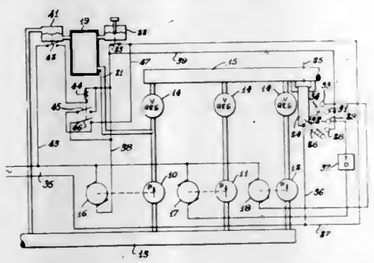


1. In a fuse for exploding a projectile in which flight of the projectile causes energization of an electronic device transmitting a continuous radio frequency signal and receiving a reflection of the signal, a fuse casing comprising a power supply and amplifying sub-assembly holding metallic shell, a firing circuit switch holding metal base member connectible with a projectile, and a ceramic block, said block having spaced metalized portions engageable with said shell and member and soldered thereto to structurally join said shell and base member and electrically insulate them from each other, said block also forming a mounting for the elements of a transmitter-detector oscillating circuit some of the conductive elements of which are formed on the surface of said block as coatings.

3,369,489
WATER PRESSURE BOOSTER SYSTEM

Robert F. Schaub, La Grange, Ill., assignor to SyncroFlo, a corporation of Illinois

Filed Aug. 30, 1965, Ser. No. 483,646
8 Claims. (Cl. 103—11)

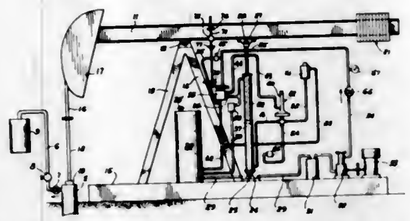


A water pressure system combining a hydro-pneumatic tank and a plurality of mechanical pumps to provide continuous constant water pressure at all taps throughout the system regardless of tap size or elevation. The pumps are in a parallel arrangement between the water source and a pressure regulated discharge conduit. One of the pumps provides water to the hydro-pneumatic tank for low demand situations. The other pumps are activated as the demand rises. Low demands are satisfied by the hydro-pneumatic tank without activating the mechanical pumps. The system substantially eliminates unwanted pressure fluctuations.

3,369,490
PUMPING APPARATUS

Harry W. Hawk, Iola, Ill. 62847

Continuation-in-part of application Ser. No. 334,267, Dec. 30, 1963. This application Aug. 4, 1966, Ser. No. 554,628
18 Claims. (Cl. 103—33)

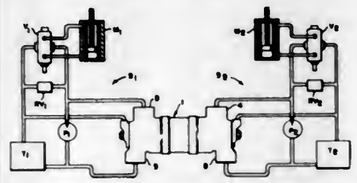


An hydraulically operated well pumping apparatus having mechanism and controls for positively raising and lowering the well pump and at selectively variable speeds without varying the pump speed, and having controls operated by abnormal high pressures in hydraulic lines to stop the operation of the apparatus.

3,369,491
ENERGY TRANSFER MECHANISM

James F. Hoffer, Redondo Beach, Calif., assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Jan. 11, 1966, Ser. No. 520,001
26 Claims. (Cl. 103—45)

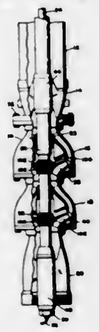


An energy transfer mechanism having a pair of rotary devices each capable of operating as either a motor or pump and connected to two separate fluid systems. The rotary device operated as a motor serves as a pump for the other rotary device.

3,369,492
VERTICAL TURBINE PUMP BEARING ARRANGEMENT FOR ABRASIVE SERVICE

Merril Berman, Denver, Colo., assignor to Worthington Corporation, Harrison, N.J. a corporation of Delaware

Filed June 23, 1966, Ser. No. 559,890
16 Claims. (Cl. 103—102)

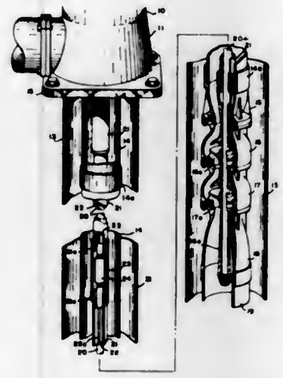


A drive shaft apparatus for vertical turbine pumps wherein the pump impellers are driven by a hollow shaft which is mounted on and supported by a vertical axle. The bearings connecting the hollow shaft to the axle are not exposed to the fluid being pumped and can be lubricated by an independent lubrication system.

3,369,493
DEEP WELL PUMP WITH PLASTIC LINER FOR LINE SHAFT

Eugene F. Sullivan, San Jose, Calif., assignor to Western Pump Company, San Jose, Calif., a corporation of California

Filed Aug. 8, 1966, Ser. No. 571,053
4 Claims. (Cl. 103—102)

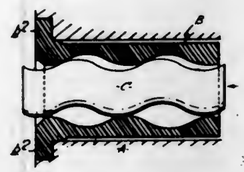


A deep well pump provided with a line shaft in at least two sections. Each section of the shaft is enclosed for virtually its entire length in a relatively thin wear-resistant plastic member that is spaced therefrom to permit free rotation of the shaft and to dampen vibration thereof.

3,369,494
PUMPS

Robert M. Seddon, Knaresborough, England, assignor to Unitex Limited, Knaresborough, England, a company of Great Britain

Filed Oct. 18, 1965, Ser. No. 497,339
Claims priority, application Great Britain, Oct. 30, 1964, 44,283/64
5 Claims. (Cl. 103—117)

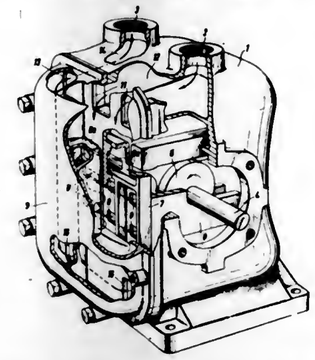


A mono pump comprising a spiral rotor rotating within the tortuous bore of a stator of elastomeric material such as polyurethane mounted in a surrounding rigid housing bore. An external flange anchors the stator against bodily relative movement within the housing bore, but the stator is free for axial expansion relative to the flange. A working intermediate length of the stator has a loose peripheral fit with the housing bore, providing a surrounding small clearance space within the housing bore, and the radially deformable stator walls are sufficiently thin to transmit fluid pressure to this space so that the stator is self-pressurized during pumping.

3,369,495
ROTARY PUMPS

Frederick W. McCombie, London, England, assignor to Megator Pumps and Compressors Limited, London, England, a British company

Filed Oct. 12, 1965, Ser. No. 495,173
Claims priority, application Great Britain, Mar. 5, 1965, 9,521/65
1 Claim. (Cl. 103—163)

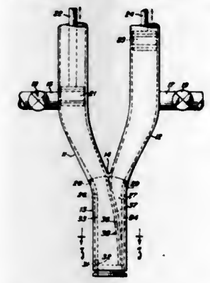


This invention relates to rotary pumps of the kind including a casing having suction inlet and discharge outlet openings and having a flat front face for the reception of a cover having ports and passages for controlling the flow of pumped liquid from the point where it enters the pump casing via the suction inlet opening to the point where it leaves the pump casing via the discharge outlet opening, spaced bearings in the casing carrying a horizontally arranged rotatable shaft carrying one or more eccentrics, each revolvable in a shoe which in conjunction with the eccentric forms a displacement chamber, a port plate formed with suction and delivery ports and fixed to or associated with the cover so that the port plate lies between the cover and the shoe or shoes, the latter being reciprocable over the surface of the port plate by the action of the eccentric or eccentrics and maintained in sealing engagement therewith by the pressure of liquid in the casing, the suction and delivery ports in the port plates being opened and closed by the shoe or shoes as a result of their reciprocatory movement over the port plate to admit liquid to the displacement chamber or chambers and permit delivery of the liquid displaced therefrom.

3,369,496
FLOW CONTROL VALVE FOR CONCRETE PUMP

Richard W. Bushmeyer, Rockford, Ill., assignor to J. I. Case Company, a corporation of Wisconsin

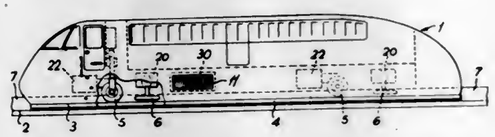
Filed Mar. 4, 1966, Ser. No. 531,838
2 Claims. (Cl. 103—170)



Two conduits for the flow of concrete are merged into a single conduit and a flexible diaphragm at the juncture of the conduits serves as a valve to effectively

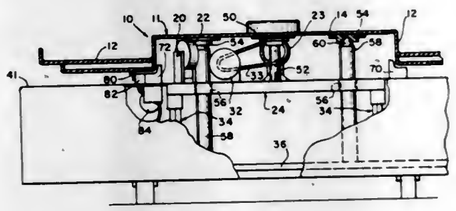
close the second conduit while concrete flows through the first conduit, and the first conduit is closed while concrete flows through the second conduit. The flexible diaphragm provides a simple, efficient, inexpensive valve means for insuring continuity of flow through the final conduit when concrete is pumped through the two conduits intermittently.

3,369,497
VEHICLES FOR TRAVELLING OVER LAND SURFACES
Frederick Kenneth Driver, Lymington, and Geoffrey John Easton, Highcliffe, Christchurch, England, assignors to Hovercraft Development Limited, London, England, a British company
Filed July 13, 1965, Ser. No. 471,610
Claims priority, application Great Britain, July 17, 1964, 29,375/64
10 Claims. (Cl. 104—23)



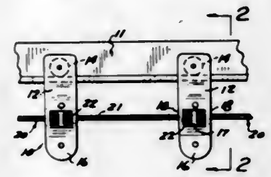
A vehicle for travelling either along a concrete track where it is supported by air cushions, or along a roadway where it is supported by retractable road wheels. The air cushions may be formed beneath retractable pads, and dampers may be provided to restrain upward movement of the pads. The air cushions may be contained by flexible skirts, by air curtains, or by flexible skirts and air curtains in combination.

3,369,498
BALANCING VEHICLE LIFT
Phil J. O'Toole and Milton H. Mater, Corvallis, Oreg., assignors to The Auto-Lift Corporation, Corvallis, Oreg., a corporation of Oregon
Filed Oct. 19, 1965, Ser. No. 497,991
12 Claims. (Cl. 104—44)



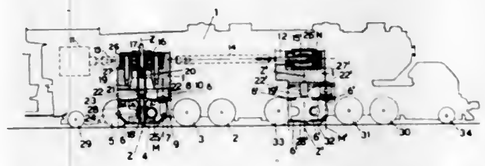
A vehicle supporting track is mounted pivotally by a self-aligning bearing which is slidable and rotatable on an arbor carried by a turntable deck supported by an elevating mechanism. When the deck is raised, turntable rollers move up to, engage and lift the track away from a pair of balance fulcrum posts carried by a base. When the deck is in its lowermost position the turntable is away from the platform which is supported solely by the fulcrum posts. When a vehicle to be displayed is driven onto the track just slightly beyond a balanced position relative to the track, the track tilts in one direction on the fulcrum posts and actuates an audible indicator. The vehicle then is moved back slightly until the tilt track is removed and is braked in that position, in which the vehicle is balanced on the track. The elevating mechanism then lifts the track off the fulcrum through the turntable.

3,369,499
CABLE ELEMENT FOR CONVEYORS
George L. Witt, Pontiac, Mich., assignor to My-T-Veyor Corporation, Oxford, Mich., a corporation of Michigan
Filed May 23, 1966, Ser. No. 552,149
2 Claims. (Cl. 104—200)



1. A trolley conveyor cable link for interconnecting a pair of spaced-apart conveyor trolleys, comprising:
a short length of relatively stiff, wire cable;
a pair of thin-walled, hollow sleeves, each having an internal diameter which is considerably greater then the diameter of such cable, and each having a closed end formed with a central opening of a size to coaxially receive such cable;
with one end of the cable being inserted within one of said sleeves and the other end of the cable inserted within the other sleeve, and with said closed ends facing towards each other;
the cable end portions within each sleeve being enlarged to substantially fill the sleeves from their closed ends to a point near their free ends and the free end portions of the sleeve walls being bent inwardly to form covers to tightly clamp and hold the compacted ends within said sleeves.

3,369,500
ARTICULATED LOCOMOTIVE DRIVE MEANS
Alessandro Rossi, Via Conciliazione 74, Como, Italy
Filed Dec. 1, 1965, Ser. No. 510,859
Claims priority, application Italy, Dec. 4, 1964, 26,084/64
4 Claims. (Cl. 105—49)

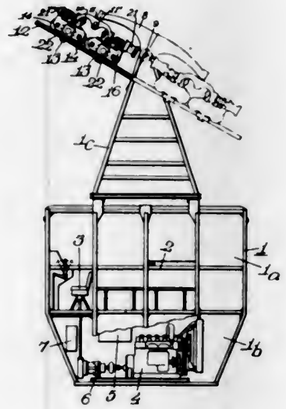


A miniaturized locomotive in which two bogies are independently connected from a locomotive body and in turn support respective wheel sets for rotation about respective vertical axes, each wheel set being driven from an output shaft of a motor fixed to the body through a coupling arrangement enabling independent pivotal movement of each of the bogies relative to the output shaft whereby a single motor drives two wheel sets which are independently movable relative to the motor.

3,369,501
MONOCABLE AERIAL CAR
Osamu Tsuchimochi, 45, Ikegami Tokumachi-cho, Ohta-ku, Tokyo, Japan
Filed May 25, 1965, Ser. No. 458,572
Claims priority, application Japan, June 9, 1964, 39/32,368; Mar. 24, 1965, 40/16,819
8 Claims. (Cl. 105—150)

A self-propelled monocable aerial ropeway car is disclosed in which the car body is swingably supported from a pivot axle extending laterally from an elongated main support beam at approximately the center thereof. The ends of this main support beam have pivoting bearing engagement with respective vertical pivots each of which is mounted for pivoting about a horizontal pivot which extends laterally from the midportion of a respective beam member.

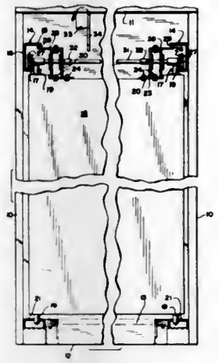
The ends of each beam member have pivotal bearing engagement with respective vertical pivots each of which is mounted for pivoting about a horizontal pivot on a respective truck each having a pair of grooved support wheels engaging a ropeway constituting the monocable. Each truck has driving wheels drivingly engageable with the monocable, and these driving wheels are driven by hydraulic motor means on the trucks.



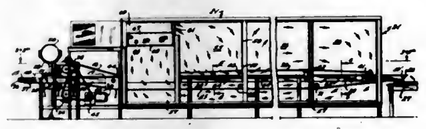
The car body carries, at its lower portion, a prime mover driving a hydraulic pump which is preferably a reversible flow pump, and flexible hydraulic fluid lines interconnect this hydraulic pump to the hydraulic motors on the trucks. Each truck further includes brake means which are continuously biased to engage the ropeway to arrest movement of the trucks therealong, and these brake means have operating elements subjected to the pressure in the hydraulic lines to disengage the brake means from the ropeway or monocable, selectively operable valve means being provided whereby the brake means may be engaged at any time. However, should the hydraulic pressure fail, the brake means automatically clamp onto the ropeway or monocable.

3,369,502
LADING SEPARATOR
Henry D. Breen, Chicago, and Russell M. Loomis, Palos Heights, Ill., assignors to Unarco Industries, Inc., a corporation of Illinois
Filed Aug. 22, 1966, Ser. No. 574,026
7 Claims. (Cl. 105—376)

In lading separators of the type that include spaced parallel tracks, support means on the tracks and a bulkhead supported from the tracks, an improvement is provided in having the bulkhead located below the tracks and having hanger supports on the bulkhead extending upwardly inwardly of the tracks and having bearing structures that carry stub shafts on which are mounted the roller members and anti-cocking elements for cooperation with the tracks. In order to insure that the stub shafts rotate in unison, a non-load-bearing cross shaft is provided having connections between the cross shaft and the stub shafts that is capable of accommodating angular misalignment. Such an arrangement is less expensive than previous constructions where the support means must be accurately constructed to obtain proper alignment. The connection means which is capable of accommodating the misalignment may be in the form of flexible couplings or by offset drive means between the cross shaft and stub shafts carried by the hanger supports. The track means are desirably defined by channel shaped members and simple hold-down means cooperate with one leg of the channel to prevent dislocation of the roller means from the tracks.



3,369,503
CRUNCH MAKING MACHINE
Robert Murphy, Robinson, Ill., assignor to L. S. Heath & Sons, Inc., Robinson, Ill.
Filed May 4, 1965, Ser. No. 453,036
13 Claims. (Cl. 107—4)



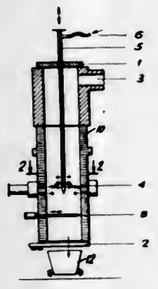
A method of making a bite size confection having smooth upper and lower surfaces and irregular side edges includes the step of placing a confection mixture upon a lower moving smooth belt **15** at a temperature high enough to permit plastic shaping and thereafter shaping it by the pressure exerted by a compression roller **39** upper belt **16** which presses the mass into sheet form. The upper and lower belts with the sheet of candy therebetween are moved through a cooling tunnel **21** until the product has sufficiently cooled so that the upper belt **16** can be separated therefrom without the confection sticking to it. The sheet of candy breaks into individual pieces of its own weight as it is carried beyond the end of lower belt **15**. Apparatus for the practice of this method is also claimed.

3,369,504
BOILER OPERATION PROCESS TO PREVENT AIR POLLUTION
Thomas H. Oster, 156 S. Franklin, Dearborn, Mich. 48124
No Drawing. Filed Feb. 23, 1965, Ser. No. 434,698
3 Claims. (Cl. 110—1)

1. A process for diminishing the emission of sulphur dioxide from boilers during the burning of sulphur containing fuel comprising injecting sodium chloride into the

gas stream passing through the boiler at a location which will result in the vaporization of a substantial portion of the sodium chloride, regulating the fuel to air ratio of the boiler so that sufficient excess air is present to oxidize the sulphur dioxide normally formed to sulphur trioxide, permitting the sulphur trioxide to react as it is formed with sodium chloride to form sodium sulphate and hydrogen chloride and removing the sodium sulphate and hydrogen chloride from the boiler gas stream.

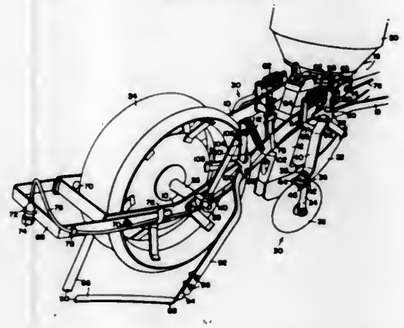
3,369,505
METHOD AND DEVICE FOR BURNING SLUDGES AND WASTE MATERIALS
Peter U. Reusser, Gruebstrasse 25, Meilen, Zurich, Switzerland
Filed May 24, 1966, Ser. No. 552,592
Claims priority, application Switzerland, May 26, 1965, 7,379/65; Sept. 3, 1965, 12,359/65
12 Claims. (Cl. 110—8)



A method of burning rubbish and biological sludge in a vertically elongated combustion space and comprised of the steps of charging a combustible rubbish having a heating value of between 1400 to 1800 kilocalories per kilogram and biological sludge having a water content of about 80% into the combustion space, supplying air to the body of material to be burned including selectively directing air into the body material at a number of vertically spaced locations throughout the body of the material, supporting the charged material within the combustion space, burning the material, moving the body of material as it is burned, and discharging the resultant slag from the burned body of material to the bottom of the combustion space.

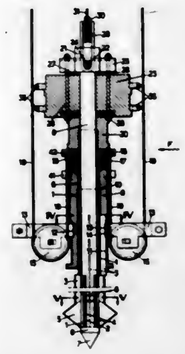
A furnace for burning biological sludge and combustible rubbish mixed in a ratio of 1:1 and comprised of a vertically elongated tubular shaft having a combustion zone in its lower portion and a removable closure at its upper end for charging the material to be burned into the shaft. An outlet flue is provided from the shaft near its upepr end. A movable grate is located near the lower end of the shaft for supporting a body of the material to be burned. Air inlet means are located in the sides of the shaft for directing air laterally inward into the body of material to be burned. Additionally, vertically arranged lance means having air passageways therethrough are vertically mounted in the shaft and extend downwardly into the bed of material, the lance means are vertically positionable within the body of the material for selectively discharging air throughout the body of the material to be burned. Further, air may be directed into the body of material to be burned from below by feeding air in through the grate. The body of the shaft may be circular or oval in configuration and the means for supplying air laterally into the body of material may be accomplished by rods extending radially inward into or above the body of material to be burned.

3,369,506
METHOD AND APPARATUS FOR SHALLOW INCORPORATION OF HERBICIDES APPLIED TO ROW CROPS
Charles Kenneth Stralow, East Moline, and Lyle Duane Wade, Moline, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed June 8, 1966, Ser. No. 556,091
7 Claims. (Cl. 111—6)



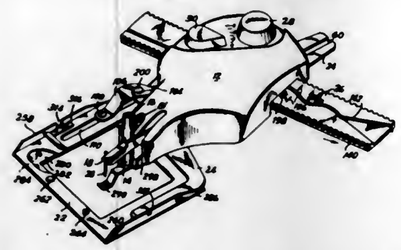
The present invention relates to an apparatus for incorporating a band of herbicide material into the surface of the soil up to a depth of approximately one-half inch. The desired results are achieved in the preferred manner by drawing a pair of flat angularly disposed blades through the surface of a properly prepared seedbed below a herbicide dispenser. The blades will cause a boiling action in the soil as they are drawn through it, the herbicide material being dispensed into the boiling soil whereby it is incorporated therein. The seedbed is properly prepared for incorporation by throwing up a hill after the seed has been deposited in its furrow, the hill then being compacted by a conventional press wheel whereby the soil will be substantially level after the herbicide material has been incorporated into it in the preferred manner.

3,369,507
PLANTING APPARATUS
Henri De Castelbajac, Beaumarches, France
Filed Mar. 31, 1966, Ser. No. 539,205
3 Claims. (Cl. 111—89)



A device for inserting plants into the ground which comprises a cylindrical sheath provided with a lateral slot, a plunger slidable within the sheath, means for driving the plunger and sheath into the ground together and means for withdrawing said plunger from the sheath so that a plant may be inserted through the slot into the space vacated by withdrawal of the plunger.

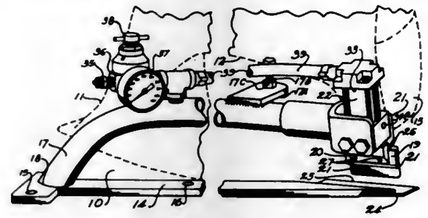
3,369,508
SEWING MACHINE ATTACHMENT FOR MAKING MONOGRAMS AND OTHER DESIGNS
Bernard Howard, Upper Saddle River, N.J., assignor to Mite Corporation, New Haven, Conn., a corporation of Delaware
Filed Aug. 25, 1965, Ser. No. 482,466
37 Claims. (Cl. 112—77)



The sewing machine attachment makes monograms and other designs which usually require crossovers. It is mounted on the presser bar and has a base with a slide therebeneath carrying a large foot frame at its forward end enclosing a large work area, say a two inch square. The slide has a longitudinal slot in its rear end receiving a fixed pivot on the base, and affording polar motions (arcuate X and radial Y motions). The pattern cam is an elongated flat bar having edge teeth for feed, and having smooth continuous top and bottom cam tracks which each may utilize nearly the full width of the bar, and which may cross one another. The cam follower of one of the cam tracks operates linkage extending to a longitudinal slot at the forward end of the slide for producing arcuate X motion, and another cam follower for the other cam track operates linkage extending to a cross slot in the slide for producing radial Y motion. A needle bar fork operates pawl and ratchet mechanism to feed the pattern cam through the attachment. Preferably there is symmetrical gearing meshing with teeth on both edges of the cam bar. A release lever permits reverse movement of the cam bar, and the latter is polarized against improper insertion in the attachment. Although the foot frame has sides parallel and perpendicular to the longitudinal axis of the bed and head of the sewing machine, i.e., facing the operator squarely, the cam bar when viewed in plan is disposed at an angle in order to clear the pedestal of the head regardless of the length of the cam bar. A transparent guide facilitates proper location of the monogram on the material being sewn. When used with a non-zigzag sewing machine, the attachment has a cam to produce a zigzag motion which is combined with the X motion. The cam bar then is preferably provided with a third cam track and follower to automatically vary the bight of the zigzag stitch, in relation to the pattern, but without varying the main X and Y motions. A manual adjustment may be provided to vary the range of the automatic bight variation produced by the third cam track.

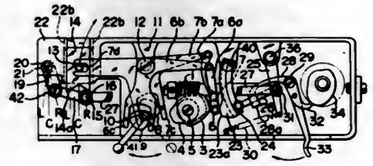
3,369,509
CUTTING MECHANISM FOR SEWING MACHINES
Perry E. Burton, Duluth, Ga., assignor to Sunbrand Corporation, Chamblee, Ga., a corporation of Georgia
Filed Jan. 3, 1966, Ser. No. 518,164
8 Claims. (Cl. 112—129)

1. A cutting mechanism for use with a sewing machine having an overhanging arm comprising, a frame, means mounting said frame on a supporting surface, an anvil having a generally horizontal surface adjacent to the stitch forming mechanism of the sewing machine, a chopping blade mounted on said frame for reciprocal movement between a cutting position in engagement with said horizontal surface and a retracted position spaced above said surface, means for forcefully driving said blade from said retracted position into impact with said anvil at said cutting position to cut material positioned on said horizontal surface by a pinching action, said frame including a cantilevered arm extending generally longitudinally of



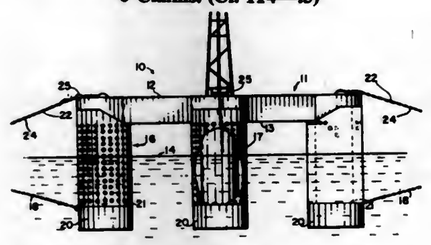
and in offset relation to said overhanging arm, means mounting said blade driving means on the free end of said cantilevered arm and means fixed to said cantilevered arm intermediate the ends thereof engaging said overhanging arm thereby producing a torsional stress on said cantilevered arm upon impact of said blade with said anvil.

3,369,510
ZIG-ZAG SEWING MACHINE
Bunsaku Taketomi, 9 2-chome, Uchijama-cho Chikusa-ku, Nagoya-shi, Aichi-ken, Japan
Filed Sept. 13, 1965, Ser. No. 486,817
Claims priority, application Japan, Nov. 22, 1964, 39/65,742
5 Claims. (Cl. 112—158)



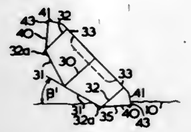
A zig-zag sewing machine wherein the needle bar describes two kinds of zig-zag motions. The machine is provided with a changeover mechanism which selects the desired motion, i.e., straight zig-zag or V-shaped stitches. The cam follower is of a particular construction and the movement of the cam is indirectly transmitted to the follower.

3,369,511
MARINE FLOATING STRUCTURE
John Gordon German, Suite 401, Dominion Square Bldg., Montreal, Quebec, Canada
Continuation of application Ser. No. 452,108, Apr. 30, 1965. This application Jan. 18, 1967, Ser. No. 610,197
Claims priority, application Great Britain, May 4, 1964, 18,374/64
6 Claims. (Cl. 114—.5)



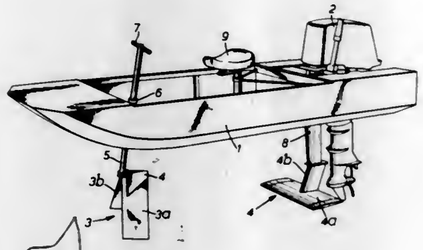
A perforated motion damping shell surrounds the buoyant chambers of a floating drilling platform to enhance the stability of the platform.

3,369,512
HULL FOR BOATS
Peter Music, 3 Elliott Ave., Kingston, Ontario, Canada
Filed Oct. 18, 1965, Ser. No. 496,985
Claims priority, application Canada, Sept. 15, 1965, 940,618
4 Claims. (Cl. 114—56)



1. A hull having a lower water engaging surface terminated at one end by a bow and at the other end by a stern, a keelson, a sheer, and plurality of lower chines disposed substantially parallel to said keelson in plan view and each extending substantially from said stern to said sheer, said chines dividing said hull into flat planing surfaces.

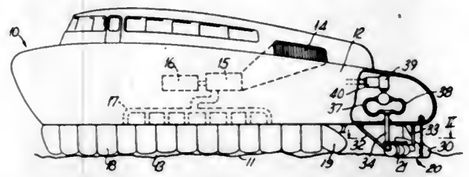
3,369,513
HYDROPLANES
Peter Thomas Mence Nott, Bath, England, assignor to Anglican Developments Ltd., Leigh-on-Sea, Essex, England, a British company
Filed Jan. 4, 1966, Ser. No. 518,701
6 Claims. (Cl. 114—66.5)



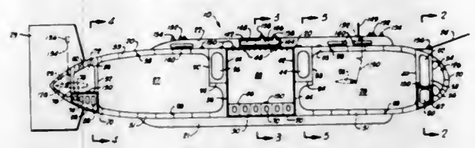
A hydrofoil watercraft in which a righting moment is developed during heeling of the craft and an almost horizontal steering force minimizes variations in lift during turning of the craft. The watercraft has a forward hydrofoil and an aft hydrofoil, the forward foil being pivotal to effect steering and includes two foils defining an inverted V. These foils provide the entire lift for the forward end of the craft. The craft is steered by means of handlebars secured to the forward hydrofoil unit.

3,369,514
VEHICLE FOR OPERATION OVER FLUID SURFACES
Christopher Sydney Cockerell, Bassett, Southampton, England, assignor to Hovercraft Development Limited, London, England, a British company
Filed Feb. 10, 1966, Ser. No. 526,624
Claims priority, application Great Britain, Feb. 12, 1965, 6,299/65
13 Claims. (Cl. 114—67)

A vehicle propellable over a fluid surface by two rotatable vanes of helicoidal form which, in operation, are normally immersed in the fluid to levels up to their axes of rotation. The vanes rotate in opposite directions and are so disposed that their components of thrust are directed towards each other. Deflector plates are disposed between adjacent ends of the vanes so as to convert axial thrust generated by the vanes into propulsive thrust. The angle between the rotational axis of each vane and the fore-and-aft axis of the vehicle may be varied in dependence on the relative speeds of the vehicle and the fluid, and the depth of immersion of the vanes may be regulated by vertical movement of the vanes relative to the vehicle body in response to changes in the local level of the fluid relative to said body.



3,369,515
SUBMERSIBLE BARGE
Michimasa Endo, Nishinomiya-shi, Suma-ku, Kobe-shi, Japan, assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed May 20, 1966, Ser. No. 551,779
Claims priority, application Japan, Jan. 31, 1966, 41/5,476
4 Claims. (Cl. 114—74)



Apparatus for effecting underwater transportation of liquid cargo which provides relief as to variations in cargo volume while underway, the apparatus consisting of a submersible barge partitioned into balanced cargo spaces each having a system of expansion and collection tanks which provide an intermediate space between the cargo tank interiors and the barge exterior in which cargo overflow or shortage resulting from volumetric expansion or contraction can be changeably retained.

3,369,516
STABLE OCEANIC STATION
Roger J. Pierce, 900 Staub Court, NE., Cedar Rapids, Iowa 52402
Filed Mar. 17, 1966, Ser. No. 535,213
10 Claims. (Cl. 114—144)



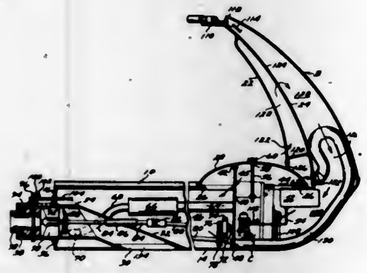
A structure designed to serve as a fixed station in the open sea, the structure being designed so as to have excellent stability and to maintain a fixed geographic location and thereby is substantially unaffected by wind and water forces.

3,369,517
PROPULSION SYSTEM FOR AQUATIC VEHICLES
Harry Rosenthal, 304 Lake Circle Drive, Chesapeake, Va. 23320
Filed Aug. 23, 1966, Ser. No. 574,351
5 Claims. (Cl. 115—21)



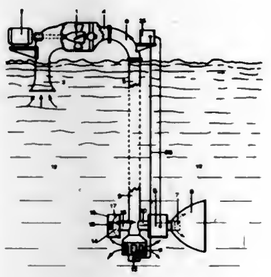
1. An aquatic vehicle comprising a buoyant hull mounting a centrally disposed longitudinally extending guideway thereon in elevated relation to the water line of the hull, a slide member freely movable along said guideway, a paddle pivotally mounted between its ends on said slide member about an axis transverse to said guideway, and a handle member pivotally attached to that portion of the paddle above said axis, that portion of the paddle below said axis being of a length to project below said water line of the hull when moved rearwardly of the hull by said handle member and to swing upwardly above said water line when moved forwardly by said handle member.

3,369,518
AQUATIC VEHICLE
Clayton J. Jacobson, 5403 Seacrest Drive, Rolling Hills, Calif. 90274
Filed Nov. 3, 1966, Ser. No. 591,729
9 Claims. (Cl. 115—70)



1. A power-driven aquatic vehicle, including:
(a) an elongate hollow hull structure defined by a deck, bottom, stern, together with two side walls that cooperatively define a bow, and in which deck a first forwardly disposed opening is formed, with a second opening being formed in the rear portion of said bottom;
(b) a transverse partition in said hull that divides the interior thereof into a forward compartment and a rear compartment, in which partition first and second ports are formed;
(c) cover means for removably closing said first opening;
(d) an air-cooled internal combustion engine and fuel supply tank located in said first compartment, which engine includes a drive shaft that extends rearwardly through a third opening formed in said partition;
(e) a hollow internally partitioned support projecting upwardly from said bow that is provided with air inlet and air discharge means, with said air inlet means permitting air to flow from the ambient atmosphere into said forward compartment to cool said engine and provide air for operation thereof, which air after becoming heated in said forward compartment passes through said first port to said rear compartment, and which heated air in said rear compartment flows therefrom through said second port to said air discharge means into the ambient atmosphere;
(f) forwardly and rearwardly extending tube means supported by said stern, which tube means is in communication with said second opening;
(g) a propeller disposed in said tube means;
(h) transmissions means for conveying rotary power from said drive shaft to said propeller;
(i) a nozzle pivotally supported in said tube means rearwardly of said propeller that discharges a jet of water rearwardly from said hull to propel said aquatic vehicle over the surface of a body of water when said engine is operated above a predetermined speed;
(j) handle means provided on said support; and
(k) first and second movable control means on said handle that can be manipulated by the operator of said vehicle to control the speed of said engine as well as the rate at which said vehicle is propelled through the water and to pivot said nozzle relative to said tube means to guide said vehicle when so propelled.

3,369,519
PERIODIC HARMONIC MODULATION OF A SOUND SOURCE
Pierre A. Bricout, 10000 Woodhill Road, Bethesda, Md. 20034
Filed Dec. 16, 1964, Ser. No. 418,725
3 Claims. (Cl. 116—27)



A device for generating underwater sonic signals of short duration and high intensity by directing a high-velocity flow of water, subject to water-hammer effect, into a constantly rotating siren device, the water flow being interrupted by a cyclically operated discharge valve.

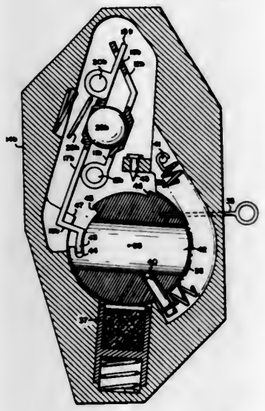
3,369,520
IMPACT SENSOR DEVICE
Raymond H. Burg, Hopkins, Karl H. Doeringsfeld, Edina, and Russell L. Holland, Anoka, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Nov. 24, 1965, Ser. No. 509,474
9 Claims. (Cl. 116—114)

1. An omnidirectional impact sensor, comprising:
(a) a frame;
(b) a first arm member having first and second ends, said first arm member being pivoted in a plane about

a pivot pin on said frame extending through said first end, said second end being curved so as to lie within said plane and having a longitudinal slot formed therein;

(c) a second arm member mounted adjacent said first arm member and having third and fourth ends, said second arm member being pivoted in said plane about a second pivot pin mounted in said frame extending through said second arm member intermediate said ends, said third end of said second arm member extending through said slot in said second end of said first arm member;

(d) a ball member responsive to inertia forces;

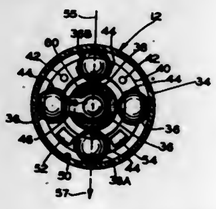


(e) said first arm member having a first concave cup formed therein facing said second arm member;

(f) said second arm member having a second concave cup formed therein between said second pivot pin and said fourth end facing said first cup, said ball member being mounted between said arm members in said cups; and

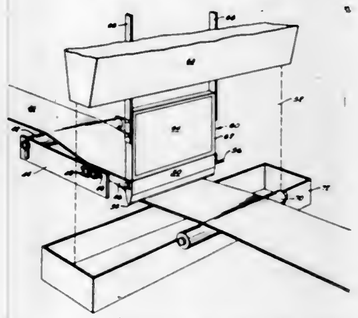
(g) a coiled spring mounted between said second arm member and said frame opposite said second cup from said ball member to force said second arm member against said first arm member, an inertia force acting on said ball member from any direction causing said ball member to exert a force against at least one of said arm members to pivot said arm members in said plane to provide an output movement from said fourth end in a direction away from said first end.

3,369,521
MECHANICAL DAMAGE INDICATOR
Edward A. Meeder, Jr., Wayne, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Feb. 2, 1966, Ser. No. 524,411
8 Claims. (Cl. 116—114)



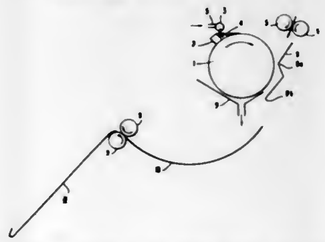
An impact mechanical damage indicator to establish the dynamic loading experienced by equipment packaged for transportation. A frangible sphere having a dye therein is supported and centered within a transparent plastic sphere by a plurality of caged balls engaging the inner surface of the transparent plastic sphere and outer surface of the frangible sphere. Weights are attached to portions of the ball cage so that upon impact, one of the caged balls tends to contact the frangible sphere along the axis of maximum impact so as to break the frangible sphere and thereby splash the dye upon the inner surface of the transparent plastic sphere. The transparent plastic sphere is replaceable and suitably mounted within a frame attachable to the package.

3,369,522
CURTAIN COATING APPARATUS
Joe F. Alix, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Jan. 18, 1965, Ser. No. 426,114
7 Claims. (Cl. 118—50)



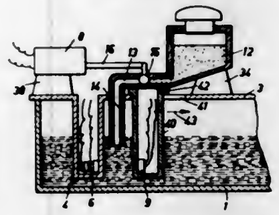
A curtain coating apparatus capable of coating a substrate with relatively thin coatings and comprising a rigid knife blade spaced closely to and on the upstream side of a gravitating curtain of coating material, said knife blade having an air shield attached above the knife blade and forming a continuous shield from the top surface of the substrate to a position near the same horizontal plane from which said curtain of coating material emanates. The knife blade can be hollow and have vacuum means communicating therewith for creating a vacuum at the edge of the blade.

3,369,523
APPARATUS FOR DEVELOPING LATENT ELECTROSTATIC IMAGES
Gerhard Naumann, Wiesbaden, Germany, assignor, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J.
Filed Aug. 8, 1966, Ser. No. 570,922
Claims priority, application Germany, Aug. 11, 1965, K 56,856
8 Claims. (Cl. 118—637)



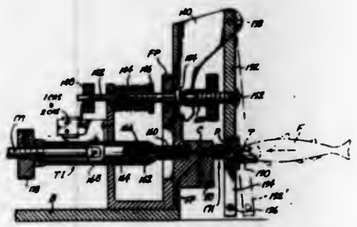
This invention relates to an apparatus, for the development of latent electrostatic images with a dispersion developer, which comprises an application roller, wiper means in engagement with the roller and defining a reservoir between itself and the periphery of the roller, means for maintaining a supply of developer liquid in the reservoir, and means for passing an image carrier past the application roller on a side of the latter opposite the wiper means whereby developer is transferred from the roller to the image carrier.

3,369,524
COPYING DEVICE FOR ELECTRO-PHOTOGRAPHIC COPYING MATERIALS
Heinz Georg Führer, Hamburg, Germany, assignor to Lumoprint Zindler KG, Hamburg, Germany
Filed Aug. 18, 1965, Ser. No. 480,710
Claims priority, application Germany, Aug. 28, 1964, L 48,650
7 Claims. (Cl. 118—637)



Device for the development of electrostatic retaining images in which a container encloses a bath of a dispersion of toner particles in a liquid vehicle and a pair of transparent wells extending downwardly from the cover of this container in spaced-apart relationship into the bath and receives respective elements of a sensing device (e.g. a photoresistor and light source) controlling the addition of toner particles from a dispenser surmounting the bath and whose outlet is located between the wells. One of the wells is shiftable in a slot in the cover toward and away from the other well to adjust the spacing of the photoresistor and source.

3,369,525
IDENTIFICATION TAG IMPLANTING MACHINE
John S. Debrotnic, Seattle, Vernon B. Orn, Renton, and William E. Young, Seattle, Wash., assignors to Technical Research Co., Seattle, Wash., a corporation of Washington
Filed Apr. 13, 1966, Ser. No. 542,389
17 Claims. (Cl. 119—3)



17. Mechanism of the type wherein a small segment is cut from a length of coded wire and implanted below the surface of an object receptive to such implantation for objection identification purposes, said mechanism comprising:

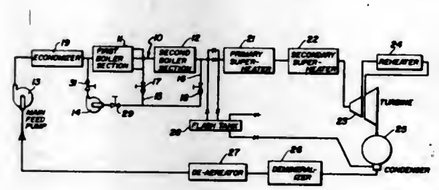
(1) means feeding a length of coded wire along a path of feed,

(2) an injection plunger having a path of movement substantially parallel to and laterally offset from the path of feed of the uncut wire,

(3) wire cutting and transport mechanism including a cutter bar having a cutting hole movable from a position of alignment with the uncut wire path of feed into a position of alignment with the path of movement of the injection plunger, and

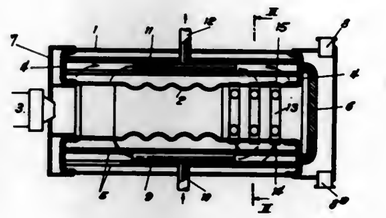
(4) means actuating the injection plunger upon alignment of the cutter bar cutting hole therewith, to move the plunger axially through the said cutting hole and effect implantation of a cut wire segment into the said receptive body.

3,369,526
SUPERCRITICAL PRESSURE BOILER
Carl R. Midtlyng, Worcester, Mass., assignor to Riley Stoker Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Feb. 14, 1966, Ser. No. 527,298
5 Claims. (Cl. 122—406)



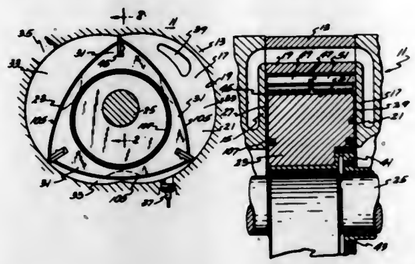
This invention relates to a supercritical pressure boiler and, more particularly, to a forced flow boiler having two boiler sections with differing flow resistance and recirculating means to selectively bring about various flow rates in the two boiler sections at various loads.

3,369,527
BOILERS
Gabriel Brola, Nogent-sur-Marne, France, assignor to Société Generale Thermique, Le Pre Saint-Gervais, France, a company of France
Filed June 3, 1966, Ser. No. 555,157
Claims priority, application France, June 4, 1965, 3,213
6 Claims. (Cl. 122—410)



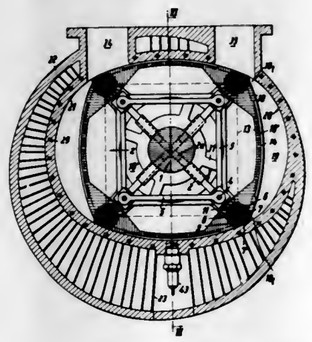
A fire-tube boiler in which the water being heated circulates without being pumped to insure uniform heating throughout the boiler. An annular water chamber surrounds a flame tube in which water tubes extend between the upper and lower portions and beyond the ends of a longitudinally extending feed water distributor in the lower portion and a longitudinally extending collector in the upper portion to provide for the continuous circulation of the water to prevent non-uniform heating.

3,369,528
ROTARY ENGINE SEAL
Finn T. Irgens, Milwaukee, Wis., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed Mar. 26, 1965, Ser. No. 443,012
4 Claims. (Cl. 123—8)



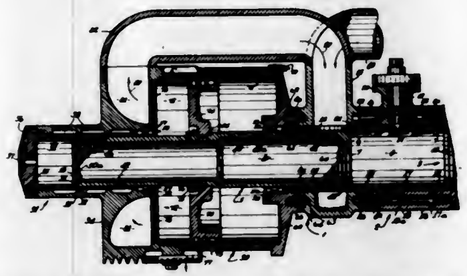
4. A rotary combustion engine comprising a housing having axially spaced end walls and a peripheral wall interconnecting said end walls to form a cavity therebetween, a rotor rotatably received within said cavity and having axially spaced end faces adjacent to said end walls and a plurality of circumferentially spaced apex portions adjacent to said peripheral wall to form between said rotor and said peripheral wall a plurality of working chambers which vary in volume upon relative rotation of said rotor and said housing, one of said apex portions including means defining a slot extending between said end faces and radially inwardly from the outermost apex portion periphery, first, second, and third sealing members located in said slot, means biasing said first sealing member toward said peripheral wall and said second and third sealing members in opposite directions toward said opposing end walls, said second and third sealing members being located in coplanar relation to each other and in engaged parallel relation to said first sealing member, and cooperating means on said rotor and on each of said second and third sealing members for limiting movement of said second and third members relative to said slot in directions parallel to the rotatable axis of said rotor.

3,369,529
ROTARY INTERNAL COMBUSTION ENGINE
Alfred Jordan, Drususstrasse 25, Bonn, Germany
Continuation-in-part of application Ser. No. 371,271, June 1, 1964. This application Jan. 3, 1967, Ser. No. 607,359
Claims priority, application Germany, Sept. 29, 1966, J 31,879
22 Claims. (Cl. 123—8)



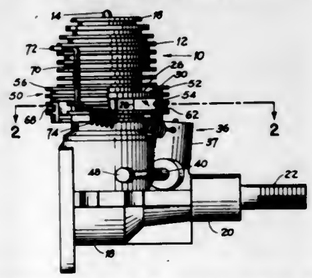
A rotary internal combustion engine mainly comprising a housing having an annular central section having an internal surface of oval outline, and a pair of side walls connected to opposite ends of the central section of the housing. A shaft is coaxially journalled in the sidewalls and extends into the interior of the housing. Four pistons are arranged in the central section of the housing and each of the pistons has an outer surface facing the internal surface of the housing and a trailing end adjacent the leading end of the next following piston. Means are provided for articulatingly connecting the ends of the pistons to each other so that the pistons form a linked quadrangle and seals are provided between the corners of the quadrangles and the internal surface of the housing. The engine includes further four radially extending collapsible and extensible arm means fixedly connected at the inner ends thereof to the aforementioned shaft for rotation therewith, and at the outer ends to the corners of the quadrangle. The engine is air cooled and the pistons are connected to each other and to the shaft in such a manner to impart to the shaft a substantially uniform rotary speed during operation of the engine.

3,369,530
INTERNAL COMBUSTION ENGINE
James S. Campbell, 181 Alwington Place, Kingston, Ontario, Canada
Filed Feb. 1, 1966, Ser. No. 524,100
Claims priority, application Canada, Jan. 10, 1966, 949,523
15 Claims. (Cl. 123—46)



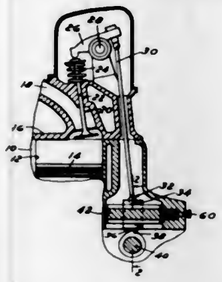
A free piston gasifier having an open ended cylinder and a pair of opposed piston with confronting crowns in the cylinder. The piston crowns and the cylinder, which define a combustion chamber, have vacuum pockets formed therein for thermally insulating the combustion chamber to reducing heat flow from the combustion chamber.

3,369,531
MODEL ENGINE SPEED AND POWER CONTROL MECHANISM
Harold Alec Johnson, Los Angeles, Calif., assignor to American Machine and Foundry Company, a corporation of New Jersey
Filed Feb. 7, 1966, Ser. No. 525,480
3 Claims. (Cl. 123—65)



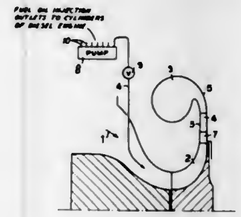
This invention relates to a model engine speed and power control arrangement comprising a cylindrical member mounted about the engine cylinder and having at least one aperture extending therethrough, said aperture being moved into and out of alignment with the exhaust ports in the engine by means of spring biasing control manner.

3,369,532
AUTOMATICALLY VARIABLE INTAKE VALVE TIMING MECHANISM
Robert McIlroy, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 606,299
5 Claims. (Cl. 123—90)



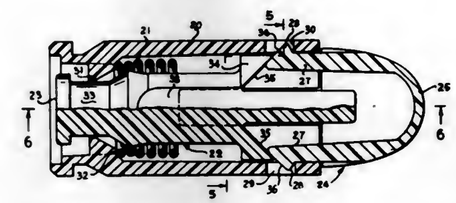
A vertically movable tappet is mounted in a movable carrier, the carrier being spring biased and movable laterally to an initial position engaging one point on the tappet curved cam follower surface with a flat camshaft lobe surface, increasing engine speed increasing the valve train inertia forces acting on the tappet to automatically compress the spring and move the carrier and tappet laterally to a new position with respect to the camshaft lobe to vary the effective lift of the tappet.

3,369,533
METHOD OF AND APPARATUS FOR PREVENTION OF DEPOSITS OF CONTAMINANTS IN THE FLOW PATH OF TURBO-COMPRESSORS
Walter de Pietro, Schinznach-Bad, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie., Baden, Switzerland, a joint-stock company
Filed Dec. 10, 1965, Ser. No. 512,982
Claims priority, application Switzerland, Jan. 4, 1965, 55/65
1 Claim. (Cl. 123—119)



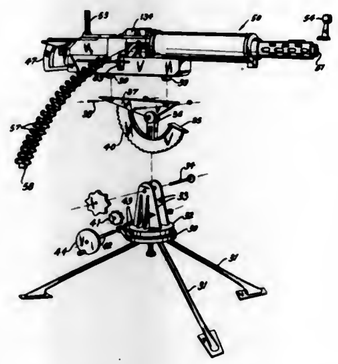
The fuel pump for an internal combustion engine of the type powered by diesel oil is provided with an auxiliary fuel discharge outlet in addition to those provided for direct injection of the fuel into the individual cylinders of the engine, this auxiliary fuel discharge outlet being connected with a radial type of air compressor for supplying combustion air to the engine. The oil which is admixed with the air in the compressor serves to wet the internal wall surfaces of the compressor and thereby prevents any build up of air contaminants such as dust on these wall surfaces which unless otherwise eliminated would result in a reduction in the air-flow cross section through the compressor and hence, a change in the air-fuel oil ratio.

3,369,534
BULLET-SHELL ASSEMBLY HAVING A SPRING FOR PROPELLING THE BULLET
Dorland L. Crosman, Glen Ridge, N.J., assignor to De Luxe Reading Corporation, Elizabeth, N.J., a corporation of New Jersey
Filed May 26, 1965, Ser. No. 459,051
17 Claims. (Cl. 124—26)



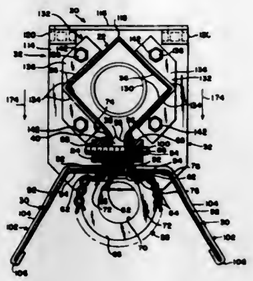
Bullet and shell joined by releasable latching means. Coiled spring within shell is stressed when bullet and shell are joined. Shell open at both ends. Latch is released and spring propels bullet when a blow strikes (1) a separate member within shell behind bullet (FIGS. 1–6), or (2) a post projecting from bullet itself (FIGS. 7–12).

3,369,535
TOY BELT-FED MACHINE GUN AND CARTRIDGE THEREFOR
Joseph L. Bonanno, South Orange, N.J., assignor to De Luxe Reading Corp., Elizabeth, N.J., a corporation of New Jersey
Filed Feb. 17, 1965, Ser. No. 433,356
15 Claims. (Cl. 124—29)



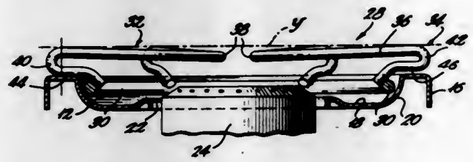
Each cartridge carried by flexible web comprises frictionally engaged projectile and shell. Web and cartridges advanced through gun housing by a peripherally-notched wheel. At firing position, a spring pressed hammer strikes rear of projectile and propels it through gun barrel. Hammer is cocked by second wheel carrying a projection. A second spring pressed hammer strikes shell laterally to eject it from gun housing. Second hammer cocked by projections on notched wheel. Section of barrel is reciprocable. A single spring provides power for rotating wheels and reciprocating barrel section in timed relation.

3,369,536
INFRARED HEATER
John J. Fannon, Jr., Grosse Pointe Park, Mich., and Marc Resek, Shaker Heights, Ohio, assignors, by mesne assignments, to Fostoria-Fannon, Inc., a corporation of Ohio
Filed May 10, 1966, Ser. No. 548,941
8 Claims. (Cl. 126—92)



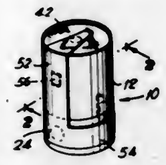
1. In an infrared generator of the combustion type:
(a) a fuel-air mixture distribution tube having opposed spaced longitudinal flanges forming a passage communicating between the interior and the exterior of the distribution tube;
(b) an orifice structure between said flanges in said passage for distributing fuel-air mixture from said tube to a combustion zone adjacent the outer end of the passage formed by the flanges of said tube and for preventing flashback from said combustion zone through said passage to the interior of the distribution tube; and
(c) a radiant grid configured to surround said combustion zone and adapted to be heated by burning of the fuel-air mixture therein;
(d) said orifice structure extending beyond the free edges of said opposed flanges so as to maintain said free edges out of the zone of intense combustion;
(e) reflectors having spaced longitudinal mounting flanges attached to the outside of said opposed flanges;
(f) means extending through all of said flanges for supporting said orifice structure and said reflectors to the distribution tube; and
(g) means for supporting said grid from said reflectors.

3,369,537
BURNER GRATE FOR GAS RANGES
Ira Bruce Young, Jr., 4215 Cromwell Road, Box 8247, Chattanooga, Tenn. 37403
Filed July 18, 1966, Ser. No. 566,102
12 Claims. (Cl. 126—215)



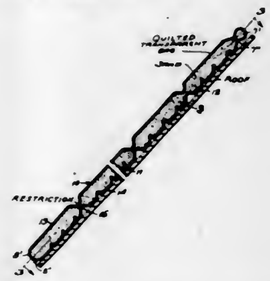
A burner grate structure for a cook-top and forming a cooking vessel support comprises a circular frame carrying three grid units in concentric spaced relation thereto. Each grid unit is made up of a rod bent to V-form. The units have their apexes arranged about the center of the frame with the arms thereof extending outwardly radially to an extremity beyond the frame. The arms at their extremity are reversely bent downwardly in radical planes to form upper and lower parallel arm portions. The lower arm portion of one arm of each unit is spaced farther from the upper arm portion than the lower and upper arm portions of the other arm, whereby said grate makes only three-point contact with the surface of the cook-top.

3,369,538
CANNED FOOD CONTAINER
H. Howard Frey, 450 S. 2nd Ave., Mount Vernon, N.Y. 10550, and Richard I. Brown, Mount Vernon, N.Y.; said Brown assignor to said Frey
Filed Mar. 21, 1966, Ser. No. 535,873
9 Claims. (Cl. 126—262)



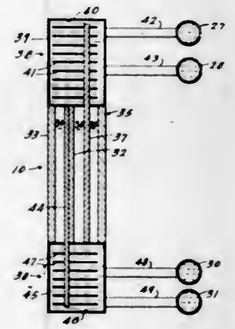
A canned food container composed of a sheet metal can which is subdivided by a sheet metal transverse partition into an upper food compartment and a lower heating compartment. In the food compartment is a foodstuff including a vaporizable liquid. A jellied alcohol is disposed in the heating compartment. There is a vent opening in the top wall of the food compartment. There are two diametrically opposed flue vents in the side wall of the heating compartment. A single strip covers the vent in the top wall, runs down the side wall to cover one of the flue vents and then runs around the side wall to cover the other flue vent. The strip is secured for its entire length to the outside of the container, except for its free end adjacent to the vent in the top wall so that the strip only can be pulled so as to open the vent in the top wall before opening the flue vents. The strip is disconnected from the container without tools by manually grasping its free end and pulling, only a few pounds of effort being required.

3,369,539
SOLAR HEAT TRAP
Harry E. Thomason, District Heights, Md. (6802 Walker Mill Road SE., Washington, D.C. 20027)
Filed Oct. 22, 1965, Ser. No. 501,965
8 Claims. (Cl. 126—271)



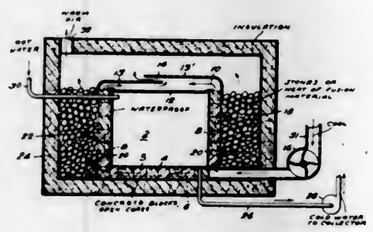
1. Solar heat collecting apparatus comprising substantially liquid tight apparatus of material having an upper layer exposed to incoming solar rays and a lower layer, said upper layer being substantially transparent or translucent to admit incoming solar rays and being secured to said lower layer in a quilted-like pattern to form cells, solar heat-absorbing granular material in said apparatus to receive and absorb incoming solar rays, opening means to admit a liquid to be heated to said apparatus and opening means for flow of heated liquid from said apparatus.

3,369,540
HEAT ABSORBING STRUCTURE FOR AN AIR CONDITIONING SYSTEM
Gershon Meckler, Atlanta, Ga., assignor to Lithonia Lighting, Inc., Conyers, Ga., a corporation of Georgia
Continuation-in-part of application Ser. No. 476,236, Aug. 2, 1965, which is a continuation-in-part of applications Ser. No. 31,902, May 26, 1960, and Ser. No. 140,416, Sept. 21, 1961. This application May 16, 1966, Ser. No. 550,415
6 Claims. (Cl. 126—271)



1. A window structure comprising at least one light-transmitting panel, at least one panel which is an interceptor for radiant heat energy incident upon said panel but through which light is transmitted and which is substantially coextensive with said light transmitting panel, said interceptor panel having extensions thereon extending beyond an edge portion of said window structure and means enclosing said extensions for circulating a heat transfer liquid in heat exchange relationship with said extensions.

3,369,541
HEAT STORAGE
Harry E. Thomason, District Heights, Md. (6802 Walker Mill Road SE., Washington, D.C. 20027)
Filed Oct. 22, 1965, Ser. No. 501,969
14 Claims. (Cl. 126—400)



Heat is stored in water in a tank in a heat storage bin. The water may be heated by solar energy, or cooled for use in air conditioning a building. The bin in FIG. 1 contains stones and building blocks forming the tank. Air to be heated is circulated under and around the warm tank and stones.

In FIG. 2 the heat storage bin is of a "pancake" design and is located beneath the floor of an A-frame building. Air to be heated may be circulated above the closed warmed water tank (during winter), or air to be cooled may be circulated below the water tank when the water therein is chilled (during summer).

3,369,542
URINARY INSERTION DEVICE
James H. Thaidigsman, 1527 Erie Ave., Philadelphia, Pa. 19124
Filed May 14, 1965, Ser. No. 455,832
6 Claims. (Cl. 128—2)



1. In a device for inserting a metallic bead chain having a wire extension into a human female urinary bladder through the urethra and depositing dye into the bladder, a tubular portion having a longitudinal bore extending therein adapted to receive the bead chain and having an outlet from the longitudinal bore, and a housing receiving and supporting the tubular portion and having a first bore in the housing extending in elongation of the tubular portion longitudinal bore passing to the exterior of the housing and adapted to pass therethrough the wire extension of the bead chain and a second bore intersecting the first bore and having at the outside end thereof a syringe receptacle, whereby the tubular portion can be extended through the female urethra to position the tubular portion longitudinal bore outlet within the bladder so that the chain can be deposited within the bladder and a liquid dye injected through the first and second housing bores and the longitudinally extending tubular bore into the bladder.

3,369,543
MEDICINAL APPLICATORS
Dennis Ronco, Roseto, Pa., assignor to Deron Inc., West Easton, Pa., a corporation of Pennsylvania
Filed Mar. 30, 1965, Ser. No. 443,855
19 Claims. (Cl. 128—269)



A medicinal applicator comprising a resiliently deformable, hollow casing containing a liquid medicinal substance and having a neck opening at one end is provided with an absorbent wick member projecting axially from the neck and being frictionally retained either in the neck

itself or in a sleeve which is removable with the wick member from the neck, and passages extend along, and are defined in part by the surface of the wick member to vent the interior of the casing to the atmosphere and to supplement the capillary transmission of the medicinal substance through the wick member when the casing is deformed by squeezing.

3,369,544
CATAMENIAL TAMPON
Joseph R. Crockford, Flushing, N.Y., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Mar. 31, 1965, Ser. No. 444,258
10 Claims. (Cl. 128—285)



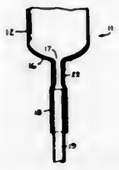
A catamenial tampon made of a thin, elongate strip of absorbent material in compressed self-sustaining sheet form transversely folded on itself to a size suitable for insertion into the vaginal cavity. The tampon is held in its folded form by temporary means which may comprise the withdrawal string and a cooperating slot in a juxtaposed fold; a sleeve of water-soluble film; or an applicator tube from which the folded tampon may be ejected.

3,369,545
DISPOSABLE DIAPER WITH AN INTEGRAL CONTAINER AND METHOD FOR DISPOSAL
Joseph S. Wanberg, Palatine, Ill., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed Sept. 25, 1964, Ser. No. 399,202
17 Claims. (Cl. 128—287)



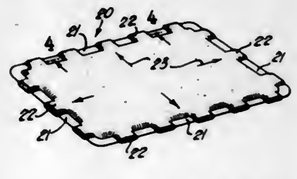
A disposable diaper having a pouch at the back side of the diaper wherein the body of the diaper constitutes a wall of the pouch. The back surface of the diaper is impervious to the flow of fluids to prevent strike-through of fluids absorbed in the diaper. The pouch can be manipulated without contact with the front surface of the diaper to turn the pouch inside out so that the front absorbent surface and any body excrements thereon and fluids absorbed in the body of the diaper are disposed to the inside of the pouch, thus bagging the diaper for sanitary disposal thereof.

3,369,546
URINE COLLECTOR
George E. Hickok, 3231 Monterey Blvd., Oakland, Calif. 94602
Filed Mar. 1, 1965, Ser. No. 436,094
2 Claims. (Cl. 128—295)



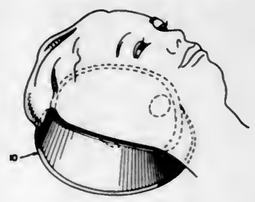
A urine collector for a male having a thin walled sheath portion communicating with a thicker walled transverse wall provided with an integral sleeve which may be attached to a tubular drain tube.

3,369,547
EXTENSIBLE SHEET MATERIAL
Georges Henri Sack, Highland Park, and Gerald Joseph Lilola, North Brunswick, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed Aug. 27, 1964, Ser. No. 392,514
9 Claims. (Cl. 128—296)



A dressing is disclosed which is of the type having a layer of elastomeric material, suitably polyurethane foam, and a nonwoven fibrous web heat sealed together to form an integral structure. In the dressings disclosed, the elastomeric material is adhesively bonded to the fibrous web at a plurality of discrete spaced peripherally located areas and the fibrous and elastomeric material lying between the heat sealed areas is either left unbonded or is removed. The improved dressings thus provided have higher flexibility and extensibility than prior art dressings of this type by virtue of which they may conform more readily to various body contours.

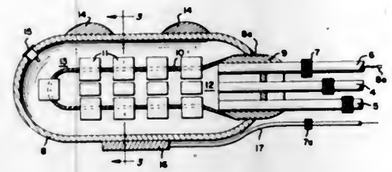
3,369,548
HEAD IMMOBILIZING DEVICE FOR SURGERY AND EXAMINATION
Frank C. Moore, 3935 Arthington Blvd. 46226, and Eugene M. Helveston, 3785 E. 62nd St. 46220, both of Indianapolis, Ind.
Filed Apr. 8, 1965, Ser. No. 446,591
9 Claims. (Cl. 128—303)



A headrest for immobilizing a head during surgery or examination. The headrest includes a top wall forming a central depression of generally semi-oval shape, a depending side wall merging with the top wall along a

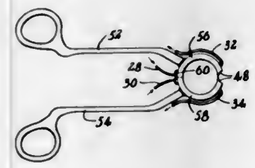
smooth rim and terminating along a lower peripheral edge extending along a single plane, and a neck depression provided in the rim.

3,369,549
CAPSULE PROBE HAVING THERMOELECTRIC HEAT EXCHANGE MEANS THEREIN
Thomas A. Armao, 1242 56th St., Brooklyn, N.Y. 11219
Filed Oct. 5, 1965, Ser. No. 493,012
9 Claims. (Cl. 128—303.1)



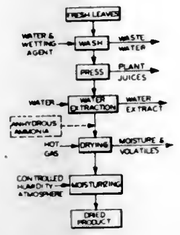
1. A capsule probe for supplying heat or cold to the viable tissue of the ducts, lumens and cavities of the body, comprising an outer substantially cylindrical casing of substantially rigid heat conducting material, a shell of insulating material within said outer casing and spaced therefrom, a plurality of thermocouples mounted in said shell and each having one end in operative relationship with said outer casing for transferring heat between said thermocouples and said outer casing, said thermocouples being of the type which when a direct current is passed through them get hot on one end and cold on the other end, said thermocouples being electrically connected in series, heat exchange medium conducting means in operative relationship with the other ends of the thermocouples for conducting a heat exchange medium in relation to the other ends of the thermocouples so as to transfer heat between the heat exchange medium and the thermocouples, and conduit means coupled to one of said thermocouples and having electricity conducting means therein for energizing the thermocouples.

3,369,550
CRYOGENIC CLAMPS
Thomas A. Armao, 1 78th St., Brooklyn, N.Y. 11209
Continuation of application Ser. No. 328,447, Dec. 2, 1963, which is a continuation-in-part of applications Ser. No. 242,019, Dec. 3, 1962, and Ser. No. 134,733, Aug. 29, 1961. This application Feb. 17, 1967, Ser. No. 616,987
9 Claims. (Cl. 128—303.1)



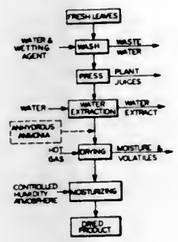
1. A clamp comprising a pair of elongated mutually hinged members extending in a common plane and containing a hinge, an activating handle integral with each elongated member, inter-engaging clamp halves integral with said elongated members, at least one of said clamp halves having means for circulating cooling fluid within the walls of said clamp half, and a magnet attached to each of said elongated members, at least one of said magnets being movable in said elongated member so that it may be so positioned that the magnets either attract or repel one another.

3,369,551
TOBACCO SUBSTITUTE
Robert G. Carroll, West Palm Beach, Fla., assignor, by direct and mesne assignments, to Profair Corporation
Filed May 31, 1966, Ser. No. 553,805
8 Claims. (Cl. 131—2)



1. A tobacco substitute base material having as its principal ingredient a water and organic solvent extracted porous residuum of substantially exclusively the leafy portion of a plant selected from the group consisting of lettuce, cabbage, broccoli, collard, kohlrabi, spinach, and papaya, said residuum consisting essentially of about 9–22% protein and related nitrogen compounds from said leafy portion, and about 76–90% carbohydrates from said leafy portion, wherein other chemical constituents from said leafy portion are not more than about 2% of said residuum, said residuum in its final form having substantially the same leafy character as that of the leafy portion from which it was derived.

3,369,552
PROCESS FOR PRODUCING A TOBACCO SUBSTITUTE
Robert G. Carroll, West Palm Beach, Fla., assignor, by direct and mesne assignments, to Profair Corporation
Original application May 31, 1966, Ser. No. 553,805. Divided and this application Sept. 23, 1966, Ser. No. 581,631
6 Claims. (Cl. 131—2)



The specification describes a process for producing a tobacco substitute from leafy vegetation, and the resultant product. The vegetation is subjected to both a water and organic solvent extraction to remove from the vegetation substantially all of the constituents except the cellulosic and protein and related compound constituents. Between the water extraction and the organic solvent extraction

the product is dried to a very low moisture content, and then humidified to a higher moisture content.

ERRATUM

For Class 131—92 see:
Patent No. 3,369,554

3,369,553
NAIL POLISH REMOVING DEVICE

Dixie Keesee, 4040 Denton Highway, Fort Worth, Tex. 76117

Filed Oct. 12, 1964, Ser. No. 403,076
1 Claim. (Cl. 132—73.5)



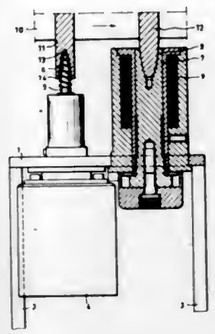
1. In a device for the use of manicurists for applying a polish removing fluid, which may consist essentially of a solvent suitable for use in removing nail polish, to a person's nails individually, one at a time, while at the same time subjecting the nails to a vigorous scrubbing action in the presence of the polish removing fluid whereby the polish is effectively removed therefrom and the nails are thoroughly cleaned, the combination of a rigid, imperforate cup shaped holder which is conformable to the nail joint of an individual finger and is receivable thereon, and which may be conveniently grasped between the fingers of an operator, and a disposable absorbent pad, substantially coextensive with the peripheral inner surface of the holder, removably inserted therein and forming an inner lining therefor, and which advantageously may be saturated with polish removing fluid upon pouring a quantity of polish removing fluid into the holder, the absorbent pad comprising a substantially rectangular piece of molded cellular resilient sheet material which in its operative position overlies the inner wall surface of the holder, beginning at the top thereof, with its vertical edges meeting, and the holder having a radially inwardly and longitudinally extending integral projection for abutting engagement between the meeting edges of the absorbent pad to prevent circumferential displacement of the absorbent pad relative to the holder, and a detachable base providing a support for the holder when not in use, the holder having an integral axial projection on its bottom end and the base having an upwardly facing socket therein for engagement by said projection whereby the holder may be removably secured to the base.

3,369,554
DEVICE FOR TAPERING THE ENDS OF SUBSTANTIALLY CYLINDRICAL CIGAR BUNCHES

Stig Ernst Olofsson, Enebyberg, Sweden, assignor to Arenco Aktiebolag, Vallingby, Sweden

Filed May 7, 1965, Ser. No. 453,975
Claims priority, application Sweden, June 1, 1964
6,640/64
4 Claims. (Cl. 131—92)

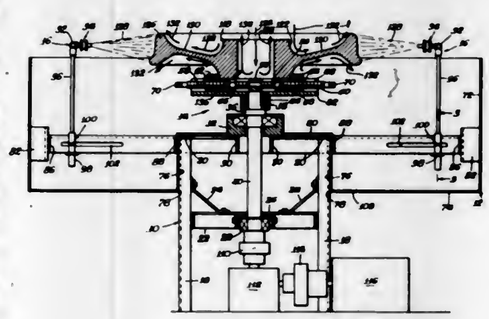
A device for transforming the end portions of substantially cylindrical cigar bunches into a tapered shape, comprising a pusher element having the shape of a pointed screw, means to move said pusher element into the end portion of a bunch and then withdraw said pusher element, means to rotate said pusher element in a direction in which the tobacco filler is pushed by the front flank of the thread of the screw axially inwards and obliquely towards the periphery of said bunch, an end forming device, and means to momentarily press said end forming device against said pretreated end portion of said bunch.



3,369,555
APPARATUS FOR HEAT TREATING ANNULAR CASTINGS

William M. Heflin, Jr., Elmhurst, Ill., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey

Filed Oct. 24, 1965, Ser. No. 504,844
1 Claim. (Cl. 134—123)

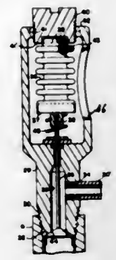


A table **42** rotatable on a substantially vertical axis comprises guide members **46** and **48** having substantially parallel mutually facing guide surfaces **50** and **52** for clamps or jaws **62** and **64**. The jaws comprise right-hand and left-hand threaded nuts **66** and **68** engaging complementary threads of a screw **56** for actuation thereby to clamp one end of a railway car wheel hub **122** whereby the table and wheel may be rotated so that its rim **126** is sprayed by a coolant fluid from nozzles **94** mounted on a manifold **92** carried by legs **96** maintained by bolt and nut assemblies **100** within slots **102** of frame members **90** whereby the manifold **92** and its nozzles may be adjusted in a plane substantially parallel to the rotational axis of the screw **60**. This arrangement not only accommodates wheels of various sizes and dimensions, but also permits adjustment of the spray nozzles **94** to compensate for misalignment of the wheel in the event the distance between the rim and the nozzles at one side of the clamped wheel should be less than that between the rim and the nozzles at the opposite side of the wheel.

3,369,556
WATER SYSTEM FREEZE PROTECTION VALVE

Thomas G. Allderdice, 12816 Aladdin Road, Mandarin, Fla. 32064

Filed Jan. 13, 1965, Ser. No. 425,127
16 Claims. (Cl. 137—62)

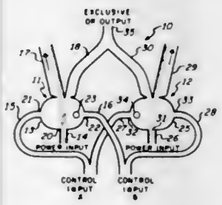


A freeze protection valve for use in a water supply system having a bellows substantiall filled with an aqueous liquid which, when frozen, expands the bellows thereby opening the valve member to permit water to flow from the supply. A lost motion driving connection is operatively associated with the bellows and valve member to prevent opening of the valve member during expansion of the bellows due to heating of the aqueous liquid at normal atmospheric temperatures.

3,369,557
FLUID LOGIC EXCLUSIVE OR DEVICE

Orin L. Wood, Salt Lake City, Utah, assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Oct. 23, 1964, Ser. No. 405,981
1 Claim. (Cl. 137—81.5)

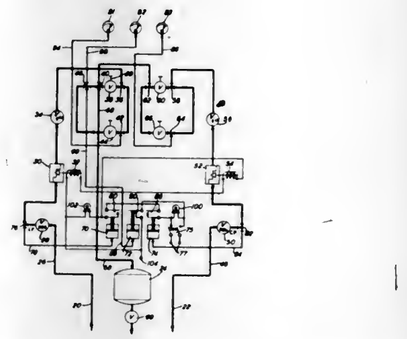


1. A pure fluid logic device comprising,
(a) first and second monostable pure fluid logic amplifiers each having a power stream input channel for defining a power stream, first and second control stream channels for defining first and second opposing control streams for impacting with said power stream, first and second output channels each defining a path of fluid flow, an interaction chamber communicating with said channels, and means for providing each of said amplifiers with its monostable characteristic whereby said power stream normally tends to flow through said first output channels in the absence of a control stream,
(b) the length of said control stream channels which provide control streams tending to maintain said power streams flowing through said first output channels being shorter than the length of said control stream channels which provide control streams tending to switch said power streams whereby inadvertent switching is prevented,
(c) a first control signal source connected to said first input channels of each of said first and second amplifiers,
(d) a second control signal source connected to said second control signal channels of each of said first and second amplifiers, and
(e) said second output channels being connected to a common exclusive OR output channel whereby in the presence of a control signal being provided exclusively from control signal source A or B, an output signal is provided from said exclusive OR output channel.

3,369,558
GAS MIXTURE PROPORTIONER

Howard G. Hughey, Fanwood, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 30, 1965, Ser. No. 483,652
8 Claims. (Cl. 137—88)



1. In a gas mixture proportioner, in combination, first and second gas sources, said gas sources having individual orifices relatively proportioned according to the desired gas mixture, individual electrically controlled normally closed shut-off valves for controlling the passage of gas from the respective gas sources through the respective orifices, individual pressure actuated normally open switches connected to be actuated by the gas pressure in the respective gas sources, means connected to said sources for mixing the outputs of gas from the two sources and supplying the gas mixture to a storage tank, a pressure actuated normally closed switch connected to be actuated by the gas pressure in said storage tank, and an electric control circuit serially connecting said plurality of shut-off valves and said plurality of pressure actuated switches, whereby said shut-off valves are opened provided the said normally open switches are closed by sufficient pressure in both said gas sources and provided the said normally closed switch is not opened by excessive pressure in said storage tank, thereby maintaining a charge of gas in the storage tank, which charge comprises a mixture of the desired proportions as determined by the said orifices.

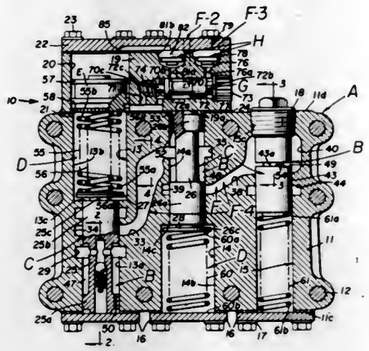
3,369,559
MODULATING VALVE

Eugene S. Murphy, Rockford, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Dec. 30, 1964, Ser. No. 422,367
3 Claims. (Cl. 137—115)

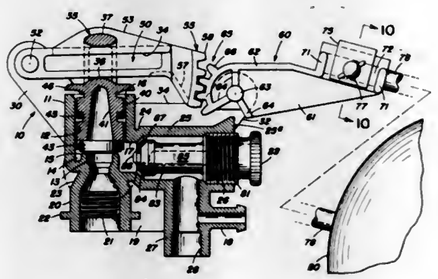
A valve device having a plurality of control chambers interconnected in a cascade manner, each of the valves being of the spring biased spool type; a modulating means

is employed having a fluid biased pilot against which one of these regulator springs bears to determine a regulated



pressure, and another spool valve effective to control interruption of fluid bias on said pilot being operated both in on and off sequences in a delayed manner.

3,369,560
FLUSH TANK REFILL VALVE
Sherwood L. Young, Monson, Mass., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed May 28, 1964, Ser. No. 370,923
5 Claims. (Cl. 137—446)



1. A tank refill assembly for a closet flush tank comprising, in combination:

a valve body of non-metallic material formed with axially spaced and substantially parallel inlet and outlet passages,

said valve body having a pair of laterally spaced substantially parallel and somewhat flexible ears projecting outwardly therefrom, each of said gears being formed with an aperture therethrough adjacent its outer end and said apertures being coaxial with each other,

a substantially cylindrical valve chamber coaxially communicating with said inlet passage and opening through a surface of said body,

a valve seat at the intersection of said chamber and said inlet passage, and a cross passage;

a valve axially reciprocably mounted in said valve chamber and cooperable with said valve seat to control communication between said inlet passage and said chamber,

said valve having a reduced portion extending from said surface of said body and formed with a head at its outer end,

a first lever pivotally mounted on said body and extending adjacent said body surface transversely of said chamber, said first lever being operatively connected to said valve for operation of said valve by said first lever,

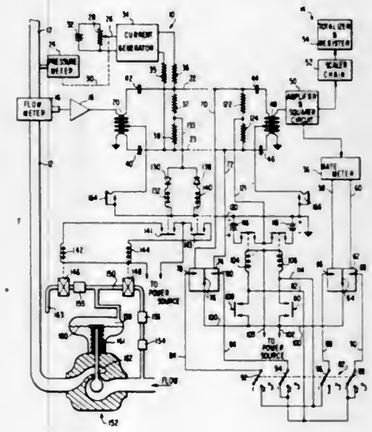
said first lever comprising a forked lever embracing said reduced portion of said valve and engageable with said head,

the fork arms of said first forked lever each having a pin adjacent its outer end, and said pins being coaxial with each other, said fork arms being displaceable between said ears by bending outwardly of said ears for snap engagement of said pins in the ear apertures to form a pivot mounting for said first lever;

a second lever pivotally mounted on said body and having a free end arranged to have a float carrying rod secured thereto, with the float disposed in the tank so that said first lever is oscillated as a function of the water level in the tank;

and gear means interconnecting said first and second levers for oscillation of said first lever by said second lever to displace said valve relative to said valve seat in accordance with the level of water within the tank.

3,369,561
SYSTEM FOR AUTOMATIC REGULATION OF FLOW RATE AND PRESSURE AT A REMOTE LOCATION
Carl W. Zimmerman and Jack R. Hulme, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed May 4, 1966, Ser. No. 547,584
16 Claims. (Cl. 137—486)

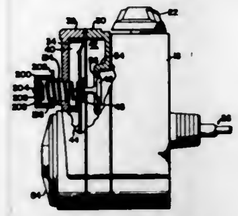


A system for selectively and automatically controlling from a remote location the flow rate and pressure of a fluid flow stream through a pipeline.

3,369,562
PRESSURE REGULATOR
Michael J. Caparone, Arcadia, and Theodore J. Dykzeul, Rolling Hills, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Original application Nov. 29, 1962, Ser. No. 243,968, now Patent No. 3,159,346, dated Dec. 1, 1964. Divided and this application Sept. 28, 1964, Ser. No. 399,679
4 Claims. (Cl. 137—505.38)

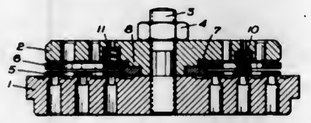
1. A pressure regulator comprising a housing having an inlet and an outlet interconnected together by a valve seat, said housing having spaced stopped means thereon, a valve

member for opening and closing said valve seat, a flexible diaphragm interconnected to said valve member for controlling movement of said valve member, said housing having a tubular portion, spring means disposed in said tubular portion and having one end engaging said diaphragm to tend to move said valve member to its open position, and a cup-shaped control knob external to said housing and engaging the other end of said spring means whereby movement of said control knob relative to said



housing varies the pressure at said outlet, said control knob having an outer end wall, said control knob having a plate rotatably mounted to said end wall by a threaded fastening member disposed centrally through said end wall and said plate and having an integral indicating pointer disposed between said stop means to not only indicate the setting of said control knob relative to said housing but also to engage said stop means to limit movement relative to said housing.

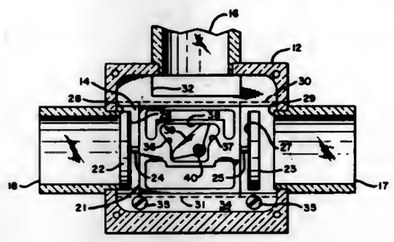
3,369,563
PLATE VALVE HAVING A DAMPER PLATE
Alois Deminger, Vienna, Austria, assignor to Hoerbiger Ventilwerke Aktiengesellschaft, Vienna, Austria
Filed Oct. 19, 1965, Ser. No. 498,002
Claims priority, application Austria, Nov. 3, 1964, A 9,293/64
3 Claims. (Cl. 137—514)



1. A plate valve comprising a valve seat and a valve guard located in spaced relation to the valve seat and the valve seat and the valve guard having through flow openings therein, a valve plate arranged in the interstice between the valve seat and the valve guard, and a damper plate provided between the valve plate and the valve guard and displaceable towards the valve guard, both plates being slidingly guided on a stepped-down guide surface, the shoulder of same representing an abutment for the damper plate and limiting the stroke motion of the damper plate in the direction of the valve seat, the damper plate presenting a recess in the area of its contact with the shoulder of the guide surface, so that the damper plate will protrude with its rim located above the valve plate from the said shoulder when resting on the shoulder.

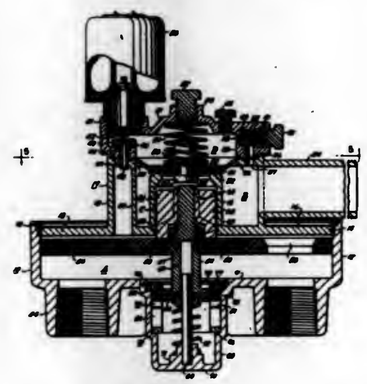
3,369,564
TRANSFER VALVE
Albert A. Puccinelli, San Jose, and Joseph R. Smith, Jr., Milpitas, Calif., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Dec. 16, 1964, Ser. No. 420,250
1 Claim. (Cl. 137—625.5)

A three-port transfer valve having one continuously open main port with the fluid flow to the main port being selectively transferable from one to the other of the remaining two ports which are positioned in opposed coaixal relationship. A hollow valve member, guided for linear movement between these two opposed valves, has a cam surface formed on the inside wall thereof. A cam driver is rotatably supported in engagement with the cam surface so that when the cam driver is rotated it will



force the valve member toward either of the two opposed ports, thereby closing one and opening the other. When in this position, the valve member is locked by the cam driver against movement in response to fluid pressure in the closed port. The cam driver is driven by remote control, with little or no power being required to hold the valve member in the locked position, even when subjected to substantial acceleration forces.

3,369,565
MULTIPORT VALVES
Eliot E. Haggard, Jr., Duncanville, Tex., assignor to Telsco Industries, Dallas, Tex., a corporation of Texas
Filed Feb. 3, 1966, Ser. No. 524,686
10 Claims. (Cl. 137—625.11)



1. A multiport valve including a body having an inlet chamber surrounding an axial chamber and an outlet chamber underlying the inlet and axial chambers and communicating with said inlet chamber through the axial chamber and a pressure chamber overlying said inlet and axial chambers, an inlet communicating with said inlet chamber for supplying liquid under pressure thereto, a plurality of outlets communicating with the outlet chamber and arranged in a circle so as to be equidistant from a common axis, pressure responsive means separating the pressure chamber from said underlying inlet and axial chambers and for closing the upper end of said axial chamber so as to control flow from said inlet chamber to said outlet chamber, a valve member reciprocably and rotatably mounted in the outlet chamber and having at

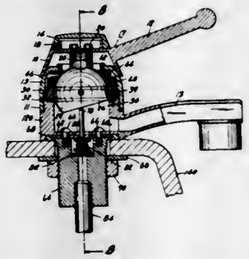
least one opening for successive registration with one of the outlets, the valve member being independent of the pressure responsive means so as to be reciprocable and rotatable relative thereto and being adapted to overlie and close the other outlets when the opening of said member is in registration with one of said outlets, means for turning said valve member upon reciprocation thereof so as to rotate its opening out of registration with one of said outlets and into registration with another of said outlets, means for urging said valve member away from said outlets, means for admitting liquid under pressure to said pressure chamber for holding said pressure responsive means in closing relation to said upper end of said axial chamber to prevent flow from said inlet chamber to said outlet chamber, means for relieving the pressure in said pressure chamber to permit the pressure in said inlet chamber to move said pressure responsive means out of closing relation to said axial chamber upper end, and means for admitting liquid under pressure to said outlet chamber above said valve member for reciprocating said member toward said outlets.

3,369,566

SINGLE LEVER MIXING FAUCET

William C. Schmitt and Robert J. Cordle, Milwaukee, Wis., assignors, by mesne assignments, to Milwaukee Faucets, Inc., a corporation of Delaware

Filed Sept. 20, 1965, Ser. No. 488,389
10 Claims. (Cl. 137—636.1)



1. A single lever faucet comprising, a valve body having a plurality of inlet ports formed therein and communicating on one side thereof with a mixing chamber and on the other side with fluid supply lines, a discharge spout having a conduit communicating with said mixing chamber, a flexible membrane mounted on said valve body and having a plurality of flexible valve discs hinged thereto and each spanning one of said inlet ports, an actuating lever carried by said body, and means interposed between said lever and said valve discs for transmitting motion from said lever to said valve discs to selectively swing said discs to admit supply water from selected ones of said supply lines through the respective ports and into said mixing chamber for discharge therefrom through said spout.

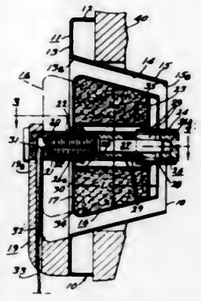
3,369,567

VALVE FOR GASEOUS MEDIUM

Birger Lärkfeldt and Joel Rosenberg, Jonkoping, and Erland Haglund, Mullsjo, Sweden, assignors to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden

Continuation-in-part of applications Ser. No. 323,641, Nov. 14, 1963, and Ser. No. 333,974, Dec. 27, 1963. This application July 26, 1966, Ser. No. 568,031
Claims priority, application Sweden, Nov. 15, 1962, 12,288/62; Jan. 12, 1963, 347/63
16 Claims. (Cl. 138—46)

Apparatus for throttling air or other gaseous medium particularly adapted for exhaust valve assemblies in ventilating and air conditioning ducts. The valve assembly includes a frontal plate having a gaseous medium inlet aperture merging into a valve seat having a tapered sleeve like portion. The valve body, which is positionable in the seat with its widest portion adjacent the gaseous medium inlet, has the exterior shape of a truncated cone. The valve body is supported relative to the sleeve so that in the open position a slot shaped passage is formed intermediate the sleeve and the body, a valve body being pro-



vided with actuator means to permit substantially axial movement of the valve body relative to the sleeve and in this manner provide throttling of the gaseous medium as it passes across the valve body. The valve body, in order to decrease ambient noise due to the throttling action of the valve assembly, has a great length in the direction of flow, preferably equal to or greater than one-half the mean or average cross sectional diameter of the valve body so as to effect smoothing of the gaseous medium as it passes through the sleeve about the valve body.

3,369,568

SIDE SEAM SEAL FOR METAL CONTAINERS

Everett R. Davis, Western Springs, Ill., and Edward W. Merrill, Belmont, and Donald D. Hundt, Arlington, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

Original application June 23, 1964, Ser. No. 377,222, now Patent No. 3,314,388, dated Apr. 18, 1967. Divided and this application Sept. 22, 1966, Ser. No. 581,255
5 Claims. (Cl. 138—168)



A sealing system for locked side seams on can bodies which is comprised of a high modulus adhesive disposed in that portion of the seam which will be exposed to the atmosphere and a low modulus sealant disposed in the portion of the seam which will face the interior of the can. Illustrative adhesives are curable polyurethanes and polyethylene, plastisols of vinyl chloride polymers and rubber blends. Suitable sealants are polyisobutylenes and polyamides.

3,369,569

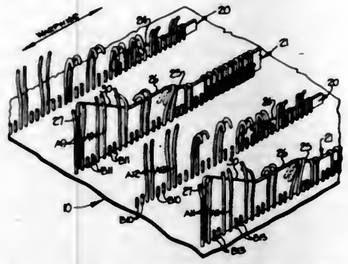
METHOD OF MAKING SHAGGY CUT PILE FABRICS

James E. Troy, Spray, N.C., assignor to Fieldcrest Mills, Inc., Spray, N.C., a corporation of Delaware

Original application Jan. 12, 1966, Ser. No. 520,256. Divided and this application May 25, 1967, Ser. No. 641,217
8 Claims. (Cl. 139—46)

A bank of pile yarns is shogged weftwise in one direction in a stepwise manner to loop the pile yarns beneath each of a plurality of successive picks and over successive groups of warp yarns while forming loops therefrom

over the groups of warp yarns. The direction of shogging is reversed and the operation is repeated to complete a shogging cycle. During the latter part of the shogging cycle or subsequent to each cycle, the loops extending over alternate groups of warp yarns are severed to form



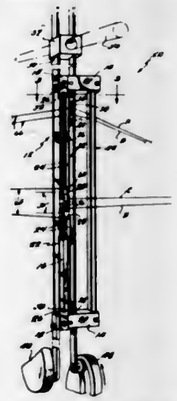
short U-shaped cut pile tufts having legs of substantially equal length and to form abnormally long U-shaped cut pile tufts having legs of substantially equal length by retracting pile yarn portions from beneath certain picks.

3,369,570

LENO SELVEDGE DEVICE

Charles B. Lacy, Lanett, Ala., assignor to West Point-Pepperell, Inc., West Point, Ga., a corporation of Georgia

Filed Dec. 19, 1966, Ser. No. 602,849
22 Claims. (Cl. 139—54)



This invention relates to an apparatus having a pair of vertically disposed needles carrying needle ends, a leno bar having slots through which leno ends pass, and vertical rods engaging the leno ends to restrain vertical movement thereof. These parts cooperate to vertically reciprocate the leno ends and needle ends for forming sheds in which weft threads are inserted and to cross the leno ends between the needle ends during such vertical movement with the result that a tight weave is formed for the selvedge edge which prevents fraying or raveling of the selvedge.

3,369,571

LOOM AND METHOD OF WEAVING

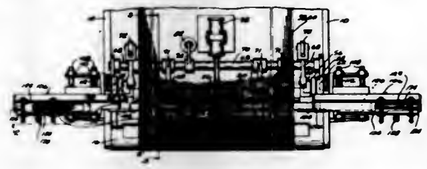
Norman A. Beduhn, Oshkosh, Wis., assignor to Wisconsin Wire Works, Appleton, Wis., a corporation of Wisconsin

Filed Sept. 12, 1966, Ser. No. 578,581
10 Claims. (Cl. 139—188)

The instant loom is specifically designed for weaving Fourdrinier wire belts for paper making machines. The lay is guided for reciprocable movement on a predetermined path which may be either arcuate or angular.

Guides on the sides of the loom have channels for rollers connected with the lay. In general the lay moves parallel to the lower warp wires of the shed. Instead of being stationary, the shuttle race moves with the lay and is so close to the lower warp wires that it would contact these wires near the fell if it were not for an arrangement by which the angle of the lay changes slightly as it approaches the fell.

The lay is preferably made strong but is as light in weight as possible. Since beat-up is preferably effected by the base portions of the reed dents, the common heavy lay cap may be omitted. In contrast with conventional looms for making comparable products, the lay does not depend on gravity for beat-up. Required kinetic energy is achieved by greater speed with lower mass. Moreover, control of mass is desirably provided by weights which are mounted on a rock shaft connected with the lay, the weights preferably (but not necessarily) being radially adjustable with respect to the axis of oscillation of the shaft. The lay movement is preferably effected pneumatically in both directions, the lay advance being effected by constant air pressure in a cylinder in which the air acts as an air spring in the return of the lay to cushion its retractive movement. The return is also preferably brought about by supplying an opposing air pressure. The lay, being relatively light, moves sharply toward and from the fell.



The shuttle boxes are mounted on the frame independently of the lay. This is very desirable to relieve the lay of their inertia and momentum, which, being concentrated rather than distributed, tends to produce deflection when beat-up occurs. They are movable parallel to the warp but have only very limited movement compared to that of the lay. The arrangement is such that the shuttle boxes are biased forwardly. As the lay approaches its retracted position, it engages the shuttle boxes to move them rearwardly in registry with the race, thereby assuring alignment between the shuttle and the race at the time the shuttle is picked.

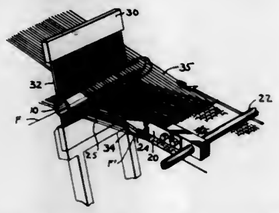
The shuttle is preferably picked pneumatically, although this is not essential. Regardless of how the shuttle is picked, it is an important feature of the present invention to speed up loom operation by picking the shuttle while the lay is still in course of retraction away from the fell. Theoretically, at least, the picking operation could even be done by hand. In the preferred method of operation, the shuttle is in movement rearwardly with the lay and is picked just as soon as the race reaches a point at which there is clearance in the shed for the shuttle to pass through from one side of the loom to the other.

Elimination of the suspension usually provided by swords greatly reduces the over-all height of the loom frame, the height being determined in the instant loom by the supports for the shed-forming heddles. The heddles function conventionally and are used in any desired number and activated in any desired sequence to effect the desired pattern of weave.

The shed will be changed immediately following beat-up. Because there is normally an immediate retraction of the lay, there need be no rebound, as in a gravity-actuated lay, although rebound may occur if desired for special purposes. Retraction of the lay occurs substantially instantly following the movement of the heddles. The new shed will have been formed and the shuttle boxes engaged

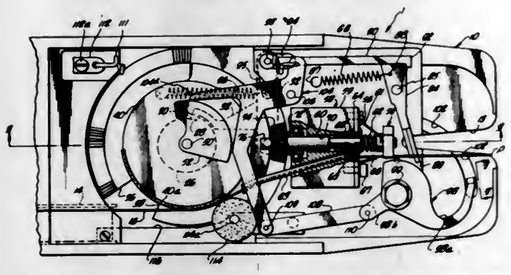
by the retracting lay before the clearance is adequate to pass the shuttle. As soon as the race reaches that point at which shed clearance is adequate, the shuttle is picked, the lay and race then coming to rest subject to air spring cushioning.

3,369,572
SELVAGE STABILIZER FOR LOOMS
Carl F. Libby, Stoughton, Mass., assignor to John D. Riordan, Alton, N.H., and Gertrude C. Libby, Stoughton, Mass., trustees of the Libby Family Trusts
Filed Aug. 29, 1966, Ser. No. 575,891
3 Claims. (Cl. 139—195)



1. In a loom having a frame, warp-shed forming means, a reed with dents and means for projecting picks of weft through the shed, a selvage stabilizer comprising a thin plate mounted in a vertical plane on a stationary part of said frame, said plate extending rearwardly above and beyond the fell of the fabric which is being woven and being arranged to be received between dents of said reed when the reed moves forward to beat up a pick of weft yarn, the rear end portion of said plate having an edge portion sloping downwardly and forwardly from the plane of the upper threads of the shed to below the plane of the lower threads, said plate also having a forwardly facing edge portion between the planes of the upper and lower threads of the shed and to the rear of the fell of the fabric.

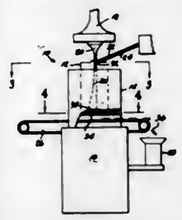
3,369,573
TYING APPARATUS
Silveus M. Baker, Arcadia, Jerrel M. Morris, Sierra Madre, and Robert W. Taylor, Crestline, Calif., assignors to Royal Industries, Inc., Pasadena, Calif., a corporation of California
Continuation-in-part of application Ser. No. 341,954, Feb. 3, 1964. This application Oct. 23, 1964, Ser. No. 406,960
12 Claims. (Cl. 140—93.6)



Tying apparatus for tying articles with resilient tie material capable of being twisted to form a tie by automatically actuating the machine upon presentation of an article to be tied to cause the tie material to be wrapped around the article to be tied and tied thereto allowing the tied article to be removed from the tying apparatus.

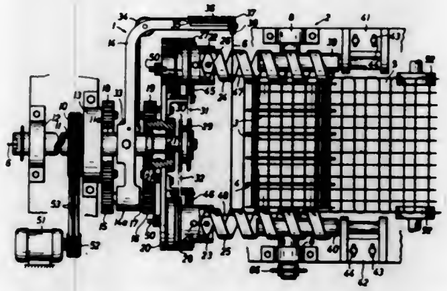
The tying apparatus includes a trigger actuator for engaging an article to be tied in its path to the tying and cutting device to actuate the apparatus for a tying cycle. Upon actuating the apparatus, a preselected length of tie material is advanced adjacent the tying and cutting device and a tie material wrapping arm. The delivery of the tie material causes the wrapping arm to wrap the adjacent length of tie material around the article to be tied in a substantially U-shaped configuration. Sequentially, then, the wrapped tie material is engaged by the tying and cutting device and twisted upon itself while substantially simultaneously severing the material from its source of supply thereby allowing the tied article to be removed from the apparatus.

3,369,574
METHOD AND APPARATUS FOR EXTRUDING WIRE
Albert H. Horne, Mendenhall, Pa., assignor to Hoover Ball and Bearing Company, Saline, Mich., a corporation of Michigan
Filed Oct. 20, 1965, Ser. No. 498,501
7 Claims. (Cl. 140—105)



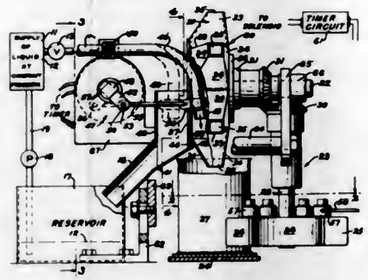
The manufacture of generally sinuous shape wire springs by progressively forcing straight wire pieces downwardly through a die passage shaped to progressively bend each piece in a horizontal plane. The wire pieces are arranged in a vertically extending stack in the die and each time a wire piece is added to the stack, the stack is forcibly moved through the die passage to subject each wire piece to a force causing deformation thereof so that each piece is progressively bent so that it emerges from the die in the desired final sinuous shape.

3,369,575
APPARATUS FOR THE MANUFACTURE OF NETTING WITH INTERSECTING AND WELDED LONGITUDINAL AND TRANSVERSE FILAMENTS OR WIRES
Walter Rosler, Am Springs, Delecke (Mohnsee), Germany
Filed Aug. 19, 1965, Ser. No. 480,989
Claims priority, application Germany, Aug. 22, 1964, R 38,651; July 20, 1965, R 41,135
12 Claims. (Cl. 140—112)



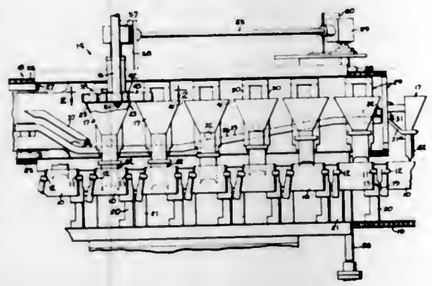
The invention disclosed herein relates to novel apparatus for manufacturing netting with intersecting longitudinal and transverse strands, filaments or wires which are welded or secured to one another.

3,369,576
LIQUID DISPENSING APPARATUS
Peter J. Pinto, Union City, Calif., assignor to Leslie Salt Co., San Francisco, Calif., a corporation of Delaware
Filed Jan. 25, 1965, Ser. No. 427,753
18 Claims. (Cl. 141—86)



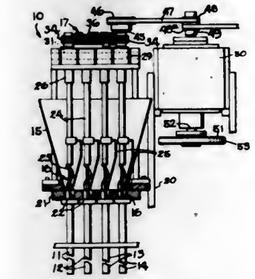
This liquid dispensing device places a measured charge of liquid into each of a series of rapidly moving containers, while minimizing splatter, drip, and spillage losses. The device is used with a system having liquid supply means and a conveyor for containers. A hollow dispensing wheel is rotatably mounted above the conveyor where the containers pass one at a time. The wheel comprises a circumferential series of successive funnel-like peripheral pouring spouts, always open at both ends and succeeding one another at sharp edges. A measuring means premeasures a charge of liquid and sends it to an outlet, from which it is dispensed in synchronization with the rotation of the wheel into one spout for each container for each charge. The wheel is rotated in synchronization with a container moving beneath it so that one spout moves through a dispensing arc for each container, to fill that one container with its charge while moving in the same direction as the container. The synchronizing may be achieved by the use of a container-actuated star wheel which is connected both to the dispensing wheel and to the measuring means.

3,369,577
MECHANISM FOR DISPENSING MEASURED AMOUNTS OF FLUENT MATERIAL
Kenneth R. Johnson and Carl J. Beert, Rockford, Ill., assignors to Bartelt Engineering Company, Inc., Rockford, Ill., a corporation of Delaware
Filed Dec. 31, 1964, Ser. No. 422,744
8 Claims. (Cl. 141—132)



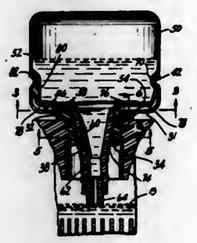
Mechanism for dispensing measured charges of fluent material into funnels supported on an endless carrier to pass through a filling zone and beneath a filling spout delivering a constant volumetric flow of material toward the passing funnels. A measuring device is disposed between the path of the funnels and the spout to divide the flow into sections of equal length whereby each funnel receives a measured amount of material. In the preferred form, the measuring device comprises a body journaled on the machine frame for rotation about a vertical axis alongside of the path of the funnels, and a plurality of radially extending bars of triangular cross sections having vertexes facing upwardly for precise division of the flow. In the modified form, the measuring device is a disk having a series of arcuate dispensing openings equally spaced apart around the periphery of the disk. In each case, the measuring device is rotated continuously in one direction to move successive dispensing openings above the passing funnels and at the speed of the funnels, and the openings are separated by imperforate sections which cover the spaces between adjacent funnels, the path of the receptacles being generally tangent to the path of the dispensing openings.

3,369,578
DISPENSING DEVICE
Tadeusz Lampert, Rockford, Ill., assignor to Bartelt Engineering Company, Inc., Rockford, Ill., a corporation of Delaware
Filed Dec. 7, 1964, Ser. No. 416,481
4 Claims. (Cl. 141—235)



A plurality of spaced feed augers disposed within a hopper and selectively adjustable toward and away from each other to vary the spacing between the augers so that the latter may be alined with containers of different sizes and shapes to discharge a product from the hopper into the containers. A drive mechanism for rotating the augers is in driving engagement with the augers in all of their adjusted positions.

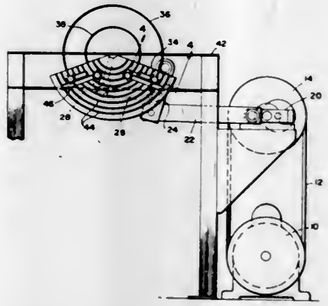
3,369,579
BATTERY WATER RESERVOIR
John R. Hollowell, Taylor, Mich., assignor to John Hollowell Engineering Division, Inc., Dearborn, Mich., a corporation of Michigan
Filed July 6, 1965, Ser. No. 469,534
2 Claims. (Cl. 141—310)



Apparatus including a conventional storage battery and a device for use therewith which serves as a reservoir for battery water for metering the water as needed to a cell of the battery and which also serves as a closure

cap for the conventional opening to the cell. The device is a two-piece structure formed of semi-resilient plastic material, the first of the pieces is a cup-shaped receptacle with an integral, depending sleeve. The external surface of the sleeve is threaded so that the first piece can be threadedly secured in the conventional battery opening. The second of the pieces is a closed-top cylindrical container which also has a depending sleeve. The cylindrical container has a circumferential dimension allowing it to be snapped into a seated position in the cup-shaped portion of the receptacle and the container sleeve then projects through the receptacle sleeve terminating at the surface of the electrolyte in the battery so that battery water can be metered to the cell if the level of the electrolyte descends below the lower end of the container sleeve. The container can be removed from the receptacle for refilling, when necessary. Cooperating vent passageways are formed between the mating surfaces of the pieces for venting the battery without loss of liquid through such passageways.

3,369,580
CUTTING APPARATUS
Edward Joseph Taft, 27 Sargeant St., Holyoke, Mass. 01040
Filed June 14, 1967, Ser. No. 646,004
10 Claims. (Cl. 143—16)

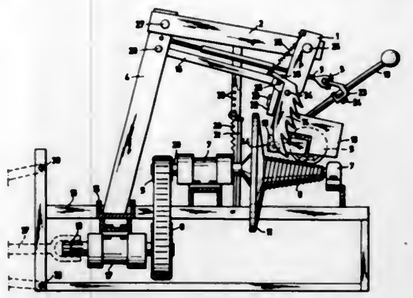


An improved cutting device for producing a series of semi-circular tubular segments for use as pipe insulation. The cutting device employs a series of oscillating semi-circular cutting blades which are formed and fitted to an arcuate shaped plate. The plate is characterized by a series of parallel arcuate grooves on the surface for insertion of the blades, and further characterized by a plurality of slots in which fastening devices are inserted. The plate is received to a means to impart oscillatory motion to the plate and blades.

The grooved plate is shaped to less than about a 150° circular segment so that on oscillation of the plate, about the axis of rotation, the ends of the plate do not project above the cutting surface. The plate permits saw blades to be bent, fitted and secured into the plate grooves to form in an easy and rapid manner a series of concentric circular blades.

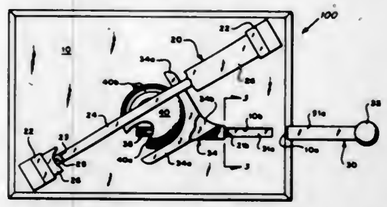
3,369,581
BARKING MACHINE
Hannu Tapani Juhola, Mantsala, Finland
Filed Apr. 8, 1965, Ser. No. 446,678
4 Claims. (Cl. 144—208)

A cutter disc and a feed roller of a barking machine are mounted on a common driven shaft. A helical rib on the roller frictionally engages a log placed on the roller to turn the log about its axis, to advance it axially, and to move it toward the cutter disc. The axial advance is



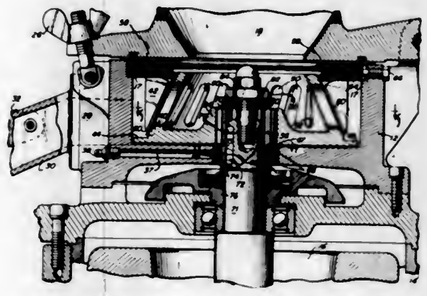
controlled by a knife blade whose cutting edge engages the log at an adjustable angle to the log axis.

3,369,582
TOMATO SLICER
Clayton E. Giangiulio, Skyline Drive, R.D. 2, Malvern, Pa. 19355
Filed May 4, 1967, Ser. No. 636,176
9 Claims. (Cl. 146—169)



An apparatus adapted to slice soft fruit and vegetables and tomatoes in particular. A slidable pusher has a pocket to hold the fruit or vegetables and a number of slots to pass through the blades. A number of thin non-serrated blades are set at or near a preferred angle to the direction of motion of the pusher, and the pusher pocket has sides which intersect the blades within preferred angular limits.

3,369,583
COMMINUTING MACHINE
Carl Schnell, Winterbach, near Schorndorf-Wurttemberg, Germany, assignor of one-half to The Griffith Laboratories, Inc., Chicago, Ill., a corporation of Illinois
Filed July 8, 1965, Ser. No. 470,402
Claims priority, application Austria, Sept. 28, 1964, 8,258/64
22 Claims. (Cl. 146—192)



A comminuting machine, particularly for foodstuff. A basket with openings and cutting edges rotates relative to a surrounding ring also with openings and cutting edges

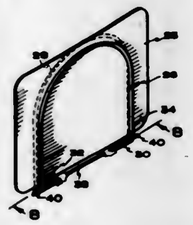
to provide a comminuting column between the basket and ring. The column width is adjusted by axial movement of the ring or basket. Material is fed to the column through the basket openings by centrifugal force, comminuted and forced through the ring openings to a discharge outlet.

3,369,584
BAG FOR STORING SOILED LAUNDRY OR WASTE
Frank Faccio, 1009 Cleveland St., Uniondale, N.Y. 11553, and David Constantine, Concord House, Scarsdale, N.Y. 10583
Filed May 26, 1967, Ser. No. 641,688
4 Claims. (Cl. 150—3)



A bag such as a laundry or hamper bag for collecting soiled and particularly contaminated laundry or waste which can be tightly closed without necessitating direct physical or even close contact with the contents of the bag by turning up an outer cover of the bag from a lower position exposing the filling end of the bag to an upper position protruding above the filling end and then closing the ends of the outer cover, thereby forming a completely closed envelope.

3,369,585
CREDIT CARD POCKETBOOK
Lyle J. Martinsen, 315 East 6310 South, Murray, Utah 84107
Filed June 15, 1966, Ser. No. 557,677
8 Claims. (Cl. 150—39)



A card-carrying pocketbook containing a resiliently biased clip in the form of jaws adapted (a), when crossed, to securely receive and hold cards in a gripping relation and (b), when the card is removed, to cross over each other to force the pocketbook into an open position thus reminding the owner that the card is absent from the pocketbook.

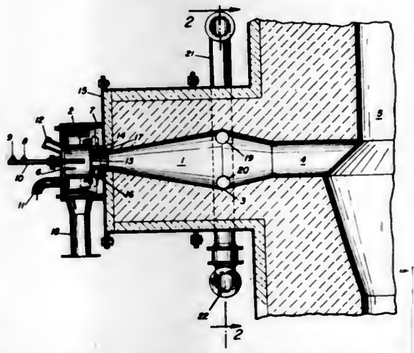
3,369,586
TIRE REPAIR PATCH
Georg Gottauf, Munich, Germany, assignor to Stahlgruber Otto Gruber & Co.
Filed Oct. 12, 1965, Ser. No. 495,037
Claims priority, application Germany, Oct. 13, 1964, ST 22,807
15 Claims. (Cl. 152—367)

A tire repair patch includes a body made of either vulcanized or unvulcanized rubber with reinforcing layers therein in the form of strips angularly superimposed upon each other and containing a plurality of parallel cord



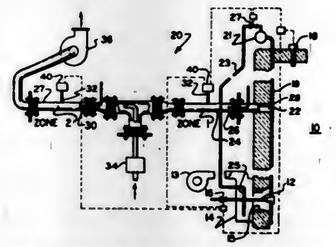
threads. At least some of these cord threads are inverted or bent to point towards the centre of each strip.

3,369,587
BURNERS FOR LIQUID, GASEOUS AND PULVERULENT FUELS
Harro Taubmann, Niederhochstadt, Taunus, Germany, assignor to Westofen G.m.b.H., Wiesbaden, Germany
Filed Apr. 7, 1966, Ser. No. 540,991
Claims priority, application Germany, Mar. 27, 1965, W 38,850
2 Claims. (Cl. 158—1)



A burner has a combustion chamber which is cone shaped and widens conically from the fuel inlet and then narrows conically tapering after attaining a maximum cross-section. A connection is provided to the combustion chamber for a supply of recycled gas or a mixture of recycled gas and air and such connection has an opening for such gases at the maximum cross-section of the combustion chamber to supply such gases substantially tangentially to the frame.

3,369,588
METHOD OF FURNACE SUPERVISION
William L. Livingston, Sharon, Mass., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 7, 1966, Ser. No. 599,939
5 Claims. (Cl. 158—117.5)



A process of supervising a furnace which is fired with a fuel and air mixture. A stream of gas which may or may not contain unburned fuel is withdrawn from the furnace and is passed through a first zone and a second zone. In each of these zones an attempt is made to ignite the stream. Between these two zones air is introduced into the

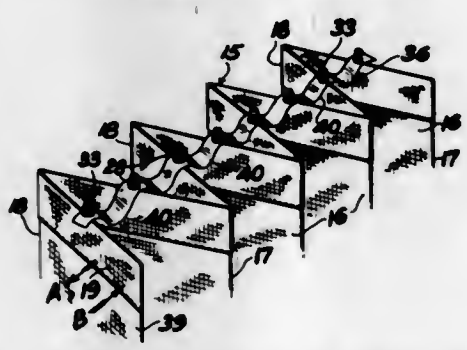
stream. If ignition occurs in zone 1, the fuel to the furnace is terminated in an inerting medium introduced into the furnace. If ignition occurs in zone 2, the fuel is cut back until such ignition ceases.

3,369,589

PLEATED CURTAIN CONSTRUCTION

Carl Albert Benkert, Jr., Birmingham, Mich., assignor, by mesne assignments, to Isabel Scott Fabrics Corp., New York, N.Y., a corporation of New York

Filed Dec. 11, 1964, Ser. No. 417,613
2 Claims. (Cl. 160—84)



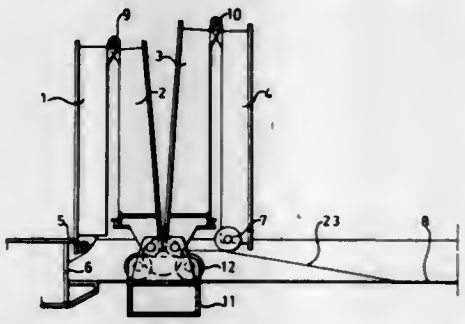
1. In a curtain construction, a pleated body portion comprising a plurality of accordion-folded panels presenting a plurality of vertical fold edges, carrier members at the upper portions of said panels adapted for slidable engagement with suitable traverse track means, and a flexible expansion-limiting tape extending over the tops of said respective panels and attached to said carrier members at points above and in spaced relation to said panel tops, said tape being of such length and so positioned that when fully extended it will hold said panels in predetermined maximum angular relation to one another, whereby said pleated body portion will be restrained against further expansion, said tape when in a non-extended position having its free and unattached portions gravitationally extending down between the respective panels, each of said carrier members having an upwardly extending stem, a slide element carried by each of said stems, and means on said stems above and in spaced relation to the upper edges of said respective panels for supporting said tape above said edges of said panels, said tape having along its longitudinal extent a plurality of spaced apertured portions mounted over said stem and supported by said retainer means, whereby the respective supported portions of said tape are in non-contiguous relation to the respective panels.

3,369,590

SYSTEM FOR OPERATING HATCHWAY COVERS

Johan Bertil Olsson, Goteborg, Sweden, assignor to Aktiebolaget Gotaverken, a Swedish company

Filed Feb. 21, 1966, Ser. No. 528,848
Claims priority, application Sweden, Mar. 5, 1965, 2,894/65
2 Claims. (Cl. 160—188)



A hatch cover composed of a series of at least three hingedly interconnected sections is operated by means of a single torque-producing device which is freely rotatably supported in bearings on a hatch beam extending across the hatch opening. One outermost section in the series is connected to a side of the coaming parallel to the beam, and two further sections, the upper sides of which are facing each other when in open position, are attached to the cylinder and to the shafts, respectively, of the torque-producing device.

3,369,591

PROCESS FOR DIE CASTING AND HEAT TREATING ALUMINUM ALLOY AND RESULTING PRODUCTS

Paul R. Welch and Harrison G. Brogden, Gardena, Calif.; said Welch assignor, by mesne assignments, to International Telephone and Telegraph Corporation, New York, N.Y.

No Drawing. Continuation of application Ser. No. 278,758, May 7, 1963. This application June 20, 1966, Ser. No. 559,001
1 Claim. (Cl. 164—113)

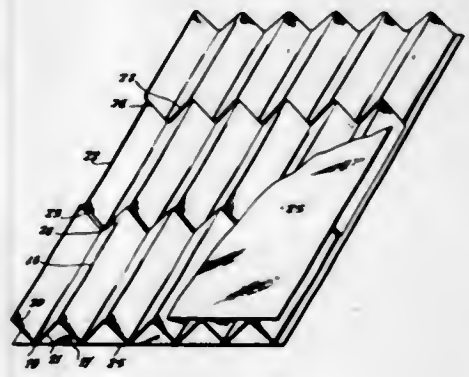
The aluminum alloy used is restricted in iron content to less than 0.15 percent by weight, and the alloy is protected against iron contamination during melting by handling in a non-ferrous receptacle. Other aspects are: maintaining the melt in the temperature range of 1340–1400 degrees F., injecting at an initial low pressure and finishing at a higher pressure, modifying the alloy composition to include specified amounts of magnesium, and maintaining the mold at a particular elevated temperature.

3,369,592

REGENERATOR FOR A REGENERATIVE HEAT EXCHANGER

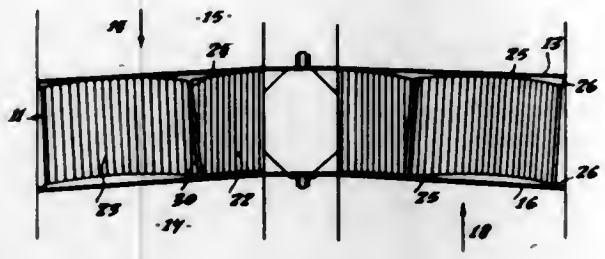
Joachim Dedow, Olpe, Westphalia, Germany, assignor to Apparatebau, Rothemuhle Brandt & Kritzer, Westphalia, Germany, a company of Germany

Filed July 1, 1965, Ser. No. 468,870
Claims priority, application Germany, July 16, 1964, A 22,110
3 Claims. (Cl. 165—10)



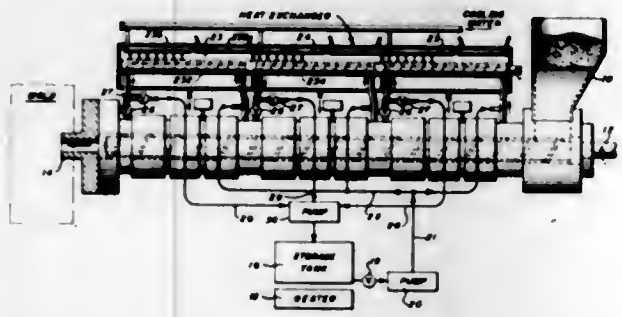
1. In a regenerative heat exchanger having a casing containing a mass of plates which provide passages through the regenerator, the improvement which comprises forming the mass of plates by alternating deep corrugated protuberant plates and flat or shallowly corrugated plates, said deep corrugated plates having substantially straight sections extending longitudinally, each section of which has alternating inclined walls between ridges and furrows, the intermediate portions of said sections being disposed transversely to define connecting step portions on one said wall which ascends on both sides of said intermediate portion and form on opposite ends descending step portions, the other side wall having step portions which descend transversely at opposite ends, said plates being disposed in said casing so that the ridges and furrows extend in the direction from one of the opposite ends of the regenerator to the other.

3,369,593
AXIAL FLOW REGENERATIVE HEAT EXCHANGERS
Herbert Brandt, 5961 Rothemuhle uber Olpe, Westphalia, Germany
Filed Oct. 4, 1965, Ser. No. 492,789
Claims priority, application Germany, Oct. 3, 1964, A 47,246
3 Claims. (Cl. 165—10)



The deformation of and stresses in the mass of plates in rotary regenerative heat exchangers as a result of the temperature differences of the hot and cold ends can be minimized by constructing the regenerator portion as an axial flow structure which comprises a plurality of annular portions concentric with each other together with means for interconnecting the annular portions in such a way that each portion is supported relative to each other portion and in such a way as to provide an annular gap between adjacent portions and free adjustability of each annular portion independently of each other annular portion.

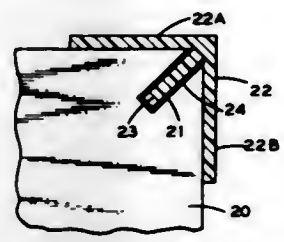
3,369,594
TEMPERATURE CONTROL APPARATUS FOR AN EXTRUSION DEVICE
John J. Farrell, 40 Abby Lane, Greenbrook, N.J. 08812
Filed Aug. 10, 1965, Ser. No. 478,600
11 Claims. (Cl. 165—14)



A material, such as plastic, is advanced through an extrusion device. A cooling medium that is a solid under standard conditions is liquified by a heating means. The liquified cooling medium is then pumped to exchange means where the temperature of the coolant is carefully controlled. The coolant is then circulated in indirect heat exchange relation with the extrusion device. At the termination of the process, the coolant is pumped to a storage tank.

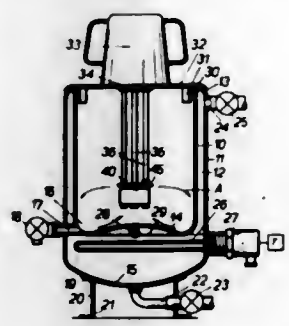
3,369,595
FIN TUBE UNIT WITH PROTECTIVE CORNER PLASTIC RAILS
Elliot S. Nelson, Westbury, N.Y., assignor to Embassy Industries, Inc., Farmingdale, N.Y., a corporation of New York
Filed Mar. 31, 1966, Ser. No. 539,004
1 Claim. (Cl. 165—55)

This invention relates to a fin tube unit which comprises an elongated tube having a plurality of fins secured to the tube at spaced relationships longitudinally of the tube. Each fin is arranged so that its respective corner portions are disposed in alignment and a track of plastic material is provided to define a protective cover for the respective aligned corner portions of the fins. The respective tracks comprise angular members having angu-



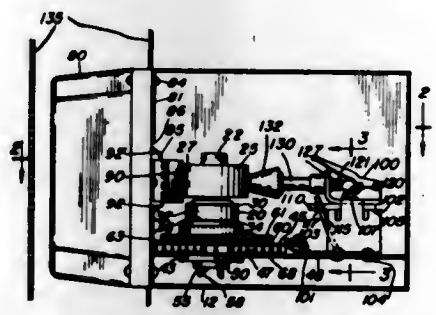
larly disposed leg portions defining therebetween an angle complementing the angle of the respective corners of the fins with means for adhesively securing the track to the corner portions of the fins.

3,369,596
APPARATUS FOR HEATING, HOMOGENIZING, AND COOLING ICE CREAM
Jørgen Hagerup Maeland, Foreningsgaten 1, Bergen, Norway
Filed Apr. 28, 1964, Ser. No. 363,198
Claims priority, application Norway, Apr. 29, 1963, 148,383
1 Claim. (Cl. 165—64)



Inner container surrounded by outer container to define jacket between them. Water inlet and outlet in outer container. Heating element located between bottoms of two containers. Control outlet in outer container located between heater level and bottom of inner container. Container cover carries homogenizing apparatus including a rotor in lower half of inner container, a housing having vertical passageways over the rotor, and a plate spaced above the housing.

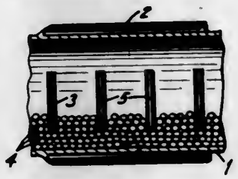
3,369,597
METHOD AND APPARATUS FOR HEAT CONDUCTION FROM A FLAT SURFACE OF A CONDUCTOR ON AN ELECTRICAL COMPONENT
Richard W. Dronsuth, Westchester, and Frederick L. Hilton, Bensenville, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed June 18, 1965, Ser. No. 465,132
9 Claims. (Cl. 165—80)



8. The method of cooling an electron device which has an annular heat conduction member having a flat heat conducting face including the steps of mounting the device

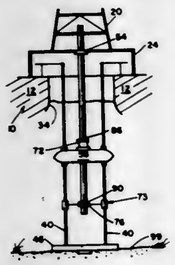
on a floating support, mounting a flat heat conducting and electrical insulating member to a heat sink, and resiliently engaging said heat conduction member to cause said flat heat conducting face thereof to engage said flat heat conducting and electrical insulating member to transfer heat to the heat sink.

3,369,598
HEAT EXCHANGER HAVING A FILLING OF ROLLING OR TUMBLING BODIES AND METHOD FOR THE OPERATION THEREOF
Heinz J. List, Pratteln, Switzerland, assignor to Buss A.G., Basel, Switzerland
Filed July 22, 1965, Ser. No. 474,040
Claims priority, application Switzerland, July 27, 1964, 9,889/64
3 Claims. (Cl. 165—90)



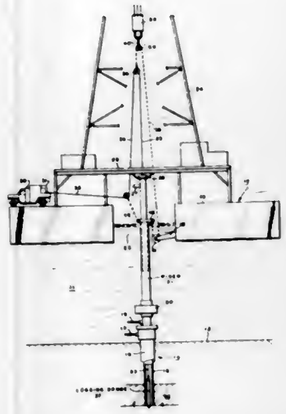
1. A heat exchanger for liquid, pasty and granular materials, which comprises a housing having a material inlet, a material outlet and a gas withdrawal outlet, and displaceable about its longitudinal axis; a filling of rolling bodies in said housing; heat exchange means operatively associated with said housing to exchange heat with the latter; heat transfer ribs extending within said housing and into said filling and in heat exchange relation with said heat exchanging means, said heat transfer ribs augmenting the heat transmission surfaces effective on the material; said rolling bodies, upon displacement of said housing about its longitudinal axis, being displaced along the surfaces of said ribs to effect a cleaning action on the same.

3,369,599
SUBSEA DEEP DRILLING APPARATUS AND METHOD
Edward M. Evans, White Plains, N.Y., assignor to Mobil Oil Corporation, a corporation of New York
Filed Nov. 15, 1965, Ser. No. 507,851
11 Claims. (Cl. 166—.5)



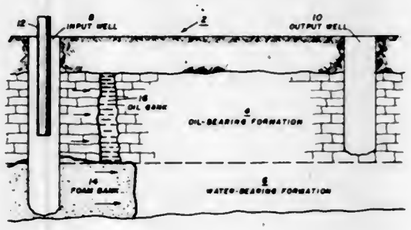
This specification dicloses a method and apparatus for drilling a subaqueous well in deep water from a floating vessel while having the wellhead equipped therefor located within easy diver depth just below the turbulent surface zone. A buoyant platform from which a conductor pipe is suspended is tethered by cables anchored to a base platform fixed on the marine bottom. A method for locating the buoyant platform below the surface and for guiding a conductor pipe through the buoyant and base platform is described.

3,369,600
OFFSHORE OPERATIONS IN WELLS
Willy Frank Bohlmann, Jr., Sydney, Australia, assignor to Esso Production Research Company
Filed Dec. 6, 1965, Ser. No. 511,632
11 Claims. (Cl. 166—.5)



In use of well tools from a floating vessel, the well tools are maintained at a selected point in the well by interconnecting the supporting system to the vessel and to the wellhead such that the supporting system moves corresponding to vertical movement of the vessel, the supporting system being connected to the vessel below the point of interconnection to the wellhead and the supporting system has a substantially vertical run.

3,369,601
SECONDARY RECOVERY METHOD
Donald C. Boud and George G. Bernard, Crystal Lake, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Jan. 21, 1965, Ser. No. 426,888
19 Claims. (Cl. 166—9)

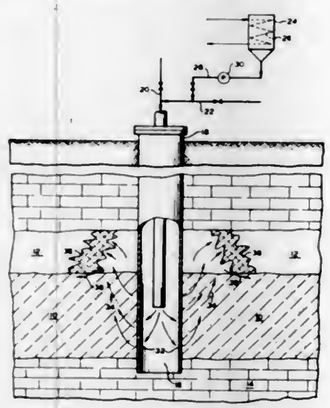


13. In the method of recovering oil from an underground oil-bearing formation underlain by a water-bearing formation wherein a bank of oil is formed ahead of a fluid-driving medium forced through the oil-bearing formation from an input well toward a spaced output well and oil is recovered from the output well, the improvement which comprises introducing a foam-forming surfactant into the water-bearing formation and subsequently injecting gas to therein generate foam capable of retarding the entry of said fluid-driving means into the water-bearing formation.

3,369,602
SECONDARY RECOVERY OF PETROLEUM
Wayne S. Fallgatter, Tulsa, John W. McGhee, Mannford, and Jack A. King, Tulsa, Okla., assignors to Cities Service Oil Company, Bartlesville, Okla., a corporation of Delaware
No Drawing. Filed Sept. 1, 1965, Ser. No. 484,442
7 Claims. (Cl. 166—9)

A process for improving the secondary recovery of oil utilizing surfactant waterflooding by injecting a weak salt solution of controlled concentration into the formation either before or after a surfactant slug is injected and finally sweeping the formation with an injected fresh water drive. The anion of the weak salt solution is preferably a chloride, citrate, sulfate, phosphate, carbonate, silicate or borate. The formation may be swept by a second weak salt solution of a 0.5 to 2.5% concentration in lieu of fresh water, if the concentration of the previously injected salt solution is within the same range.

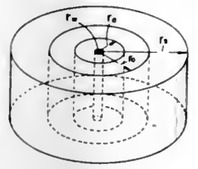
3,369,603
PLUGGING OF A FORMATION ADJACENT AN OIL STRATUM
Joseph C. Trantham, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Sept. 2, 1965, Ser. No. 484,703
9 Claims. (Cl. 166—10)



In producing oil by fluid drive from an injection well to a production well in an oil stratum adjacent a permeable formation containing a fluid other than oil, such as water or gas, a fracture is produced in the formation near the oil stratum, extending radially from the injection well, and steam containing vaporized solid which is water insoluble and oil soluble is injected into the formation thru the fractured area to plug and block off the flow of fluid from the stratum to the formation before injecting the driving fluid to produce oil. Naphthalene, diphenyl, anthracene, and the like are typical vaporizable solids for use in the process.

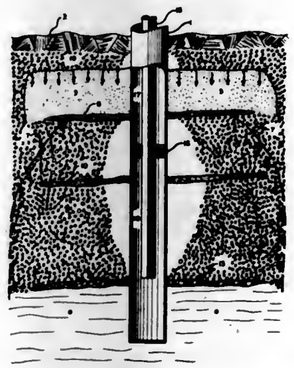
3,369,604
STEAM STIMULATION IN-SITU COMBUSTION BACKFLOW PROCESS
William M. Black, Arcadia, and John H. Nichols, Garden Grove, Calif., assignors to Esso Production Research Company
Filed Oct. 22, 1965, Ser. No. 501,740
3 Claims. (Cl. 166—40)

A method for stimulating subsurface oil-containing formations by steam stimulation and in situ combustion. Steam is first introduced into a subsurface formation through an injection-production well to condition the well bore and formation for the following in situ combustion step. The steam is followed by an oxygen-containing gas which causes spontaneous ignition and burning of



a portion of the formation oil to raise the temperature of the formation remote from the well bore and reduce viscosity of the oil therein. Injection of the oxygen-containing gas is then halted and the formation oil is produced through the injection-production well.

3,369,605
METHOD OF TREATING OIL WELLS TO PREVENT WATER CONING
Erle C. Donaldson and Calvin H. Riggs, Bartlesville, Okla., assignors to the United States of America as represented by the Secretary of the Interior
Filed Aug. 19, 1966, Ser. No. 574,289
8 Claims. (Cl. 166—42)

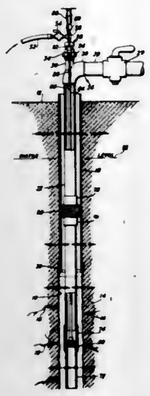


The existence of water coning is eliminated or prevented in oil producing wells by separately fracturing the formation in the oil producing zone and the transition zone of oil and water and in the water zone, cementing the middle fracture, and injecting a gas through the lower fracture. The gas may be injected between or during periods of oil production.

3,369,606
METHOD AND APPARATUS FOR INCREASING FLUID YIELD OF DRILLED WELLS
Henry K. Troeller, 17 Highland Park Place, Levittown, Pa. 19056
Filed Oct. 7, 1965, Ser. No. 493,762
8 Claims. (Cl. 166—44)

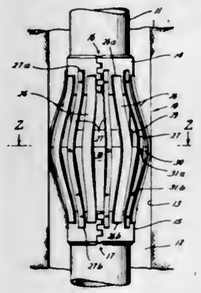
Apparatus and method for developing wells, particularly wells in consolidated rock formations. The apparatus includes an educer tube having a medial plug slidable in the well casing and operable to be reciprocated vertically, said tube having a restricted opening adjacent its lower end controlled by a conical valve element carried by an air pipe adjustable vertically within said tube and having openings above the opening. In the method, a predetermined developing charge is inserted into the

tube and the tube is closed. Thereupon the charge is periodically pressurized to surge the charge out of the



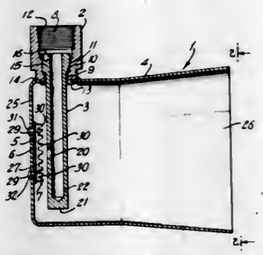
tube into the bore to open the fluid passages which admit the well fluid into the bore, thereby developing the well.

3,369,607
CEMENT BASKET
Charles W. Turbyfill, P.O. Box 490, Marshall, Tex. 75670
Filed Mar. 28, 1966, Ser. No. 537,917
3 Claims. (Cl. 166—202)



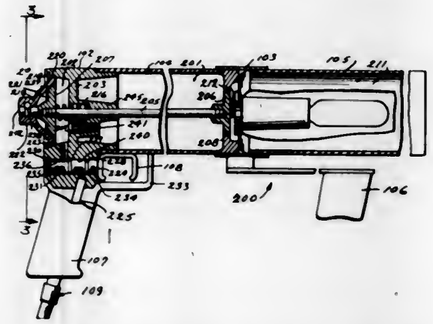
A new and improved cement basket for use in a well bore.

3,369,608
DISCHARGE HORN FOR LIQUEFIED FIRE EXTINGUISHING AGENT
Walter M. Haessler, Chatham, and Ronald M. Taylor, Madison, N.J., assignors to The Fyr-Fyter Company, New York, N.Y.
Filed Apr. 18, 1966, Ser. No. 543,192
5 Claims. (Cl. 169—11)



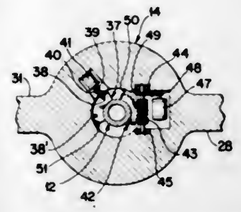
A discharge nozzle for fire extinguishing fluid having a housing with a discharge horn projecting from the housing. On the closed end of the discharge horn is positioned a plate having an outwardly turned edge which may be serrated. An inlet pipe is positioned in front of the said plate, the inlet pipe being apertured to provide an orifice on its side facing said plate.

3,369,609
FIRE EXTINGUISHING APPARATUS
John E. Fogelgren, Rockville, Md., assignor to G-L Industries, Westville, N.J., a corporation of New Jersey
Continuation-in-part of application Ser. No. 446,887, Apr. 9, 1965. This application Mar. 18, 1966, Ser. No. 543,465
16 Claims. (Cl. 169—31)



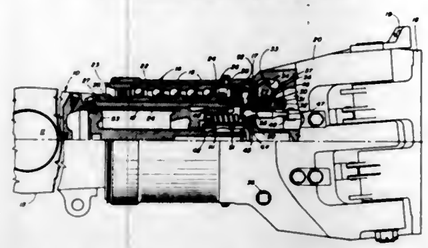
1. A fire extinguishing grenade-projecting device for arming and projecting a fire extinguishing grenade by means of compressed fluid, said device comprising means for holding a fire extinguishing grenade, valve means operated by fluid pressure acting on differential piston areas to release compressed fluid and direct the compressed fluid into said means for holding a fire extinguishing grenade, said valve means in associated relationship with arming means, said arming means adapted to deliver a blow to the base of a grenade contained within said means for holding a fire extinguishing grenade, whereby a grenade contained within the means for containing a fire extinguishing grenade is armed and projected from the gun upon operation of said valve means.

3,369,610
AIRCRAFT BLADE FOLDING MECHANISM
Paul Julius Dancik, Broomall, Pa., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Dec. 7, 1966, Ser. No. 599,826
11 Claims. (Cl. 170—135.25)



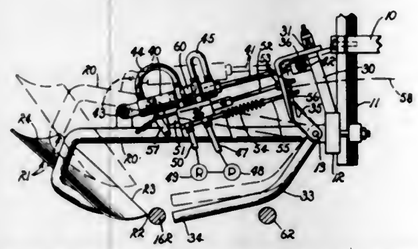
An aircraft propelling assembly having a mechanism for positioning a pair of concentric hubs in a fixed manner for propelling an aircraft and an auxiliary mechanism adapted to cause one of the hubs to move relative to the other in order to phase or fold the blades when the aircraft is not propelled.

3,369,611
PITCH MECHANISM LOCK FOR MAIN HELICOPTER ROTOR BLADE
Luigi Vacca, Milford, Donald L. Ferris, Newtown, and Robert Zincone, Stamford, Conn., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 27, 1967, Ser. No. 635,329
4 Claims. (Cl. 170—160.12)



A locking mechanism for restraining the blade pitch adjusting mechanism and blade of a rotary wing aircraft when the blade is folded for storage of the aircraft; the locking mechanism incorporates a splined sleeve which is disposed internally of the pitch adjusting mechanism for engagement with complementary mating splined portions of the blade hinge structure and of the pitch adjusting mechanism. The locking mechanism further incorporates a hydraulically controlled actuation mechanism for remotely controlled actuation thereof.

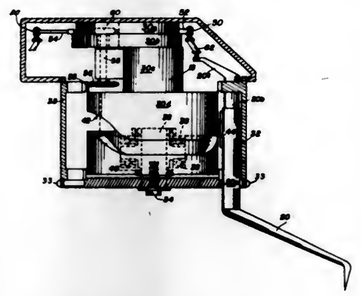
3,369,612
CONTROL FOR A POWER ACTUATED TOOL
John P. Laikam, 8692 E. South Ave., Fowler, Calif. 93625
Filed Feb. 23, 1965, Ser. No. 434,530
4 Claims. (Cl. 172—5)



A control for a power actuated vineyard plow having a support providing a tool arm pivotally mounted on the support for movement between extended and retracted positions relative to a target work area and including a powered member operatively connected to the tool arm and to an actuator member on the support for selective powered movement of the tool arm away from one of said positions under the influence of an external force in opposition to the force applied from said powered member.

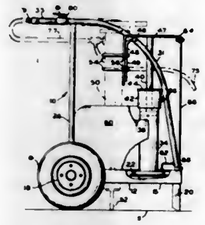
3,369,613
CULTIVATOR
Edward D. Conner, 2700 Peterson Way, Apt. 9A, Costa Mesa, Calif. 92626
Filed June 8, 1965, Ser. No. 462,273
4 Claims. (Cl. 172—93)

An improved agricultural instrument as described in the specification, which is used for weeding and loosening the soil around a growing stalked crop, such as cotton. The cultivator includes a head which has a series of hoe-like fingers mounted on it, the fingers being movable around the head as the implement is driven along a path adjacent a row of the crop. The hoe-like fingers are controlled so that they are caused to enter and leave the



row of the crop essentially at right angles to the row, and are movable down into the soil, so as to perform the weeding and cultivating function.

3,369,614
CARRIAGE FOR A PNEUMATIC BREAKER
Glenn E. Anthony, 8840 SW. Burnham, Tigard, Oreg. 97223
Filed July 29, 1966, Ser. No. 568,935
11 Claims. (Cl. 173—23)

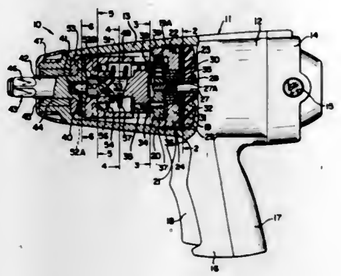


1. A carriage for a reciprocating breaker, comprising:
a portable base frame adapted to serve as a support for said breaker, said base frame including a support plate attached thereto;
a pair of wheels journaled one on either side of said base frame and adapted to run over a supporting surface;
a cylinder mounted on said base frame with the longitudinal axis of said cylinder substantially perpendicularly thereto, the bottom of said cylinder being attached to said support plate;
flexible means to support the top of said cylinder with respect to said base frame;
an elevatable piston disposed in said cylinder;
a rod attached to said piston;
breaker support means adapted to be secured to a breaker, said breaker support means being attached to the top of said rod, said breaker support means being adapted to maintain such breaker fully above said supporting surface and out of contact therewith when said piston is in its fully elevated position;
a resilient means attached to said breaker support means for maintaining a breaker secured thereto in contact with said supporting surface when said piston is less than in its fully elevated position; and
means to introduce fluid under pressure into said cylinder and beneath said piston for optionally raising said piston to said fully elevated position, thereby to withdraw said breaker from contact with said supporting surface.

3,369,615
IMPACT WRENCH

George E. Maffey, Jr., Timonium, and William D. Abell, Manchester, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland

Filed May 27, 1966, Ser. No. 553,383
8 Claims. (Cl. 173—93.6)

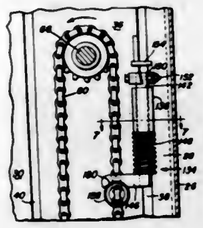


8. An impact wrench, comprising:
(A) a generally-cylindrical main housing comprising a motor housing and a clutch housing integrally formed with the motor housing and extending forwardly therefrom;
(B) a wall serving as a partition between the motor housing and the clutch housing;
(C) bearing means in the partition wall;
(D) a motor in the motor housing, the motor having a shaft journaled in said bearing means and extending beyond the partition wall into the clutch housing;
(E) an anvil having a shank portion journaled in the forward end of the clutch housing;
(F) a spindle having a forward end piloted within the anvil shank and further having a rearwardly-extending tubular portion supported within the bearing means in the partition wall, radially of the motor shaft;
(G) a radially-enlarged planet gear carrier mounted on the spindle, intermediately its length, for conjoint rotation therewith;
(H) planet gears rotatably carried by the planet gear carrier and engaging the pinion on the motor shaft;
(I) an internal ring gear formed on the partition wall, engaging the planet gears;
(J) a hammer coaxially mounted on the spindle;
(K) cooperating clutch teeth formed on the hammer and anvil, respectively;
(L) cam means between the hammer and the spindle for imparting axial and rotary movement to the hammer relative to the spindle; whereby the hammer has axially advanced and retracted positions and is adapted to deliver a series of rotary impacts to the anvil, and whereby in its retracted position, the hammer telescopes over the planet gear carrier on the spindle;
(M) a first recessed annular groove formed on the hammer, accessible rearwardly of the hammer;
(N) a second recessed annular groove formed on the planet gear carrier, accessible forwardly of the carrier; and
(O) a coiled spring disposed coaxially of the spindle and nested axially between the first and second recessed annular grooves in the hammer and planet gear carrier, respectively, thereby constantly urging the clutch teeth into engagement with each other in opposition to the cam means;
(P) whereby the overall axial length of the impact wrench is minimized.

3,369,616
POST DRIVER

George E. McGonigal and John D. McGonigal, both of Gannett, Idaho 83329

Filed Oct. 15, 1965, Ser. No. 496,385
15 Claims. (Cl. 173—124)

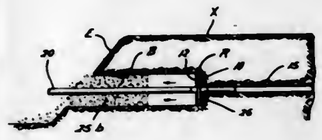


A vehicle supported post driver comprising a vertically disposed main frame provided with a sliding carriage having a drop-hammer secured thereto. A vehicle power take-off operated drive means carried by the main frame is provided to lift the drop-hammer. The drive means includes a normally continuously driven roller chain which carries a lift member which during its upward travel is adapted to liftingly contact a lift finger carried by the sliding carriage whereby the sliding carriage is intermittently lifted by said lift member and permitted to fall, and impact against a post to be driven, under the influence of gravity while the drive chain is generally constantly driven.

3,369,617
HORIZONTAL EARTH BORING METHOD

Joe B. Brack, George R. Pennington, Charles J. Johnson, and Curtis E. Pennington, Baytown, Tex., assignors, by mesne assignments, to Gilbert M. Turner, Houston, Tex.

Filed June 7, 1965, Ser. No. 461,694
4 Claims. (Cl. 175—62)



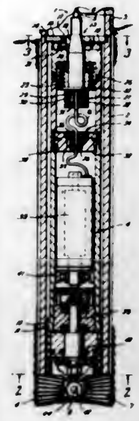
A method of forming an enlarged horizontal bore with a reamer having forward and rearward cutting teeth, a central fluid supply passage and communicating ports adjacent the cutting teeth comprising rotating and advancing the reamer to form an enlarged horizontal bore while discharging water from the reamer to mix with the cuttings, reversing the direction of advance of the reamer while continuing the rotation to reduce the size of the cuttings, again reversing the direction of advance of the reamer to move the reamer forwardly of the cuttings and introducing compressed gas into the bore hole through the ports in the reamer to move the cuttings outwardly of the bore.

3,369,618
WELL DRILLING APPARATUS

Buell Moore, 7444 Calhoun, Houston, Tex. 77033

Filed July 6, 1964, Ser. No. 380,248
5 Claims. (Cl. 175—104)

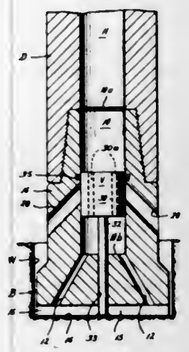
A cable suspended drilling tool having releasable means to engage a well casing is provided with one or more roller cutters mounted from a horizontal spindle at the bottom of the tool so that the roller cutters are self positioning. During insertion or retraction of the tool from the borehole, the roller cutters hang vertically and assume an outer diameter smaller than the well casing to enable passage through the casing, but upon commencement of rotation of the tool with the cutters positioned below the casing, the cutters assume a horizontally extended position for underreaming beneath the casing.



3,369,619
PRESSURE CONTROL DEVICE

Robinson W. Brown, San Antonio, Tex., assignor, by mesne assignments to Bassinger Tool Company, a corporation of Texas

Filed Apr. 22, 1965, Ser. No. 449,939
1 Claim. (Cl. 175—317)

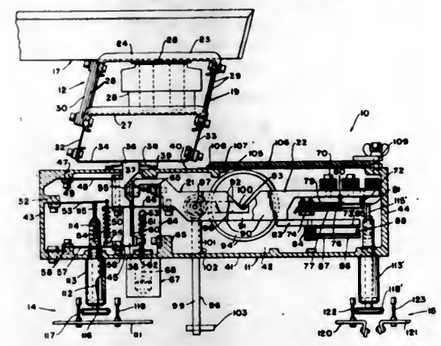


A pressure control device for a drill bit. The lower end of the drill bit is closed except for a plurality of circulating ports, which direct drilling mud in the vicinity of the teeth, and a central guide opening. Upstream of the circulating ports are a plurality of relief ports which are of greater cross-sectional area than the circulating ports. A valve member covers the relief ports when the drill bit is in contact with the bottom of the wellbore. A rod from the valve extends through the guide opening to maintain the valve in such position. When the drill bit is lifted off the bottom of the wellbore the valve member moves downstream uncovering the relief ports so that back pressure of the fluid in the bore is substantially reduced.

3,369,620
WEIGHER HEAD

Donald W. Garnett, Grand Ledge, Mich., assignor to The Olofsson Corporation, Lansing, Mich., a corporation of Michigan

Filed June 9, 1965, Ser. No. 462,674
16 Claims. (Cl. 177—229)

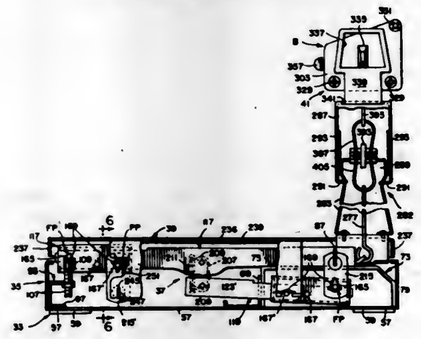


A weigher head is provided for use in high speed, high precision rotary weighing machines, in which head a system of leaf springs is substituted for the usual means by which a scale beam within the housing of the head is pivoted. The springs include a pair which are horizontally disposed, each being anchored at one end to the housing and at the opposite end thereof secured to a vertically disposed member by which a weighing receptacle associated with the head is supported. The leaf springs further include a vertically disposed pair, one of which is anchored at one end to the housing, being secured at its opposite end to the scale beam, and the other of which is secured at its opposite ends to the beam and to the receptacle supporting member. The head also includes further means by which the scale beam is periodically "zeroed" to compensate for the disturbing effect of a possible accretion of grease, coating material or the like upon the weighing receptacle, as well as to compensate out other factors influencing high-precision weighing. Provision is also made to make adjustments for the purpose of maintaining precise accuracy of weighing within predetermined high and low goal limits.

3,369,621
WEIGHING SCALE

William Y. Hutchinson, Chicago, and Russell E. Vanderhoff, Oak Lawn, Ill., assignors to Continental Scale Corporation, Chicago, Ill., a corporation of Delaware

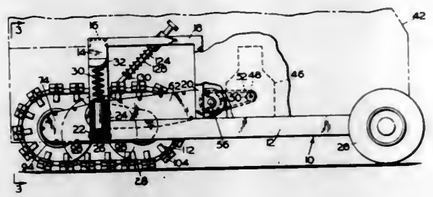
Filed July 12, 1965, Ser. No. 471,057
19 Claims. (Cl. 177—257)



Weighing scale structure embodying a weight receiving platform supported on a system of counterbalanced levers,

formed of sheet metal and housed in a supporting base, each lever having a rigid, box-like, pivot carrying portion, and an arm projecting outwardly of a side of said portion, the invention also relating to improved pivot bearing structures, including novel suspension bars and yokes; to an improved weight counterbalancing and measuring steelyard beam structure; to an improved scale supporting base embodying novel base-rigidifying constructions; and to a novel arrangement for adjusting the effective length of a base enclosed weighing lever.

3,369,622
CENTER DRIVE VEHICLE MECHANISM
Nyal Deveraux Thomas, Sr., P.O. Box 388, Nevada City, Calif. 95959
Filed Jan. 24, 1966, Ser. No. 522,467
7 Claims. (Cl. 180—5)



1. A vehicle mechanism comprising a chassis having forward and rearward ends and side portions; power means on said chassis, support means on said side portions for movably supporting said chassis on a surface on which said vehicle is to be propelled; drive means on said chassis disposed inwardly of the side portions and comprising a first transverse shaft, means connecting said shaft with said power means for effecting powered rotation of said shaft, a pair of arm means pivotally mounted at one of their ends on said shaft and extending longitudinally of the chassis in parallel laterally spaced relation, a second transverse shaft rotatably journaled in the other end of said pair of arm means, means establishing a drive connection between said first and second shafts, a pair of longitudinally disposed rocker arms pivotally mounted at their mid portions on said second shaft in laterally spaced relation, a drive wheel mounted on each end of said rocker arm, said pivotally mounted rocker arms permitting adjustment of said drive wheels to the contour of the supporting surface, means establishing a drive connection between said second shaft and each of said drive wheels, said rocker arms comprising a hollow, rigid member and enclose said means which establish the drive connection between said second shaft and said drive wheels and means connected to said second shaft at a point between said rocker arms arranged to resiliently bias said drive wheels forcibly downwardly into engagement with the supporting surface.

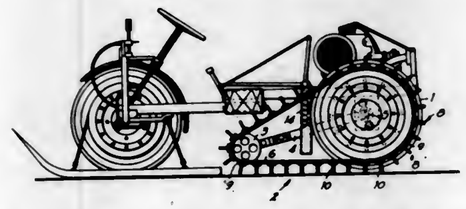
3,369,623
FLEXIBLE SKIRTS FOR SURFACE EFFECT DEVICES
Jean Henri Bertin, Neuilly-Sur-Seine, France, assignor to Bertin & Cie, Paris (Seine), France, a company of France
Filed Apr. 19, 1965, Ser. No. 449,019
Claims priority, application France, Apr. 20, 1964, 971,607
11 Claims. (Cl. 180—127)

1. A fluid-cushion skirt made of thin flexible material and designed for being fitted at one end thereof to a body of the ground effect type movable along a bearing surface, with its other end extending freely opposite said surface, wherein said one end of said skirt has a cross-section in the geometric form of at least a part of a polygon whereas said other end of said skirt has a cross-section in the geometric form of at least a part of a



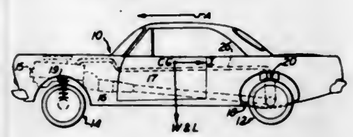
circle, the cross-sectional area of said polygonal end being larger than that of said circular end and the shape of said skirt evolving longitudinally from said polygonal end to said circular end.

3,369,624
PARACHUTABLE, SELF-PROPELLED ENDLESS TRACK VEHICLE
Raymond Kauffmann, Oupeye, Belgium, assignor to Fabrique Nationale d'Armes de Guerre, Societe Anonyme, Herstal-Lez-Liege, Belgium, a company
Filed Mar. 1, 1966, Ser. No. 530,926
Claims priority, application Belgium, Mar. 17, 1965, 661,220
5 Claims. (Cl. 180—9.54)



A vehicle capable of driving upon deep snow or sand has driving wheels each of which has an endless band provided with scrapers and passing over a drum located forwardly of the wheel and swingable about the wheel axle, the scrapers having wings corresponding to the wheel tire.

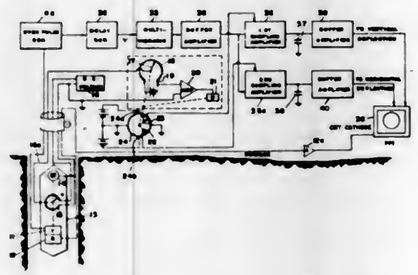
3,369,625
SUSPENSION SYSTEM COUNTERACTING CHANGES IN VEHICLE ATTITUDE DEPENDENT ON ENGINE CONDITION
Achilles C. Sampietro, Bloomfield Hills, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 20, 1965, Ser. No. 514,820
9 Claims. (Cl. 180—73)



A substantially leakproof, yieldable container mounted between the sprung and unsprung masses of a vehicle is connected at all times to the intake manifold of an internal combustion engine so the pressure within the container substantially equals the intake manifold vacuum. Usually, the container is located at the rear of the vehicle where the pressure differential between the atmosphere and the container interior urges the vehicle sprung mass toward the unsprung mass. When the engine accelerates the vehicle, the manifold vacuum drops and the pneumatic forces

exerted on the container decrease, thereby permitting the spring supporting the vehicle sprung mass to urge the rear of the vehicle upward against changes in vehicle attitude caused by the acceleration. Similarly, when the vehicle decelerates, a vacuum increase occurs within the container and the atmospheric pressure urges the sprung mass downward to counteract the inertial tendencies acting in the opposite direction. Coil-type springs for supporting the vehicle sprung mass can be located within the container to produce a compact suspension package. Alternatively, an inner container for compensating the sprung mass for changes in loading can be enclosed within the first container or a hydropneumatic strut that compensates for changes in loading and improves vehicle ride can be combined with the container.

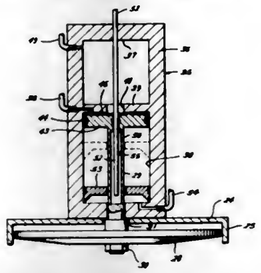
3,369,626
METHODS OF AND APPARATUS FOR PRODUCING A VISUAL RECORD OF PHYSICAL CONDITIONS OF MATERIALS TRAVERSED BY A BOREHOLE
Joseph Zemanek, Jr., Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Continuation-in-part of application Ser. No. 391,151, Aug. 21, 1964. This application Oct. 23, 1965, Ser. No. 507,630
36 Claims. (Cl. 181—.5)



The specification discloses an acoustic logging system for producing visual records of the physical conditions of wall structure traversed by a borehole. A beam of pulsed acoustic, high-frequency energy is swept across the face of the wall structure through 360°. Reflected energy is detected and sent uphole to the cathode ray oscilloscope. The sweep of the cathode ray beam is initiated by a geographical sensing device in the downhole tool so as to correlate the rotational position of the beam with the received data. The cathode ray beam is moved as a function of depth relative to a recording medium to produce a picture of the wall structure.

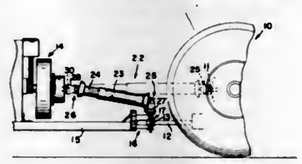
3,369,627
MECHANICAL IMPLODER AND METHOD FOR GENERATING UNDER WATER SEISMIC SIGNALS
Edward G. Schempf, 1754 Utica Square, Tulsa County, Okla. 74114
Filed July 25, 1966, Ser. No. 567,504
5 Claims. (Cl. 181—.5)

A mechanical imploder and method for generating under water seismic signals. The apparatus includes a pair of opposed plates, a supporting assembly for submerging the plates under water, and a quick acting piston assembly for driving the plates apart rapidly to create a cavitation or vacuum into which water rushes causing an implosion producing the desired seismic energy signals. The method contemplates passing two opposed plate along a predetermined path under water and over the formation to be explored and generating seismic signals by driving the plates apart at predetermined intervals at a sufficient rate of speed to cause the aforesaid cavitation and generation



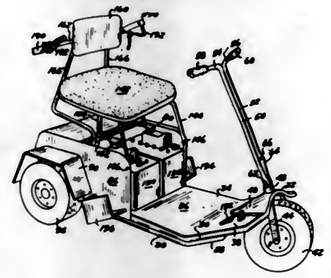
of seismic signals, which signals are thereafter sensed or monitored.

3,369,628
DRAWBAR PIN FOR FREE END YOKE OF A POWER TAKE-OFF ASSEMBLY
John L. Heinlein, Shelbyville, Ill., assignor to Oliver Corporation, Chicago, Ill., a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 606,270
1 Claim. (Cl. 180—14)



A drawbar pin for joining overlapping drawbars of a prime mover and an implement for articulated movement. Means is provided to elevate the enlarged head of the pin above the uppermost drawbar and hold it in the elevated position to receive a free end of a connecting yoke of a power take-off drive shaft after disconnection from either the prime mover or the implement, thus providing non-operational transportation and storage to prevent damage to the power take-off shaft assembly.

3,369,629
FOLDABLE BATTERY POWERED CART
Morris Weiss, Oak Park, Mich., assignor to Fore Motor Cart Company, Detroit, Mich., a corporation of Michigan
Filed Oct. 23, 1965, Ser. No. 503,273
5 Claims. (Cl. 180—27)

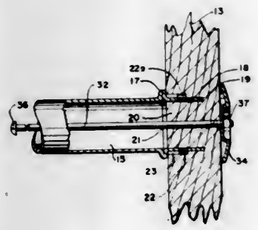


A self-propelled vehicle which has a seat and backrest independently foldable forwardly and a steering column foldable rearwardly over the folded seat and backrest to achieve a small package for storage and transportation.

ERRATA

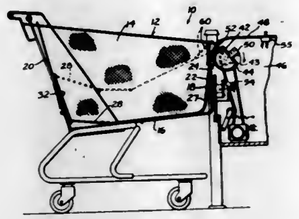
For Class 181—.5 see:
Patent Nos. 3,369,626 and 3,369,627

3,369,630
LADDER CONSTRUCTION
Howard B. Rich, Carrollton, Ky., assignor to Howard B. Rich, Inc., Carrollton, Ky., a corporation of Kentucky
Filed Oct. 19, 1965, Ser. No. 497,847
3 Claims. (Cl. 182—216)



1. A ladder which comprises a pair of elongated spaced wood rails, a plurality of tubular metal rungs spanning the rails, the rails having annular sockets on their inside faces, each annular socket having a plug in fixed relation to the rail and coaxial with the socket, end portions of the rungs being received in the annular sockets, the end portions of the rungs having integral longitudinally and outwardly extending spur-flap portions of their wall bent to project from said wall, said spur-flap portions cutting grooves in the wood rails when the rung end portions are inserted in said sockets, at least one of said spur-flap portions being bent counterclockwise from the wall to projecting relation and at least another thereof being bent clockwise from the wall to projecting relation, said spur-flap portions of the rungs interlockingly engaging the wood of the rails, there being outwardly extending return bent flanges on each rung engaging inner faces of the rails, the flanges extending outwardly further than the spur-flap portions, the flanges overlying and closing slots formed in the rails by the spur-flap portions, and nail means extending through the rails and through end portions of the rungs intermediate the spur-flap portions for holding the rails and rungs in assembled relation.

3,369,631
MERCHANDISE CART
Willie M. Shoffner, 318 S. Lutheran Church Road, R.R. 2, New Lebanon, Ohio 45345
Filed Jan. 25, 1967, Ser. No. 611,734
14 Claims. (Cl. 186—1)



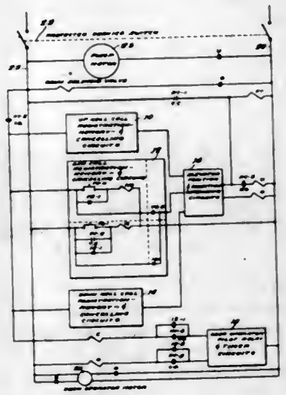
A merchandise cart in which a flexible belt has its leading edge at the top of the front wall of the cart and extends downwardly inside the front wall and backwardly on top of the bottom wall of the cart and is connected at its rear with the bottom edge of an auxiliary grill pivoted to an intermediate point of the back wall. The invention also discloses the use of an auxiliary grill connected with the child's seat of the cart to prevent articles from jamming under the child's seat and shielding member at the back of the side wall of the cart also to prevent articles from jamming in the cart.

3,369,632
TRIPLE SECTION MAST WITH HIGH FREE LIFT
George P. Marco, Homewood, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 13, 1967, Ser. No. 630,756
5 Claims. (Cl. 187—9)



The drawings illustrate a high free lift triple section mast for a lift truck having low collapsed height and relatively high extended height. Two of the three components of the lift jack are connected to two of the three sections of the mast and the third component of the lift jack carries a pulley engaging a flexible lift element secured at one of its ends to the carriage and at its other end to the stationary mast section. The flexible lift element is also reeved about pulleys at opposite ends of mast section on which the load carriage is mounted.

3,369,633
ELECTRICAL CONTROL FOR A HYDRAULIC ELEVATOR SYSTEM
Richard F. Martin, Rock Island, Ill., assignor to Montgomery Elevator Company, a corporation of Delaware
Filed Apr. 8, 1964, Ser. No. 358,201
9 Claims. (Cl. 187—29)



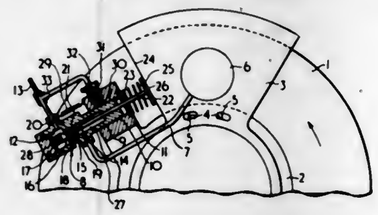
A hydraulic elevator control circuit that includes a protective timer which is started each time the motor and pump start, and which has a cycle slightly greater than the time required for the elevator to make a single trip from the bottom terminal to the top terminal without intermediate stops. If the timer cycle is completed before the car stops at the top terminal the motor is stopped and the valves are operated to lower the car to the bottom terminal.

3,369,634
ABSORBING DEVICE
Bernard Mazelsky, West Covina, Calif., assignor to Ara, Inc., a corporation of California
Filed June 17, 1966, Ser. No. 558,317
15 Claims. (Cl. 188—1)



An energy absorbing body and means for cyclically and plastically deforming portions of the body in reverse directions in response to unidirectional movement of an impact member, and means for subjecting additional portions of the body to cyclic deformation in response to continued movement of the impact member.

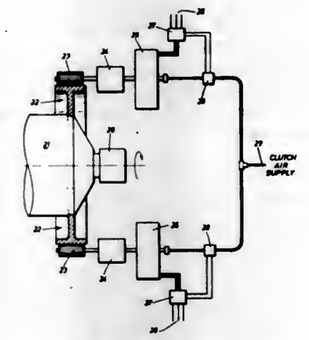
3,369,635
VEHICLE ANTI-SKID BRAKING SYSTEM
John Walter Davis, Balsall Common, Coventry, England, assignor to Dunlop Rubber Company Limited, Erdington, England, a corporation of Great Britain
Filed Aug. 20, 1965, Ser. No. 481,197
Claims priority, application Great Britain, Aug. 26, 1964, 34,859/64
9 Claims. (Cl. 188—181)



A friction member, supported on a nonrotatable member, is capable of limited angular movement with an opposed rotatable member during braking. Such movement is opposed by a spring or other resilient member, and during a skid condition when the wiping action of the rotatable member upon the friction member is insufficient to overcome the spring force, then the spring moves the friction member in a direction operating a valve which controls the application of the brake, thereby relieving the brake applying pressure during skidding and allowing the braking pressure to be restored when brake skidding has ceased.

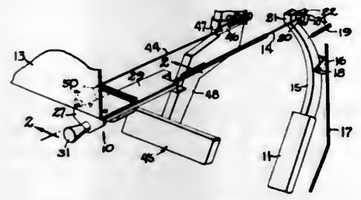
3,369,636
CONTROL OF SYNCHRONOUS MOTORS ON A COMMON DRIVE
John E. Nelson, Montreal, Quebec, Canada, assignor to Dominion Engineering Works Limited, Quebec, Quebec, Canada, a Canadian corporation
Filed July 18, 1966, Ser. No. 566,026
4 Claims. (Cl. 192—.2)

4. The method of operating a plurality of synchronous alternating current electric motors in driving relation with a common output member, to provide load sharing between individual motors, comprising the steps of applying energizing voltage to the motors to produce rotation thereof, individually adjusting the phase relation of each motor to the output member by limiting the starting torque applied by each motor thereto to a predetermined proportion of the full load torque, by operation of slip



clutch means, and precluding further clutch loading on achievement of the desired loading relation, whereby the load angle relation of each said motor in the running condition is maintained in fixed load sharing relation with the other motors.

3,369,637
THROTTLE CONTROL
Lloyd L. Anderson, % Amerock Corporation, 4000 Auburn St., Rockford, Ill. 61103
Filed Dec. 10, 1965, Ser. No. 512,959
11 Claims. (Cl. 192—3)



A throttle control for holding the accelerator of a vehicle in a preselected position is operably connected to the vehicle brake operator and is adapted to release the accelerator when the brake operator is actuated. Should the connection between the brake operator and the throttle control fail, the latter is disabled and releases the accelerator automatially thereby making the control failsafe. A memory device facilitating quick and easy restoration of the control to a preselected setting comprises a pair of engageable abutments which limit the setting of the control in an accelerating direction and which may be adjusted relative to each other to change the setting.

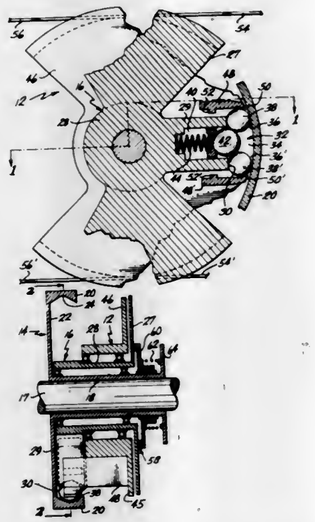
3,369,638
CLUTCH MECHANISM FOR DUAL-INPUT, SINGLE-OUTPUT CONTROL SYSTEM
William R. Hunt, Elwin V. See, and Melvin J. Roalsvig, Seattle, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Mar. 21, 1966, Ser. No. 545,185
10 Claims. (Cl. 192—38)

1. A clutch mechanism comprising:
a ring element having an inner peripheral wall;
flange means mounted within the confines of said inner peripheral wall of said ring element and including an outer end surface facing said inner wall of said ring member;

said outer end surface of said flange means and said inner peripheral wall of said ring element defining a compartment therebetween having substantially wedge-shaped side portions;

a pair of jamming elements, disposed in said compartment; each of said jamming elements being disposed adjacent to one of said wedge-shaped side portions of said compartment;

spring-biased actuator means disposed in said compartment between said jamming elements for urging said jamming elements into their respective wedge-shaped side portions; and

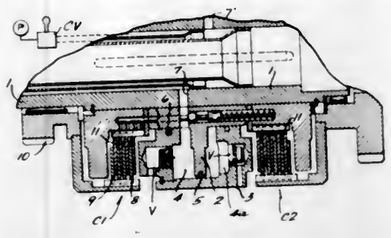


a pair of unlock elements associated with said jamming elements; each of said unlock elements being disposed adjacent to one of said wedge-shaped side portions of said compartment for selectively urging its associated jamming element out of its respective wedge-shaped side portion to unlock said ring element and said flange means and permit relative rotational movement therebetween;

whereby, when one of said unlock elements is moved to urge its associated jamming element out of its respective wedge-shaped side portion, said spring-biased actuator means will be depressed to relieve the pressure on the other of said jamming elements and permit said other jamming element to spin freely in said compartment.

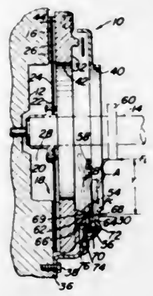
3,369,639
FLUID ACTUATED CLUTCH WITH MODULATED EXHAUST VALVE
Horst G. Steinhagen, Racine, Wis., assignor to Twin Disc Clutch Company, Racine, Wis., a corporation of Wisconsin
Filed June 6, 1966, Ser. No. 555,336
9 Claims. (Cl. 192—87.17)

1. A hydraulically actuated clutch having interleaved friction plates and also having two relatively shiftable members which together form a clutch actuating and expansible fluid chamber for causing clamp up of said plates, a pressure modulating valve mounted directly on one of said members and adapted to place said chamber in communication with the atmosphere to cause dumping of fluid directly from said chamber, said valve including a cup-shaped element fixed directly to one of said members and having a cylindrical portion and a valve seat, a small piston sealingly slidable in said cylindrical portion and forming a small fluid chamber therewith, said piston having a stem extending therefrom and towards said valve seat, a shiftable valve element within said cup-shaped element and on said stem and resiliently and yieldingly held against said seat in a valve closed position, and passage



means between said clutch actuating chamber and said small fluid chamber, whereby pressure fluid in said clutch actuating chamber will initially cause shifting of said valve element away from said seat and to an open position to thereby dump fluid from said actuating chamber, and continued pressurization of said clutch actuating chamber will cause said small piston to be moved by fluid pressure in said small chamber to urge said valve element to a closed position against its seat.

3,369,640
DEVICE TO PREVENT CENTRIFUGAL CLUTCH ENGAGEMENT
Richard L. Smirl, La Grange Park, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 3, 1966, Ser. No. 518,436
4 Claims. (Cl. 192—99)

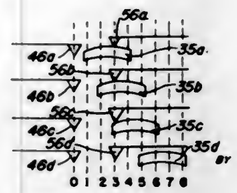


A clutch assembly adapted to restrain the clutch actuating levers against undesirable movement resulting from the centrifugal force acting on such levers at high rotational speed.

3,369,641
COIN HANDLING AND CHANGING DEVICE
William H. Callahan and Royal F. Smith, Aurora, Ill., assignors to Lektro-Vend Corp., Aurora, Ill., a corporation of Delaware
Filed Mar. 21, 1966, Ser. No. 536,137
18 Claims. (Cl. 194—2)

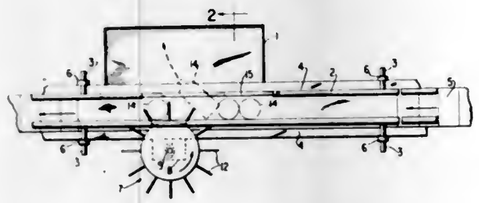
A vending machine having a segmented indexable stepping drum with a cam surface on each of the segments, and a plurality of cam followers adapted to be actuated by said cam surfaces. The cam followers in turn actuate stepping switches and exact price switches. A single solenoid rotates the drum uni-directionally and "cocks" it

to register credit for the amount of money inserted. Customer product selection energizes payout and subtract



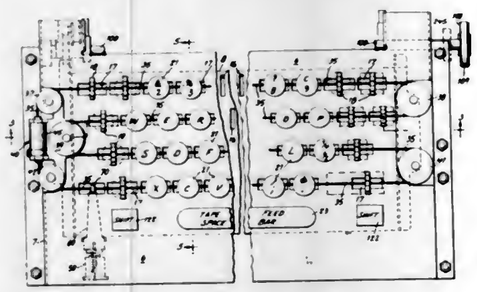
cams, the latter being linked to the stepping switches cam followers and moving the same in said one direction to subtract the purchase price from the established credit.

3,369,642
APPARATUS FOR REMOVING TIPPED-OVER BOTTLES FROM A CONVEYOR
Roy K. Hennig, Cincinnati, Ohio, assignor to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware
Filed June 17, 1966, Ser. No. 558,498
2 Claims. (Cl. 198—33)



Automatic means for removing tipped-over bottles from conveyor comprising a rotor having arms extending across the path of said bottles to receive upstanding moving bottles between arms and to be rotated thereby but pushing a tipped-over bottle off the conveyor and through opening between a high and low guide rail into a container.

3,369,643
ENCODING KEYBOARD
Costas Avgerinos, 25 Spruce Drive, Wilton, Conn. 06897, and Henry R. Cofek, Fairfield, Conn.; said Cofek assignor to said Avgerinos
Filed Mar. 24, 1966, Ser. No. 537,183
15 Claims. (Cl. 197—98)

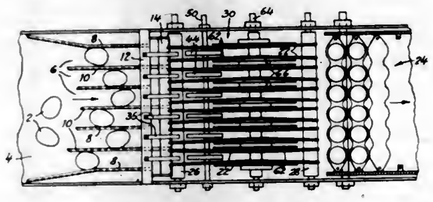


A keyboard mechanism having a design that is universally applicable for use in conjunction with a wide variety of office machines, or the like. The mechanism is manually actuable for generating signals representative of input data, and includes a plurality of encoding members which are positively driven by an oscillating drive member. The touch of the keyboard is readily adjusted by a uniformly acting interlock arrangement.

ERRATUM

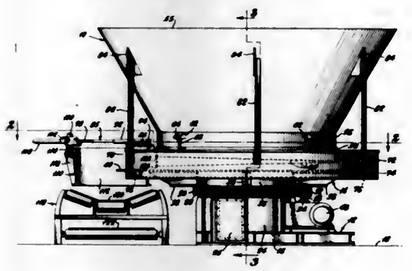
For Class 198—33 see:
Patent No. 3,369,642

3,369,644
EGG HANDLING EQUIPMENT
Otto C. Niederer, Bear Tavern Road, Titusville, N.J. 08560
Filed Nov. 23, 1966, Ser. No. 596,545
10 Claims. (Cl. 198—33)



Mechanism for positioning eggs in a predetermined arrangement with the larger ends of the eggs facing in the same direction to facilitate packing of the eggs. The mechanism comprises a plurality of parallel channels through which eggs are movable, means for supplying eggs to the channels, and a pair of discs associated with each channel and located on opposite sides of said channels in position to engage eggs movable through the channels. The discs are rotatable and are formed and mounted in such a way that the peripheral portion of the discs are yieldably movable toward and away from each other to lightly engage the eggs at opposite sides thereof and at points on the eggs where they are of greatest diameter whereby the eggs are movable with respect to the discs into positions wherein the larger ends of the eggs face in the same direction.

3,369,645
ROTARY TABLE FEEDER
Morris B. Uhrich, Lansdale, Pa., assignor to Link-Belt Company, a corporation of Illinois
Feb. 4, 1966, Ser. No. 525,199
4 Claims. (Cl. 198—54)



1. A rotary table feeder comprising:
a base;
a table for receiving particulate material from a storage supply mounted thereabove;

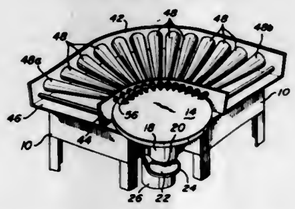
means connected to said table for rotatably supporting the table on said base including a large diameter ring gear affixed to the table concentric with the axis of table rotation with the ring gear teeth substantially spaced from said axis, a first bearing race on said ring gear, a second bearing race on said base, said second bearing race being adjacent and facing said first bearing race, and a plurality of bearings disposed between said first and second bearing races, said table being rotatably supported on said base for rotation with respect thereto solely by said plurality of bearings cooperatively held between said first and second bearing races;

driving means engaging said ring gear teeth for rotating said table at a selected substantially constant velocity to move the material to the edge of said table;

retaining means adjacent the table for preventing particulate material from being discharged from the edge thereof, said retaining means having a discharge opening provided therein; and

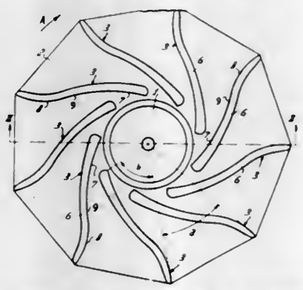
means cooperatively associated with said retaining means for removing material from said table through said discharge opening.

3,369,646
CONVEYOR APPARATUS
Malcolm E. Musser, % Musser, Inc., Jackson Center, Ohio 45334
Filed Apr. 11, 1966, Ser. No. 541,744
2 Claims. (Cl. 198—127)



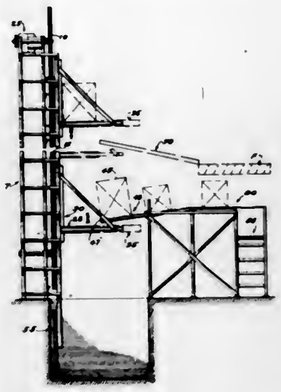
This invention relates to conveyor apparatus. The invention relates more particularly to conveyor apparatus which is capable of movement of articles from a given line of movement to a line of movement which is angular with respect to the given line of movement.

3,369,647
ROTATABLE EJECTOR MEMBERS
Ary van der Lely, 10 Weverskade, Maasland, Netherlands
Filed Feb. 9, 1966, Ser. No. 526,292
Claims priority, application Netherlands, Mar. 3, 1965, 65—2,651
1 Claim. (Cl. 198—128)



The ejector disc of this invention is mounted to rotate about a substantially vertical axis. Distributor arms are mounted on the substantially horizontal disc to extend gently upwardly from the disc's center. The distributor arms have two curved portions, one portion nearest the center of the disc being convex in the direction of rotation and the other portion being oppositely curved.

3,369,648
VERTICAL SORTING SYSTEM
Edward A. Wentz, Silver Spring, Md., assignor to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio
Filed Sept. 9, 1966, Ser. No. 578,405
11 Claims. (Cl. 198—157)

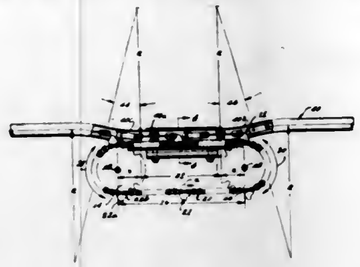


This invention relates to sorting systems and more particularly to a system which entails the sorting of loads such as cartons and the like by means of a continually operating vertical conveyor. The construction contemplates a carrier chain continuously traveling in a vertical plane and carrying a series of trays each comprised of a plurality of spaced fingers which can move transversely of the travel path to interdigitate with in-feed or off-feed banks of rollers. The rollers are supported so as to be suitably spaced to permit the fingers to move upwardly therebetween to pick up loads, or downwardly therebetween to discharge loads. The roller banks are at different levels of a storage building and the tray fingers are moved transversely to extend or retract by parasitic drive utilizing the motion of the carrier chain by programmed coupling thereto of a mechanism associated with each tray.

3,369,649
CATERPILLAR DEVICE FOR CHAIN TYPE CONVEYOR SYSTEMS
William H. Schilling, Jr., La Habra, Calif., assignor, by mesne assignments, to Hewitt-Robins Incorporated, Stamford, Conn., a corporation of Delaware
Filed Feb. 16, 1966, Ser. No. 527,831
8 Claims. (Cl. 198—203)

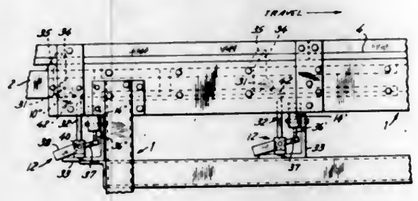
1. A conveyor including a caterpillar drive comprising, a supporting structure, a pair of coplanar chain sprockets mounted on said supporting structure for rotation about spaced parallel axes, an endless drive chain trained about said sprockets and including outwardly extending drive dogs, means for driving said drive chain in one direction about said chain sprockets, said drive dogs having outer driving end portions disposed in a plane normal to said axes and drive surfaces on said driving end portions facing in the direction of movement of the drive chain about said chain sprockets, said drive chain being movable along a closed driving path including a rectilinear driving run

extending between said sprockets and a curved run extending from and beyond the downstream end of the rectilinear driving run about one of said sprockets, a conveyor chain including pivotally connected links having convexly curved thrust surfaces aligned longitudinally of and uniformly spaced along and facing in similar directions, longitudinally of the conveyor chain, a conveyor track supporting said conveyor chain for movement along a predetermined path including a rectilinear driven run located parallel to said rectilinear driving run of the drive chain, said rectilinear driven run terminating short of the rectilinear driving run and being overlapped by the rectilinear driving run at the downstream end of the latter, and a curved run at the downstream end of and extending from and beyond the rectilinear driven run and curving away



from the rectilinear driving run, the drive and convexly curved thrust surfaces associated with portions of the drive and conveyor chains moving along the rectilinear driving and drive runs being in driving engagement with one another, whereby said conveyor chain is driven along said driven path by said drive chain, and said rectilinear driven run of the conveyor chain terminating and merging into the downstream curved run of the conveyor chain in advance of the downstream end point of the rectilinear driving run of the driving chain in such a manner as to effect a rolling disengagement of the mating drive and convexly curved thrust surfaces on the chains by virtue of the convex curvature of the thrust surfaces and the rolling motion thereof as the conveyor chain traverses its said curved run, and before the driving chain enters substantially into its downstream curved run.

3,369,650
ARTICLE FEEDING APPARATUS
Antoni C. Caretto, Dearborn, and Frederick W. Koepke, Jr., Detroit, Mich., assignors to Ajem Laboratories, Inc., Livonia, Mich.
Continuation of application Ser. No. 538,512, Feb. 16, 1966, which is a continuation of application Ser. No. 371,036, May 28, 1964. This application Feb. 15, 1967, Ser. No. 616,412
3 Claims. (Cl. 198—219)



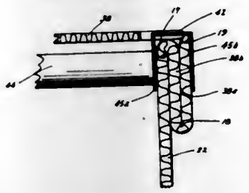
1. A walking beam transfer apparatus for maintaining an unbroken flow of articles to a terminal comprising a plurality of stations where said articles respectively are held in readiness, controlling means at each station, positive article-propelling means for said articles respectively for moving articles simultaneously from each rearward station to the station forward thereof as required, and article sensing means operable by an article present at each said station to direct a signal through said controlling means to each rearward station, and means associated therewith responsive to said signal to control the operation of said propelling means to advance the articles only when a vacancy occurs in any of the forward stations, said article-propelling means being a parallelogram assembly mounted on said walking beam transfer apparatus and is operatively responsive to said signal to collapse into a non-propelling position when stations forward of the rearward station from which said propelling means is adapted for advancing an article are supplied with articles.

3,369,651
EYEGLASS CASE
Carolyn E. Crowley, Montrose, N.Y., assignor to Robert E. Crowley, Montrose, N.Y.
Filed Aug. 8, 1966, Ser. No. 570,905
2 Claims. (Cl. 206—5)



This is an eyeglass case of the sheath type provided with a cleaning means for one lens at a time as an indigenous part of the case. The cleaning elements are on opposable extensions above the opening and to one side of the case, their separation extended down by a slot into the body of the case. From the base of the slot to the regular corner of the opposite side a diagonal line of opening is thus provided which in combination with the extensions allows for the oblique insertion and polishing of the lens.

3,369,652
CONTAINER AND HANGER BAR
Donald R. Bebout, Stone Mountain, Ga., assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Jan. 6, 1967, Ser. No. 607,732
4 Claims. (Cl. 206—7)

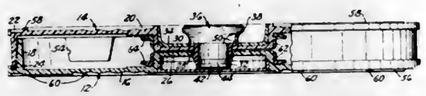


A shipping container having load-supporting walls reinforced by a double reverse fold along their upper edges. Each such fold is gripped by each end of a hanger bar which is positively located and secured and which, in addition to supporting articles suspended therefrom, functions in cooperation with the double reverse folds to add stiffness and rigidity to the container.

3,369,653
DUST-TIGHT LOCKING MECHANISM

William H. Edwards, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed May 2, 1966, Ser. No. 546,718
5 Claims. (Cl. 206—52)

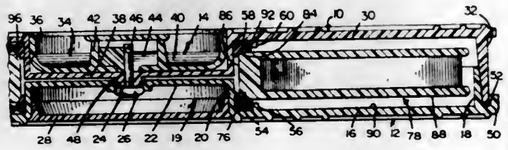


Mechanism for releasably locking a cover to a base wherein an expandable elastic cup is fitted to an opening in the cover. The fully enclosed wall of the cup projects beyond the inside of the cover and may, in its normal condition, be freely inserted into a socket in the base. A plunger having a relatively large shoulder portion is moved longitudinally within the cup to force the shoulder into a constriction of the cup, thus expanding the cup to fill the socket and lock the cover to the base.

3,369,654
REEL CASE WITH GASKET SUPPORT FOR REEL

Frank H. Burgess, Somerset, Mass., assignor to The Morningstar Corporation, Cambridge, Mass., a corporation of Massachusetts

Filed Oct. 21, 1964, Ser. No. 405,385
10 Claims. (Cl. 206—52)



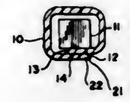
1. A reel case comprising
a cover and a base,
an upwardly extending column in the base and a downwardly extending column in the cover of the same diameter and adapted to fit within the hub of a reel within the case, said columns having facing inner walls in close proximity to one another when the case is closed,
an upwardly open annular recess provided in the base about the column and a downwardly open annular recess in the cover about its column, said recesses being defined in part by the columns,
and extruded rubber-like gaskets seated in each of the recesses and having opposed faces for supporting the top and bottom inner edges of the hub of a reel within the case when the case is closed.

3,369,655
PACKAGING METHODS AND PACKAGES PRODUCED THEREBY

John W. Harrison, Winchester, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

Original application Nov. 27, 1962, Ser. No. 241,109, now Patent No. 3,277,628, dated Oct. 11, 1966. Divided and this application June 10, 1966, Ser. No. 566,176
4 Claims. (Cl. 206—56)

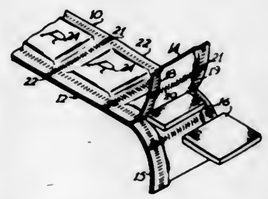
1. Package comprising a plurality of articles in spaced apart linear relationship within a thoroughly unoriented tube-forming overlapped sheet of film prepared from a polymer selected from the group consisting of polyethylene and polypropylene, the three layers of said tube-forming sheet being securely welded into a wide, wrinkle-free transverse seal at each end of the tube and between each of the articles, said film being wrinkle-free and tightly conforming to the contour of said articles.



3,369,656
CONTACT LENS CONTAINER

Euchee Harp Skinner, Jr., 3103 Cloverhurst Drive, East Point, Ga. 30044

Continuation of application Ser. No. 518,423, Jan. 3, 1966. This application Dec. 22, 1966, Ser. No. 604,065
6 Claims. (Cl. 206—56)

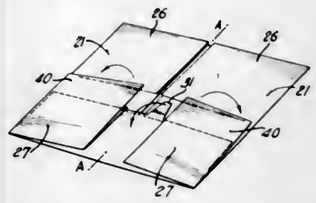


A flexible, disposable lens container utilized for storing contact lenses of the type worn adjacent the pupil of the human eyeball. The container is fabricated with a pair of external, flexible, liquid impervious sheets, and a soft internal fabric soaked with a solution suitable for treating the contact lenses. The external sheets are larger than the internal fabric and sealed to each other about the periphery of the fabric.

3,369,657
SURGICAL GLOVE PACKAGE

Robert T. Quade, Bernardsville, and John Robson, Somerville, N.J., assignors to Ethicon, Inc., a corporation of New Jersey

Filed Nov. 18, 1966, Ser. No. 595,536
7 Claims. (Cl. 206—63.2)

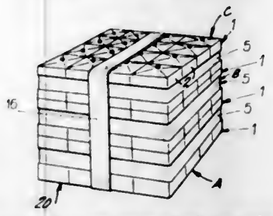


A folded primary package having a pair of surgical gloves which is adapted to be unfolded easily to expose only the inverted unsterile cuff portions of each of the gloves while continuing to cover the sterile finger portions thereof. Either one of the gloves may be removed from the unfolded package without disturbing the other glove or causing its sterile finger portions to become exposed.

3,369,658
PORTABLE CONTAINER TRANSPORT UNIT

Heinz Hasselmann, 101 Bergstrasse, 58 Hagen, Germany

Filed May 20, 1966, Ser. No. 551,763
Claims priority, application Germany, May 22, 1965, H 56,115
11 Claims. (Cl. 206—65)



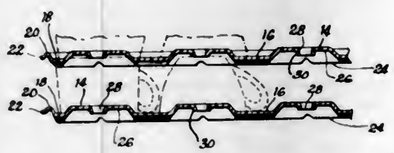
A construction of container which permits interengagement of a group of such containers in order to form a transportable unit includes a container which may be of rectangular or cylindrical configuration, for example, and which includes sides with projections and recesses formed in the walls of the container. The projections and recesses are oriented so that the containers may be arranged in horizontal groups with their sides abutting and with a projection of each abutting container of a container pair extending into a recess of the other container of the pair. In the preferred construction, the projections and recesses are formed both adjacent the tops and the bottoms of the containers so as to provide for a firm interengagement of the containers in order to prevent relative displacement both in horizontal and vertical directions when the containers are arranged in a group. After the containers are interengaged in a group, they are held in interengagement by an encircling band which is advantageously applied around the containers between the upper and lower projections at a location at which the projections will prevent the band from falling off upwardly or downwardly.

The containers are also advantageously constructed so that a projection forming a spout on the top of a lower container may be interengaged with a recess defined on the bottom of an upper container so that the horizontal groups may be stacked vertically and interlocked vertically. When horizontal groups are stacked vertically over another horizontal group or groups, the entire stacked arrangement is held in position by an additional encircling band extending across the tops and bottoms of the vertically stacked groups. The bands advantageously are made such that they include handles which project upwardly from each stack or the container tops are formed such that handles may be fitted to interengage between at least two projecting spout portions of the containers in a group.

3,369,659
TRAY FOR STACKING OF CUPS AND THE LIKE

Ralph Ettlinger, Jr., 1370 Lincoln Ave. S., Highland Park, Ill. 60035

Filed May 18, 1966, Ser. No. 551,040
6 Claims. (Cl. 206—72)

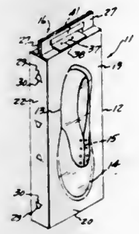


A tray for the supporting of cups of the type having an open mouth at one end and a closed bottom at the opposite end comprising a flat sheet having a plurality of projections extending from one face of the sheet dimensioned to receive the mouths of the cups with corresponding recesses being formed in the opposite face of the sheet for receiving the bottoms of cups located at a separate level in a stack of the trays. The projections define a hole which is punched through the projections to provide an outwardly extending edge portion spaced apart from the bottom surfaces of the recesses whereby the bottoms of the cups will be maintained in spaced apart relationship relative to these bottom surfaces. Upstanding ribs extend crosswise between the projections for supporting the mouths of the cups, this arrangement providing access openings to the interiors of the cups and cooperating with the outwardly extending edges at the bottoms of the recesses to provide for efficient drying.

3,369,660
DISPLAY PACKAGE FOR FOOTWEAR OR OTHER ARTICLES

Robert G. Hartman, 4780 Old Orchard Trail, Orchard Lake, Mich. 48033

Filed June 1, 1967, Ser. No. 642,776
5 Claims. (Cl. 206—65)

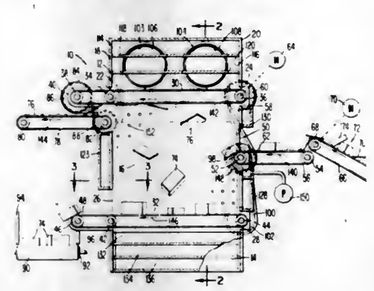


An elongated box housing with front and rear walls and closed top, bottom and sides with the front and rear walls cut away defining shoe shaped apertures with the cutaway portions remaining joined at their toe ends to the respective wall to define a pair of oppositely arranged diagonal shoe supports and a pair of transparent plastic shoe enclosing blisters projecting through said apertures, peripherally flanged to retainingly engage the interior surface of the respective wall.

3,369,661
MAIL HANDLING AND SEPARATING APPARATUS

Robert S. Bradshaw, Broomall, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

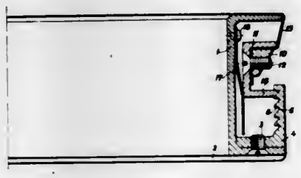
Filed Dec. 18, 1964, Ser. No. 419,322
8 Claims. (Cl. 209—120)



The present invention relates to automatic air culling apparatus for separating relatively large, bulky items from relatively thin, flat, light weight items in which air

under pressure moving through a substantially enclosed chamber through upper and lower perforated conveyor members carrying different size and weight items causes the light weight items to adhere to the upper conveyor member while the heavy, bulky items fall by gravity onto the lower conveyor member effectively separating such items for continuous removal from the chamber.

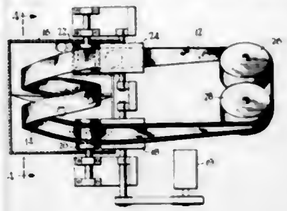
3,369,662
DEVICE FOR ATTACHING AND TENSIONING A SIEVE WEB
Arthur Rohner, Brussels, Belgium, assignor to Gebruder Buhler, Uzwil, Switzerland, a company of Switzerland
Filed Jan. 21, 1964, Ser. No. 339,233
Claims priority, application Switzerland, Feb. 1, 1963, 1,268/63
15 Claims. (Cl. 209—403)



1. A sieve with a sieve tensioning device, comprising, in combination, an open sieve frame formed of outwardly opening structural members having at least a generally horizontal upper leg and a generally vertical leg; a sieve web having its entire periphery drawn over the edges of the upper legs and extending downwardly and inwardly at an angle; first tensioning elements each secured within a structural member and extending substantially parallel to said vertical leg thereof towards the upper leg thereof but terminating in spaced relation to the latter; and second tensioning elements secured along the edges of said web and positioned within said structural members, each second tensioning element including an elongated ledge member and an elongated clamping member clamping the edge of the web therebetween, and fastening means securing each clamping member to the associated ledge member; one of each of said first and second tensioning elements being formed with multitoothed racks which, at least in the tensioned condition of said sieve web, extend substantially parallel to said vertical legs and in spaced relation thereto; each of the other of said first and second tensioning elements having at least one tooth engageable with the teeth of an associated rack to tension said sieve web; all of said teeth being interengaged within the frame outer periphery defined by the outer edges of said upper legs, and being engaged within said structural members.

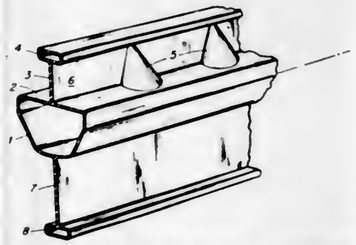
3,369,663
PROCESS AND APPARATUS FOR THE APPLICATION OF CENTRIFUGAL FORCE
John J. Serrell, Coopertown Road, Haverford, Pa. 19041
Continuation-in-part of application Ser. No. 464,293, June 16, 1965. This application Apr. 6, 1967, Ser. No. 633,352
14 Claims. (Cl. 210—78)

Process and apparatus for centrifugally separating material into two phases by means of a continuous belt which is driven through a predetermined path, one portion of which is an unconstrained gyre or helix unsupported along its width and length through its path of travel. The material to be separated is fed onto the inner curved surface of the belt at the point where the belt enters the unsupported gyre or helix and is removed



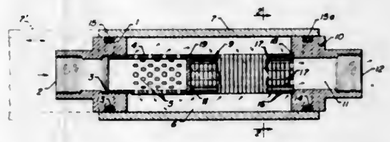
from the belt at a point where the belt's curvature reverses upon leaving the gyre or helical path.

3,369,664
APPARATUS AND PROCESS FOR CONFINING FLOATING LIQUID PRODUCTS
Paul C. Dahan, Franklin Township, Hunterdon County, N.J., assignor to Mobil Oil Corporation, a corporation of New York
Filed Apr. 17, 1967, Ser. No. 631,528
3 Claims. (Cl. 210—83)



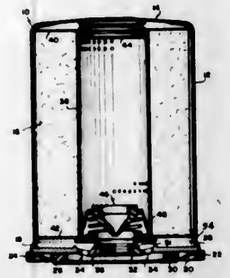
A floatable collar section is provided comprising an inflatable tube having attached thereto a weighed skirt located below the inflatable tube and a bulwark made semirigid by inflatable means located above the inflatable tube. A plurality of collar sections can be attached to form a flotable collar to enclose and confine a liquid floating on seawater. Means associated with the floatable collar can be provided to recover the floating liquid.

3,369,665
TUBULAR FILTER WITH SLIDING CASING
Rueben E. Paulson, Fridley, Minn., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Apr. 27, 1967, Ser. No. 634,156
5 Claims. (Cl. 210—94)



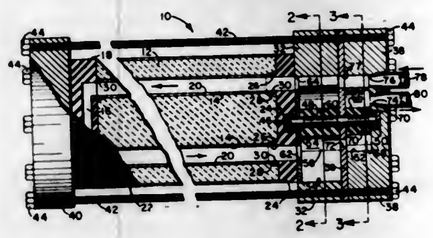
A filter unit adapted for placement directly in a flow line and having a tubular-form slidably movable casing to permit access to the interior of the unit for cleaning purposes. A preferred construction uses a tubular-form filter screen which has slotted openings which increase in size in the direction of flow so as to reduce clogging and provide an increased efficiency. Also, there is employed an out-to-in stream flow within the unit such that all filtered solids material is retained on the outer surface of the filter section.

3,369,666
FILTER UNIT WITH ANTI-DRAIN BACK VALVE MEANS
William Herbert Hultgren, Mount Carmel, and Robert MacGregor, Olney, Ill., assignors to Champion Laboratories, Inc., West Salem, Ill., a corporation of Connecticut
Filed Sept. 22, 1965, Ser. No. 489,155
5 Claims. (Cl. 210—130)



1. A spin-on throwaway type oil filter unit comprising a housing with a closure member closing off one end having a central opening therein formed by a threaded nipple for screwing onto an engine and discharging oil therethrough, oil inlet means in said closure member surrounding said nipple, and a filter support member mounted on said nipple forming a unitary structure provided with an anti-drain back valve and by-pass valve, said support member including a first sleeve with a substantially horizontal annular rim, an annular filter element with a center tube seated on said rim, another upwardly extending sleeve secured to said rim and extending into said center tube, by-pass port means in said rim, a by-pass valve seated over said port means and on said rim, biasing means normally urging said by-pass valve seated against said rim, the upper end of said upwardly extending sleeve having a central opening, a resilient anti-drain back valve secured to said upper end of said upwardly extending sleeve around its central opening, said anti-drain back valve having a depending cylindrical upper portion disposed within said upwardly extending sleeve and a converging lower portion extending downwardly therefrom and converging to a position located centrally of and substantially at the same level as said rim.

3,369,667
REVERSE OSMOSIS APPARATUS HAVING FEED RECIRCULATION MEANS
George B. Clark, Poway, and Serop Manjikian, Del Mar, Calif., assignors to Universal Water Corporation, Del Mar, Calif., a corporation of California
Filed Mar. 8, 1966, Ser. No. 532,791
8 Claims. (Cl. 210—137)

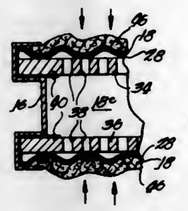


Apparatus for treating a solution by reverse osmosis in which pressurized solution is circulated through a membrane-lined passageway by a pump. The circulating pump is actuated by energy derived from solution flowing through a pressure responsive valve at the output end of such passageway, and before such solution passes through the valve.

ERRATUM

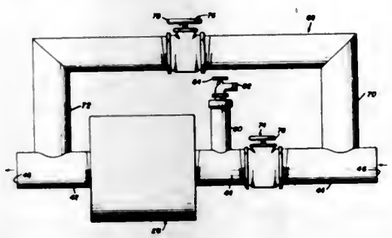
For Class 210—222 see:
Patent No. 3,370,144

3,369,668
FILTER MEDIUM
Edmond A. Glos II, Deerfield, Ill., assignor to Mero & Company, Inc., Chicago, Ill., a corporation of Illinois
Filed Apr. 9, 1965, Ser. No. 446,946
2 Claims. (Cl. 210—345)



Filter medium employing a stretchable filter cloth having interstitial pores in combination with a supporting screen wherein the filter cloth automatically stretches to increase the pore size as an applied pressure differential increases and is self-cleaned when the pressure differential is reversed.

3,369,669
DOMESTIC BACK FLUSH WATER SYSTEM FILTER
Clifford W. Loftin, 1466 Wells Ave., Claremont, Calif. 91711
Substituted for abandoned application Ser. No. 231,438, Oct. 18, 1962. This application Feb. 9, 1966, Ser. No. 533,759
1 Claim. (Cl. 210—411)

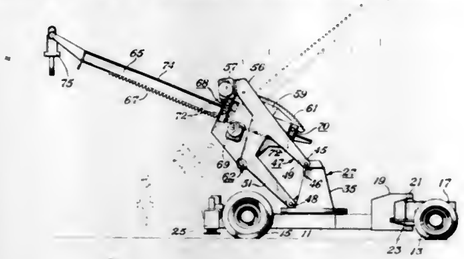


A filter enclosure through which domestic water is adapted to pass and including a filter element and sediment chamber which may be back flushed when necessary, the filter enclosure including a hose bib which, whenever used, also is operative to flush the aforementioned sediment chamber and at least partially clean the filter element.

3,369,670
BOOM TYPE CRANES
Robert G. LeTourneau, P.O. Box 2307, Longview, Tex. 75601
Continuation of application Ser. No. 428,378, Jan. 27, 1965. This application Apr. 25, 1967, Ser. No. 640,433
3 Claims. (Cl. 212—55)

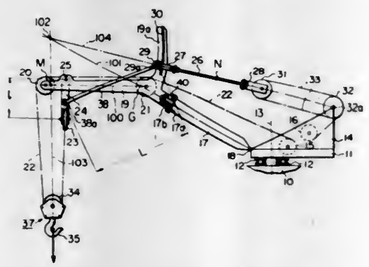
A crane having a boom mounted for powered reciprocable movement at the outer region of a support structure which in turn is pivotally mounted at the inner region

for powered movement about a horizontal axis, with the support structure being mounted on a base member structure which extends upwardly and outwardly from



a pedestal turntable. The base member is capable of limited movement relative to the turntable to reduce the overall crane height when stowed for transportation.

3,369,671
GOOSENECK JIBS OF CRANE BOOMS
Haruo Yasukouchi, 596, Matsudo, Shinden, Matsudo-shi, Chiba-ken, Japan
Filed Oct. 7, 1966, Ser. No. 585,150
Claims priority, application Japan, Oct. 11, 1965, 40/62,573; Feb. 12, 1966, 41/8,177
5 Claims. (Cl. 212—59)

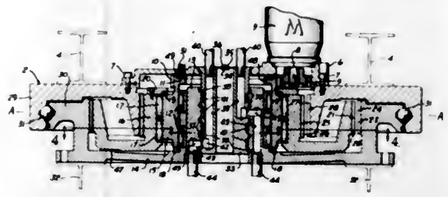


A gooseneck jib is pivoted to a crane boom about the longitudinal axis of the boom and normally held from pivotal rotation by a spring loaded detent. The derrick rope system is connected to the gooseneck boom by a roller guided on a curved guide rail of the gooseneck boom.

3,369,672
TURNTABLE DRIVE MECHANISM
Ervin H. Lorence, Milwaukee, Wis., assignor to Lorence Manufacturing Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 22, 1965, Ser. No. 509,031
15 Claims. (Cl. 212—69)

The invention relates to a turntable drive mechanism for heavy construction equipment. The drive mechanism includes a hydraulic motor mounted on the turntable which drives an eccentric journalled about a central sleeve and the eccentric drives a gear unit including a pair of integrally formed gears, a large outer gear and a small inner gear. The teeth of the outer gear mesh with a series of internal teeth of a fixed outer gear ring, and the outer gear ring has a greater number of teeth than the outer gear so that the external diameter of the outer gear is smaller than the internal diameter of the outer gear ring. As the eccentric is rotated, the outer gear will be moved by a wedging action in the opposite direction and at a slower rate of speed to provide a speed reduction.

The inner gear rotates with the outer gear, and the teeth of the inner gear mesh with a series of internal teeth of a second gear ring connected to the turntable. The inner gear ring has a greater number of teeth than the mating inner gear and as the inner gear rotates, the



inner gear is moved by a wedging action in the opposite direction to provide a second speed reduction for the turntable.

The outer edge of the turntable is provided with a flange which is journalled around the outer gear ring to guide the turntable in rotary movement.

3,369,673
TREE HARVESTING LIFTING AND TRANSPORTING APPARATUS
Clifford F. Mosher, 6039 Buckingham St., South Burnaby, British Columbia, Canada
Filed Jan. 12, 1965, Ser. No. 424,932
9 Claims. (Cl. 212—71)

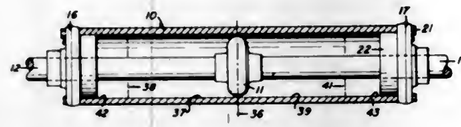


1. Lifting and transporting apparatus comprising a ballon, a carriage suspended from the balloon, a cable connected to the carriage and anchored to the ground at spaced apart points and adapted to permit limited vertical and horizontal movement in an area between said spaced points of the carriage and balloon, power driven means mounted on the carriage capable of driving said carriage horizontally in all directions and vertically, during which time the balloon moves respectively horizontally and vertically, and gripping means suspended from the carriage adapted to grip a load to be raised and transported by said balloon.

3,369,674
HYDRAULIC CUSHIONING DEVICE FOR RAILWAY VEHICLES
Ross G. Carle, Columbus, Ohio, assignor to The Buckeye Steel Castings Company, Columbus, Ohio
Filed Mar. 3, 1966, Ser. No. 531,620
3 Claims. (Cl. 213—43)

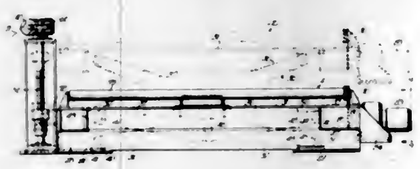
1. A hydraulic mechanism for cushioning impacts comprising, a tubular shaped wall, a head member closing

each end of said tubular wall, a piston within said tubular wall, a piston rod carried by said piston extending through one of said head members, another piston rod carried by said piston extending through the other of said head members, said tubular wall having a diameter at its central portion greater than the diameter of said piston providing an orifice area between the perimeter of the piston and the inner surface of said tubular wall, inner surfaces on said tubular wall of conical shapes converging inward-



ly in proceeding from said central portion toward said head members, said tubular wall member being displaceable radially outwardly when the pressure between the piston and one of said head members rises above a predetermined value while the piston is displaced from said central portion and provides an enlarged orifice area sufficient to provide a significant pressure relief, and said tubular wall having an elastic limit above the pressure developed in service impacts.

3,369,675
SHEET PILING MACHINE WITH SCISSORS-TYPE LIFT
Dario Buccicone, Gary, Ind., assignor to Bucciconi Engineering Co., Inc., Gary, Ind., a corporation of Indiana
Filed May 10, 1965, Ser. No. 454,536
6 Claims. (Cl. 214—6)



A sheet piling machine which comprises an overhead magnetic conveyor mounted on spaced end support frames and a pair of pile supporting platforms in the piling area, between the conveyor end frames, which may be raised and lowered either separately for accommodating separate piles of short length sheets or in unison for accommodating a single pile of longer sheets, wherein the platforms are mounted on scissors-type lift mechanisms driven by power operated vertical screws disposed in upright frames constituting part of the conveyor end support frames.

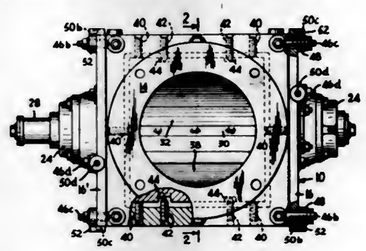
3,369,676
ANCHORING DEVICE
Norman M. Swetnam, Sherman, Tex., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,974
5 Claims. (Cl. 214—10.5)

An integral anchoring member comprising a pair of plate portions formed of sheet metal and having a plurality of integral claws extending from each major surface and an interconnecting portion of reduced width with respect to said plate portions for normally maintain-



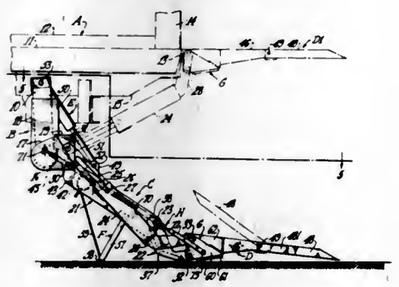
ing the plate portions in a generally common plane and being bendable without separation.

3,369,677
ROTARY FEEDER
Lauritz E. Mylting, Ardmore, Pa., assignor to Buell Engineering Company, Inc., Lebanon, Pa., a corporation of Delaware
Filed Nov. 8, 1965, Ser. No. 506,802
6 Claims. (Cl. 214—17)



A rotary feeder in which the rotor is mounted in the housing for adjustment into sealing engagement with the surface of the shoe. The rotor shafts are journaled in adjustable end members that are mounted on the housing solely for selective pivotal movement of the rotor axis about a predetermined pivot point spaced from the rotor and shoe axes and from the sealing surface of the shoe and for selective linear adjusting translation of the rotor axis in a predetermined direction toward and away from the shoe.

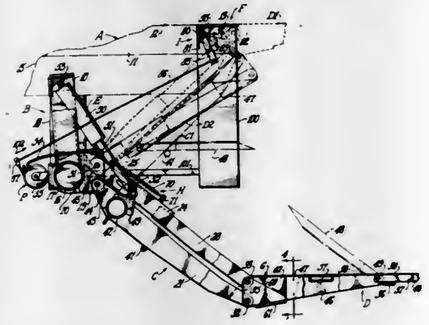
3,369,678
STOWABLE LIFT APPARATUS
Morris D. Robinson, 3721 W. 185th St., Torrance, Calif. 90504
Filed Oct. 21, 1965, Ser. No. 499,627
17 Claims. (Cl. 214—77)



A load-lift apparatus for the rear end or side of a truck or equivalent vehicle, wherein a lift platform or deck is carried by parallel arm linkage in a leveled position during

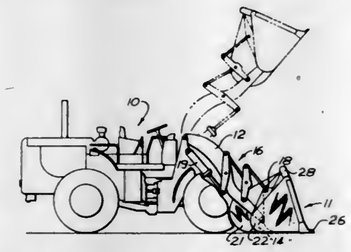
elevation from ground level to truck bed level by a hydraulic cylinder exerting an upward pull against the lift arms at a point located outwardly of a transverse horizontal fulcrum axis on which they are pivotally attached to the vehicle for vertical swinging movement. The parallel arms of the linkage are sectional, articulated and foreshortenable in a manner such as to provide for manually operated folding of the deck over and into the linkage for stowing it in a non-use position, and, further, to draw the deck and linkage inwardly toward the fulcrum axis with a foreshortening effect so as to substantially eliminate any protrusion of the apparatus beyond the marginal limit of the vehicle body when in the stowed position.

3,369,679
STOWABLE LIFT APPARATUS
Morris D. Robinson, 3721 W. 185th St., Torrance, Calif. 90504
Filed Nov. 19, 1965, Ser. No. 515,504
12 Claims. (Cl. 214—77)



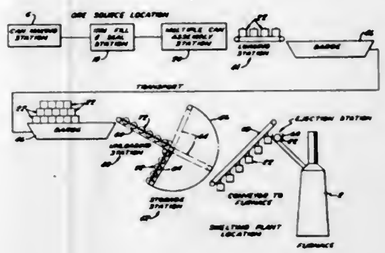
A hydraulic lift for vehicles such as trucks, wherein a lift platform or deck is carried by parallel arm linkage in a leveled position during elevation from ground level to truck bed level by a hydraulic cylinder exerting an upward pull against the lift arms at a point located outwardly of a transverse horizontal fulcrum axis on which they are pivotally attached to the vehicle for vertical swinging movements. The parallel arms of the linkage are sectional, articulated and foreshortenable in a manner such as to provide for manually operated folding of the deck over and into the linkage for stowing it in a non-use position.

3,369,680
LARGE CAPACITY LOADER BUCKET
Robert A. Peterson, San Leandro, Calif., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed July 18, 1966, Ser. No. 566,061
1 Claim. (Cl. 214—145)



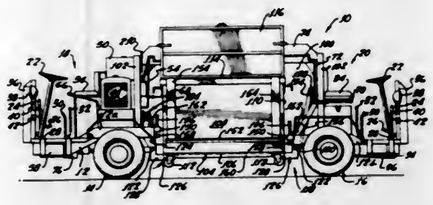
A tractor mounted loader bucket designed for increased capacity, better balance, improved loading, and load distribution as compared to standard buckets and having in particular a bucket which has re-entrant chambers in its rear wall to enable forward positioning of the bucket lift arms, and a central portion extending rearwardly between the lift arms.

3,369,681
MATERIAL HANDLING METHOD
Ernest H. Casson, 1075 Broadway, San Francisco, Calif. 94133
Filed Oct. 20, 1965, Ser. No. 498,897
6 Claims. (Cl. 214—152)



Metal ore including a substantial amount of fines is transported from an ore deposit to a smelter at a remote location in closed containers which are composed of the metal to be recovered from the ore. The closed containers with their contents are deposited together in the smelter. The metal for fabricating the containers is transported to the site of the ore deposit in ingot form and is fabricated into containers at that site. A special pallet is used to group a plurality of the filled containers to form a package for shipment.

3,369,682
CARGO HANDLING AND TRANSPORTING VEHICLE
Ernest R. Breault, 26009 E. 6th St., San Bernardino, Calif. 92410
Filed July 6, 1965, Ser. No. 469,468
13 Claims. (Cl. 214—392)

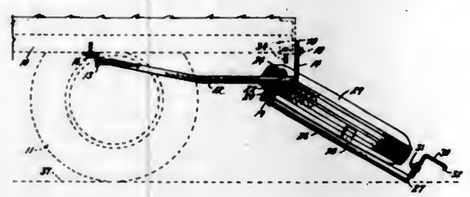


A utility pickup vehicle having a driver's cab and steering wheel at each end of the vehicle, and a laterally opening cargo space between the wheels of the vehicle.

3,369,683
SPARE WHEEL CARRIERS
Virgil P. Richards, Denver, Colo., assignor of one-half to E. J. Wallace, Lakewood, Colo.
Filed June 6, 1966, Ser. No. 555,299
1 Claim. (Cl. 214—454)

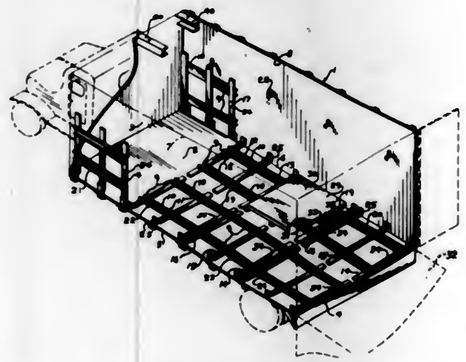
Two parallel spaced-apart track bars secured beneath the chassis from a vehicle, the forward extremity of a spare wheel-carrier frame being supported on rollers traveling on said track bars, said track bars being contoured

to elevate said wheel-carrier frame when the latter is pushed forwardly and to lower said wheel-carrier frame



when the latter is pulled rearwardly and detachable means for supporting the rear extremity of said wheel-carrier frame.

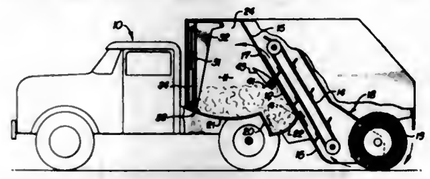
3,369,684
TRUCK BED
Kenneth C. Ford, 6101 W. 87th Terrace, Overland Park, Kans. 66207
Filed Aug. 16, 1965, Ser. No. 479,914
2 Claims. (Cl. 214—515)



A truck bed includes means forming longitudinal tracks adapted to receive wheeled dollies thereon. The tracks may be formed in sections pivotally secured at the sides of the bed for swinging upwardly when not needed. Latches are provided to hold the track sections in the vertical position and co-operative latching structure is provided between the dollies and the track sections for selectively maintaining the dollies in desired positions on the tracks. Overhead storage means for the dollies include facing spaced-apart channels slidably receiving the dollies longitudinally on the ceiling of the truck.

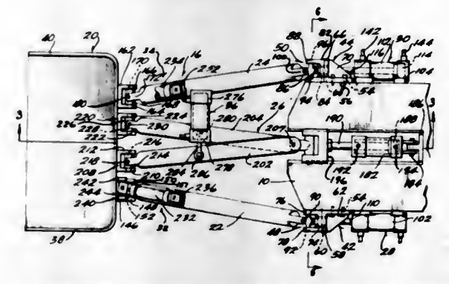
3,369,685
STREET SWEEPER HOPPER DUMP MECHANISM
Howard R. Price, Whittier, Charles J. Adams, Jr., Pomona, and Simon Tammy, Los Angeles, Calif., assignors to Wayne Manufacturing Company, Pomona, Calif., a corporation of California
Filed Dec. 21, 1965, Ser. No. 515,430
5 Claims. (Cl. 214—518)

The invention applies to street sweeper hopper and dump mechanism combinations wherein the hopper has an inclined wall overlying an operable debris discharge opening and at the outside of which broom swept debris is elevated into the hopper interior between the inclined wall and a pivoted pusher plate actuable to displace the debris to the outlet. Provided in conjunction with the pusher plate is a mechanism underlying the inclined wall



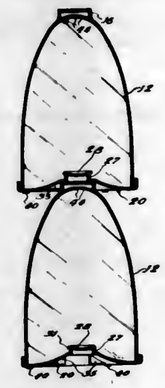
and operable to positively displace the debris downwardly through the discharge opening when its closure is released in advance of the debris displacement.

3,369,686
LOADER MECHANISM
Lubomir Vondra, Kansasville, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Apr. 1, 1966, Ser. No. 539,442
14 Claims. (Cl. 214—768)



A material moving mechanism having a segmented bucket pivotally carried on a tractor and hydraulic control means for operating the bucket. A multi-purpose bucket universally connected with and supported from the tractor, the bucket including cooperating portions which can be positioned at various attitudes for moving material.

3,369,687
PLASTIC CONTAINER
Leroy C. Walls, Valparaiso, Ind., assignor to Lewals Inc., a corporation of Indiana
Filed May 2, 1966, Ser. No. 546,891
8 Claims. (Cl. 215—10)



The invention relates to closed containers for storage of foodstuffs and the like. Portions of a container and a closure member are structurally designed so that a plu-

rality of said containers can be stacked one on top of the other, whereby the closure can be reversed and used as a base for the container, whereby the closure when used as a base or as a cover has elements that prevent leaving a wet ring on a supporting surface and whereby a specially designed handle member can be assembled and held on the container by means of the closure when being used as a base.

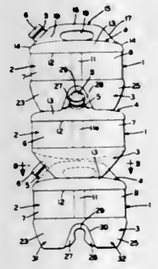
3,369,688

BOTTLE CONSTRUCTION

Roy W. Dike, Mesa, Ariz., assignor to The Climalene Company, Canton, Ohio, a corporation of Ohio

Filed Aug. 8, 1966, Ser. No. 570,784

8 Claims. (Cl. 215—10)



A cube-shaped, flexible, plastic material bottle having generally rectangular vertically extending side walls, base wall and recess wall portions forming a diagonally extending bottom recess, the recess wall portions converging downwardly, a dome-shaped top wall and an upwardly projecting, diagonally disposed tubular handle member oriented 90° with respect to the diagonal bottom recess, the median zone of each recess wall portion having ends formed in horizonal cross section with shoulder abutments, each base wall having a relatively narrow outer marginal flat portion and a relatively wide inwardly, slightly upwardly inclined concave portion connecting the marginal flat portion and one of said recess median zones.

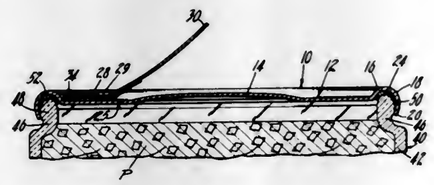
3,369,689

EASY-OPEN CONTAINER CLOSURE

John Dennis Dodge, Arlington Heights, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Sept. 11, 1964, Ser. No. 395,829

13 Claims. (Cl. 215—39)



6. A manually openable container, comprising:
a container body having a dispensing mouth and an annular bead surrounding said dispensing mouth;
an end closure adapted to hermetically seal said container body; and
said end closure having a central panel with an aperture therein, a countersink wall extending upwardly from the periphery of said central panel, said central panel and said countersink wall being adapted to be received within said container mouth, a U-shaped channel merging with the periphery of said container wall, an annular skirt forming the outer edge of said U-shaped channel and extending over said annular container bead, a sealing gasket disposed within said U-shaped channel and extending over said annular channel and said container bead, a length of tape, having a variable width, bonded to the outer surface of said central panel and around said aperture in said central panel, and said tape having greater width at a point remote from said aperture than at said aperture thus having greater peel strength at said remote point so that said tape can be peeled from the end opposite said end having said greater width to open said aperture but said tape will not peel at said greater width so that said tape may be utilized as a handle to remove said closure from said container.

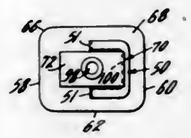
3,369,690

PLASTIC CONTAINER WITH INTEGRAL CARRYING HANDLE

Daniel Thomas Hayes, New Canaan, Conn., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Dec. 28, 1964, Ser. No. 421,273

2 Claims. (Cl. 215—100)



1. A one-piece blow molded plastic container comprising:
a hollow tubular body;
an imperforate bottom wall integral with and closing one end of said body;
a top wall integral with and substantially closing the opposite end of said body, said top wall having a restricted filling and dispensing opening centrally located therein;
said top wall comprising a smaller central panel in which is located said centrally disposed opening, a peripheral wall depending from the periphery of said smaller panel and a larger panel extending outwardly from the lower periphery of said peripheral wall and merging with the side wall of said body;
a solid plastic carrying handle for said container generally in the shape of an inverted U with the end only of the legs thereof integral with said top wall on each side of said opening, said legs at their juncture with said top wall having a reduced thickness to provide ready oscillation of the free end of said handle about said juncture; and
a locking means integral with said top wall and spaced from said opening in the direction of oscillation of said free end to frictionally retain said free end in one oscillated poistion away from said opening.

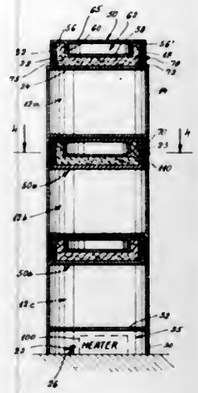
3,369,691

STACKED FOOD CONTAINERS

Tohchung Wei, 169 E. Broadway, New York, N.Y. 10002

Filed Dec. 15, 1966, Ser. No. 602,040

10 Claims. (Cl. 220—4)



This disclosure describes an assembly of stacked cylindrical containers, with a flat insulated cover or stopper for each container. The stoppers of the containers serve to hold the containers together and also are used to carry the containers.

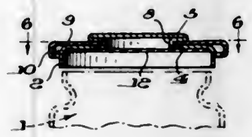
3,369,692

CONTAINER OPENING DEVICE

Robert L. La Barge, Richmond, Ind., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 5, 1966, Ser. No. 547,987

12 Claims. (Cl. 220—48)



1. A container opening device comprising
(a) a container wall;
(b) a removable portion of said wall defined by at least one weakened line;
(c) a rotatable opening member adjacent said wall and having a non-circular orifice therein;
(d) fastening means passing through said orifice of said opening member and securing said opening member to said wall;
(e) a portion of said fastening means having a non-circular cross-sectional configuration adapted for rotational interference fit with said opening member; and
(f) means for transmitting tension stresses, resulting from torque applied to said fastening means, to said weakened line, whereby rotation of said opening member creates a compressive interference fit between said member and said fastening means, thereby creating tension stresses which sever said weakened line and permit removal of said removable portion of said wall.

ERRATUM

For Class 220—54 see:
Patent No. 3,370,169

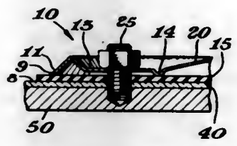
3,369,693

LINER PATCH

Raymond Burt Chase, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Mar. 3, 1966, Ser. No. 531,474

1 Claim. (Cl. 220—63)



1. In a tantalum patch intended to be used to cover a resin-filled break in a glass lining of a glass-lined metal vessel, the said cover cooperating with a deformable gasket between the said cover and the said glass lining, a flange which presents a composite working surface comprising a first edge substantially at the outer periphery of the said tantalum patch, a wall proceeding away from the said edge away from the surface to be patched at an acute included angle, stopping and returning towards the said surface to be patched at a returning acute included angle, the two said acute angles defining an outer apical groove; the rise of the wall of the said patch flange defined along the returning acute angle being shorter than the wall defined along the departing acute angle; the said patch flange proceeding fram the base of the said returning wall substantially parallel to the face of the surface to be patched for a distance sufficient to admit of drilling to pass a stud and receive a nut and thereafter returning at an obtuse included angle again toward the said surface to be patched to a point which, when not stressed, is farther from the said surface to be patched than the first said edge; and thereafter departing from the surface to be patched at a departing obtuse angle, the two said obtuse angles defining an inverted apical groove, the said patch wall proceeding along a surface which intergrades thereafter between the said inverted apical groove and a central portion of the said patch.

3,369,694

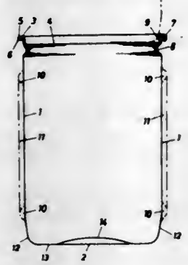
CONTAINER WITH LID CLOSURE

Alfons Mauser, Goltsteinstr. 230, Cologne-Bayenthal, and Friedrich Muhlhoff, Arnimstr. 105, Cologne-Bickendorf, Germany

Continuation of application Ser. No. 273,977, Apr. 18, 1963. This application Aug. 5, 1966, Ser. No. 570,672
Claims priority, application Germany, June 8, 1962, M 53,162; Sept. 13, 1962, M 54,221
10 Claims. (Cl. 220—67)

1. A stackable container, comprising a body defined by a bottom wall and a side wall, said side wall terminating in an outwardly obliquely directed rim defining an opening for the container and said side wall being provided with an inwardly directed rib located below said rim; and a sheet-material lid for closing the opening, said lid having a bottom, an annular wall, a rim along the upper end of said annular wall, and a portion extending

downwardly from said rim substantially perpendicularly thereto, said rim of said lid being adapted to rest upon said rim of the side wall with said downwardly extending portion located exteriorly of said rim of the side wall, and the height of the side wall from said reinforcing rib to



the beginning of said outwardly obliquely directed rim being approximately equal to the height of said annular wall of the lid so that, when said rim of the lid, said rim of the side wall and the downwardly extending portion are folded to secure the lid to the container body, the bottom of the lid abuts the reinforcing rib.

3,369,695
INSERT TUBE FOR TANK FILLING CONDUIT
Lloyd D. Johnson, Barnsdall, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 26, 1964, Ser. No. 406,309
6 Claims. (Cl. 220—86)

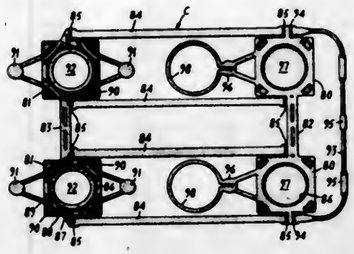


The invention relates to an insert tube for the filling conduit of a tank, said insert tube comprising an elongated flexible corrugated tube provided with at least one generally longitudinally extending channel means formed along the outer wall surface thereof. In a preferred embodiment one end of said insert tube is defined by an annular shoulder which cooperatively engages a ledge formed in the inner wall of the filling conduit.

3,369,696
CONTAINER CARRIER
Richard W. Erickson, Coral Gables, Fla., assignor to International Omni-Pak Corporation, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 139,262, Sept. 19, 1961. This application Dec. 13, 1965, Ser. No. 513,189
5 Claims. (Cl. 220—102)

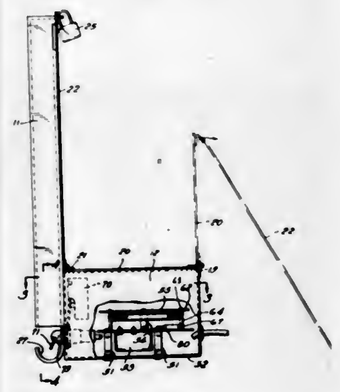
The specification discloses different embodiments of a one-piece container carrier of a type which holds containers in nested interlocking relationship and includes upper and lower channeled elements engageable with the chimes at opposite ends of the containers and means integrally formed with both channeled elements and connecting them together to hold them in interlocking relationship with the chimes at opposite ends of the containers. The specification also discloses a method and apparatus for packaging containers in a container carrier of this type.

In one embodiment of the container carrier one of the channeled elements has an upstanding cap formed at the center, the outer wall thereof defining at least part of a channel for holding a chimed container and the inner wall serving as a bottle engaging wall so that the channeled element can be detached from the carrier and used as a bottle cap after it has served its purpose as a container carrier.



In another embodiment of the container carrier the container carrier includes means formed within the channels of the channeled elements to prevent relative movement of the chimes within the channeled elements. In one form of the invention serrations are formed on at least one of the channel defining walls to prevent movement of the chime within the respective channel. In another embodiment a protuberance is formed on one of the channel defining walls to interlock with the chimed portion of the container.

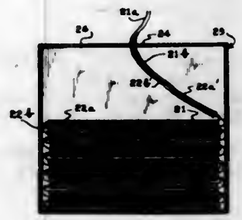
3,369,697
PROGRAMMED MEDICATION DISPENSER
John Glucksman, 145 W. 86th St. 10024, and Joseph R. Kuh, 51 E. 91st St. 10028, both of New York, N.Y.
Filed Aug. 5, 1966, Ser. No. 573,444
7 Claims. (Cl. 221—9)



This invention relates to a timed dispenser apparatus and more particularly to a timed medication dispenser device for dispensing at pre-selected time intervals, any desired dosage, such dispensing action being accomplished by providing a delivery station communicable with and normally isolated from a storage means for holding a plurality of doses and utilizing a timer to actuate control means which provide communication at selected intervals and sensing means responsive to the passage of a

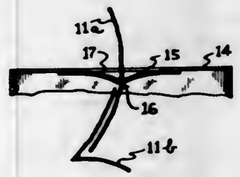
dose to the delivery station to deactivate the timer and thereupon to reactivate the timer when the dose is removed from the delivery station.

3,369,698
ARRANGEMENT FOR SEQUENTIAL DISPENSING OF MULTI-PLY TISSUES
Herbert H. Scholz, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Mar. 29, 1966, Ser. No. 538,417
6 Claims. (Cl. 221—48)



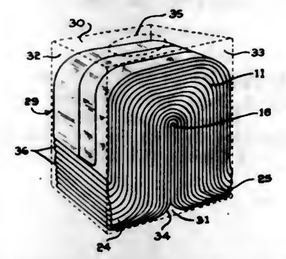
A dispensing arrangement for a stack of interleaved multi-ply tissues in which the plies of a leading portion of each tissue are disposed in face to face contact, while a trailing portion of at least one ply of each tissue is separated from its neighboring ply, and the leading portion of each immediately succeeding tissue in the stack is embraced between the separated plies of the trailing portion of the tissue which immediately precedes it in the stack. Preferably, at least one of the inner surfaces of the separated plies is rough, while the surfaces of the outer plies of each tissue are smooth.

3,369,699
SHEET DISPENSING DEVICE
Kenneth M. Enloe, Neenah, and Karl E. Sager, Appleton, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Aug. 18, 1966, Ser. No. 573,375
11 Claims. (Cl. 221—48)



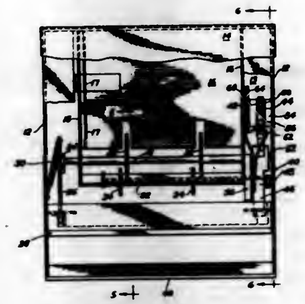
An improved dispensing carton for interfolded facial tissue sheets in which thin flexible sheet material, disposed in a top carton opening and adapted to provide a flexible slot through which the sheets are sequentially dispensed, has its upper surface in the area immediately adjacent the slot roughened, or otherwise modified, to increase its coefficient of friction. When the edges of the sheet material forming the slot are flexed downward after a sheet has been withdrawn during the dispensing operation, the modified surface offers increased frictional resistance to the following sheet with which it is in contact to help prevent that sheet from slipping back into the carton. The under surface of the flexible material may also be modified adjacent the slot to decrease frictional resistance when the edges are flexed upward as sheets are being withdrawn during the dispensing operation.

3,369,700
SHEET MATERIAL DISPENSING PACKAGE
Howard N. Nelson, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed June 9, 1966, Ser. No. 556,401
8 Claims. (Cl. 221—63)



A compact package for a stack of flexible sheet material such as facial tissue. The stack of tissue is folded on itself in the form of an inverted U. The legs of the U are flared outwardly from each other and cooperate with an outer container to prevent the stack from shifting within the container during handling and shipment.

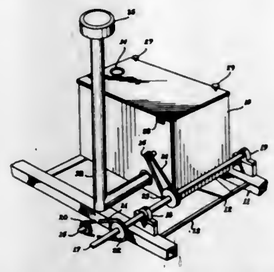
3,369,701
APPARATUS FOR DISPENSING LIGHTED CIGARETTES
Boris N. Kovacevic, 4419 N. Christiana, Chicago, Ill. 60625
Filed Aug. 24, 1966, Ser. No. 574,780
5 Claims. (Cl. 221—147)



1. A combination cigarette lighter and dispenser comprising a housing; a cigarette chute in said housing for supporting a plurality of cigarettes, said chute having a discharge end; ignition means disposed adjacent one side of the chute approximate said discharge end for lighting a selected cigarette; cigarette support and moving means for moving individual cigarettes successively to a lighting position, said cigarette support and moving means including a shaft journaled in the housing transversely of the line of movement of the cigarettes in the chute and finger means on the shaft for engaging with and supporting a single cigarette; timing means for energizing the ignition means and for controlling the length of the ignition cycle; stop means operatively connected to the timing means for receiving a cigarette from the cigarette support means and retaining same at the lighting position during the ignition cycle, and releasing same at the end of the ignition cycle; and push bar means movably supported on the housing for actuating the cigarette support means and the timing means, the timing means including a bimetallic switch element pivotally supported in the housing and

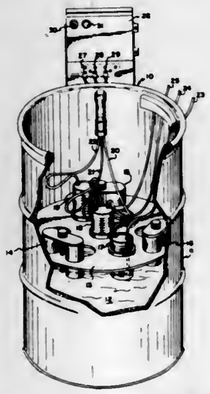
adapted to be rotated into engagement with a fixed switch contact upon actuation of the push bar means, a heater in heat transfer relationship with the bimetallic switch element, the bimetallic switch element being releasable from the fixed contact upon being heated by the heater so as to release the bimetallic switch element from the fixed switch contact, and means for urging the bimetallic switch element away from the fixed switch contact.

3,369,702
PRECISION PLANTING DEVICE
Robert L. Paul, 3701 W. Glendale Ave., Phoenix, Ariz. 85021
Filed Nov. 2, 1966, Ser. No. 596,041
11 Claims. (Cl. 221—211)



A planting device utilizing a seed alignment wheel having a plurality of circumferential V-shaped slots therein; the alignment wheel rotates within a seed bin and delivers seeds to pneumatic seed picks mounted on a hub to cause the picks to contact the seed alignment wheel and withdraw the individual seeds.

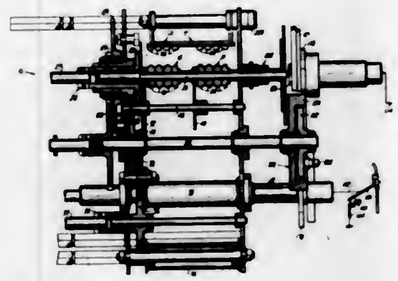
3,369,703
DISPENSING APPARATUS WITH FLOATING CHAMBER AND COMPRESSED GAS DISCHARGE
John B. Reese, Grafton, Wis., assignor to Wright Chemical Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 12, 1966, Ser. No. 601,167
10 Claims. (Cl. 222—1)



1. Apparatus for dispensing controlled amounts of liquid, said apparatus comprising a supply tank containing a liquid to be dispensed, a buoyant member freely floating on the surface of said liquid, a transfer chamber mounted to said buoyant member, said transfer chamber having a liquid inlet disposed below the liquid surface in said supply tank, said inlet being equipped with valve means which permits liquid flow into said transfer chamber only, said transfer chamber being further equipped with a liquid outlet, and means for directing a compressed gas into said transfer chamber for discharging the liquid contents thereof through said liquid outlet.

8. The method of dispensing a liquid which comprises the steps floating a transfer chamber on the surface of the liquid to be dispensed, filling said transfer chamber with predetermined volume of liquid through an inlet located adjacent the bottom of said transfer chamber, and discharging a compressed gas into said transfer chamber to evacuate the liquid contents of said transfer chamber through a liquid discharge outlet positioned therein.

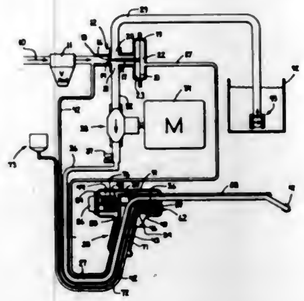
3,369,704
PRINTER AND REGISTER CONTROL MECHANISM
Gustave L. Manke, Bloomfield, Conn., assignor to Veeder-Root Incorporated, Hartford, Conn., a corporation of Connecticut
Filed Sept. 7, 1965, Ser. No. 485,385
21 Claims. (Cl. 222—30)



A combined printer and register for fuel dispensing equipment which is adapted to register the amount of each fuel delivery and to print a ticket with the amount of the fuel delivery. A handle is employed for operating the printer and for simultaneously loading a reset spring, and a control mechanism responsive to the operation of the handle and of the placement and removal of the fuel dispensing nozzle in its storage receptacle provides for ensuring that the printer is operated before the register is reset and the apparatus is conditioned for being inoperative for dispensing fuel after a prior delivery is completed and until the printer is operated and the register is reset.

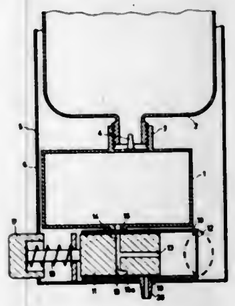
3,369,705
PLURAL SOURCE CLEANING APPARATUS HAVING FLUID ACTUATED DIAPHRAGM-TYPE PROPORTIONING VALVE
Russell R. Curtis and Conrad D. McGinnis, Indianapolis, Ind., assignors to Curtis Dyna-Products Corporation, Westfield, Ind., a corporation of Ohio
Filed May 9, 1966, Ser. No. 548,739
7 Claims. (Cl. 222—57)

1. A pressure cleaning apparatus comprising in combination: a source of a first cleaning fluid under pressure, a fluid pump and drive means therefor, a source of a second cleaning fluid, and a fluid discharge member adapted for use at a location remote from said pump, fluid conduits connecting both of said fluid sources to the intake of said pump, a throttling valve in the conduit connecting said first fluid source with the pump intake for determining the flow from said first fluid source to the pump, said throttling valve including a pressure chamber having a moveable wall and a valve member positioned by said moveable wall for establishing the rate of flow through said throttling valve in response to the pressure in said pressure chamber, a flexible fluid conduit connecting the discharge side of said pump to said fluid discharge member for discharging the pump output therethrough, a manually adjustable orifice carried by said discharge member, a first flexible tube connecting said source of pressurized cleaning fluid with one side of said orifice, means venting the other side of said



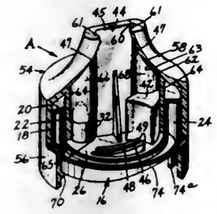
orifice to atmosphere and a second flexible tube connecting said other side of said orifice to said throttling valve pressure chamber, whereby the pressure drop across said orifice determines the pressure in said pressure chamber and adjustment of said orifice determines the relative proportions of said cleaning fluids discharged by said fluid discharge member.

3,369,706
APPARATUS FOR DISPENSING LIQUID OR PASTE-LIKE MATERIAL IN PORTIONS
Conrad Wolfgang Schnyder, Triesenberg, Liechtenstein
Filed Oct. 18, 1966, Ser. No. 587,581
Claims priority, application Switzerland, Oct. 22, 1965, 14,623/65
5 Claims. (Cl. 222—82)



A liquid dispenser having no valves which become clogged by use and which will not drip liquid from the dispensing nozzle between uses. The dispenser pump has a cylinder with an end which is displaceable inwardly and outwardly but which is biased against both such displacements and a dispensing nozzle on the lower portion of the cylinder. The cylinder has a piston with a longitudinal duct extending from the end of the piston facing the displaceable cylinder end to an upwardly extending suction duct and a downwardly extending outlet duct so that when the piston is pushed inwardly, the cylinder end is displaced outwardly until the outlet duct aligns with the dispensing nozzle whereupon the cylinder end returns to its normal position to exhaust liquid through the nozzle.

3,369,707
DISPENSING CAP FOR A CONTAINER
Alvin J. Porter and Anthony Walter Merchlewitz, Minneapolis, Minn., assignors to Products Design and Engineering, Inc., Minneapolis, Minn.
Filed Oct. 14, 1966, Ser. No. 586,706
12 Claims. (Cl. 222—83)

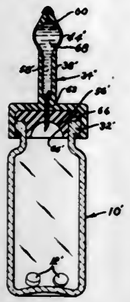


1. A dispensing cap for a container comprising in combination:
(a) a circular base member,
(b) a circular overcap mounted on said base member for relative rotational and axial movement thereon,
(c) said overcap formed with a discharge orifice having a substantially rectangular outline,
(d) said base member having an internal support wall,
(e) a stopper having a substantially rectangular cross-section carried by said support wall and adapted to enter and fill said discharge orifice when said overcap is in its innermost position relative to said base,
(f) first cam means formed in said overcap adapted to be contacted by the end of said stopper to cause said stopper to move into and out of said orifice upon rotational movement of said overcap upon said base,
(g) plug means carried by said support wall,
(h) said support wall having recess means formed therein and in alignment with said plug means,
(i) a thin frangible connection between said plug means and said support wall at said recess means,
(j) shoulder means carried by said overcap for pressure contact with said plug means to sever the frangible connection between the plug and the support wall upon the initial rotation of the overcap on the base thereby creating a hole at said recess means extending through said support wall,
(k) second cam means carried by said support wall adapted to be contacted by said shoulder means to further cause said overcap to move axially on said base and thereby cause said stopper to enter into or be removed from said discharge orifice upon further rotation of said overcap,
(l) means for preventing displacement of said overcap from said base member,
(m) stop means for limiting the rotational movement of said overcap on said base member, and
(n) means for attaching said base member to the neck of a container.

3,369,708
MEANS FOR RECONSTITUTING A DRY BIOLOGICAL AND FOR CONTROLLED DISPENSING THEREOF
Gary L. Hein, Decatur, Ill., assignor to Lincoln Laboratories, Inc., Decatur, Ill., a corporation of Indiana
Filed Sept. 7, 1965, Ser. No. 485,430
10 Claims. (Cl. 222—85)

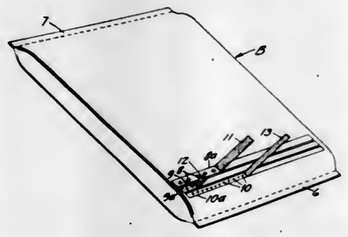
1. A device for reconstituting a dried biological to liquid form and for effecting selective controlled dispensing of the reconstituted liquid biological, comprising, in combination: a storage container having therein a supply

of biological in dried form, elongated tube means carrying a supply of liquid therein that is adapted to be selectively released to reconstitute the dried biological in the storage container, removable closure means at the ends of the tube means for maintaining the supply of liquid in the tube means prior to use, connector means at one end of said tube means for attaching the elongated tube means to the storage container, the other end of said tube means defining a dispensing tip thereat with a discharge orifice therethrough, means for causing the supply of liquid in the tube means to enter the storage container when the removable closure means at said one end of



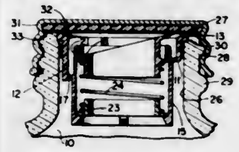
the tube means has been removed to reconstitute the dried biological, and said tube means providing a flexible portion therein adjacent the dispensing tip, which flexible portion is adapted to receive therein liquid from said container when the container is inverted so as to locate a supply of the reconstituted liquid biological within the tube means adjacent said other end when it is desired to dispense liquid therefrom, and said flexible portion being constructed to be flexed by manual digital pressure to effect controlled expressing of liquid biological from the dispensing tip when the removable closure means at said other end of the tube means is removed.

3,369,709
DISPENSING CONTAINER HAVING DISCHARGE OPENINGS WITH VARIABLE CLOSURE MEANS
Gordon J. Clauss, 1280 N. Sunrise Drive, North Fort Myers, Fla. 33903
Filed June 24, 1966, Ser. No. 560,222
3 Claims. (Cl. 222—107)



A dispensing container preferably constructed of flexible material for draping and support, and having a multiplicity of discharge openings with variable and reusable closure means. The invention is characterized by a container of preferably multi-layer construction having a plurality of spaced discharge openings of predetermined dimensional areas, formed through a terminal portion and extending generally across interply or plies of the container and with the exception of the outermost ply. This construction is combined with a closure strip comprising a tear-out, narrow panel in the outerply across the discharge openings and with a thin layer of adhesive, pressure-sensitive material between the tear-out strip and the adjacent wall through which the discharge openings extend. The invention is further characterized by whether a single ply or a multi-ply wall is employed, by a combination of two series of spaced, circular openings provided through a terminal wall portion, the two series being of different diameters; and where an independent manually-removable and reusable closure strip is employed originally covering the openings and provided with reusable pressure-sensitive adhesive and adapted for various partial release positions to widely vary overall width of distribution as well as to control flow rate.

3,369,710
POURING FITMENT
Malcolm B. Lucas, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 1, 1966, Ser. No. 591,157
3 Claims. (Cl. 222—109)



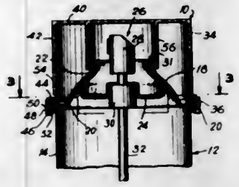
A pouring fitment for attachment to a fluid container is disclosed which incorporates a thin, readily deformable cylindrical diaphragm connecting its body member to its retractable pouring spout to effect a leakproof seal between the two members. A body member-diaphragm structure incorporating an integral drainage channel and vent opening is also disclosed. The drawings and disclosure should be consulted for details.

3,369,711
SPREADER RATE CONTROL DEVICE
Russell H. Hahn, Jr., and James Amerine, Marysville, Ohio, assignors to The O. M. Scott & Sons Company, Marysville, Ohio, a corporation of Ohio
Filed Oct. 23, 1965, Ser. No. 503,673
14 Claims. (Cl. 222—177)



A material distributing spreader with a wheel supported hopper having discharge openings across a convexly curved bottom wall. A discharge rate control mechanism includes an arcuately shiftable shutter member across the hopper bottom wall and a shiftable, combination indexing and positioning slide mounted on the hopper to accommodate components of lateral shift with concurrent component of shift in the direction of arcuate movement of the shutter, the latter movements being in direct ratio to components of lateral shift of the slide. Spaced apart channel shaped members connect the shiftable slide to the shutter and permit relative transverse movement, while preventing relative movement in the direction of arcuate shift, between the slide and the shutter. Clamp devices at the ends of the shutter releasably maintain both the shutter and the slide in any selected position. The slide is made from a plastic such as "Cycolac."

3,369,712
TAMPER-PROOF TOP CLOSURE FOR VALVED PRESSURE-LOADED CONTAINERS
Harold Osrow, Mineola, N.Y., assignor to Osrow Products Company, Inc., Glen Cove, N.Y.
Filed Sept. 23, 1966, Ser. No. 581,490
9 Claims. (Cl. 222—182)



1. In combination, a pressurized container and a tamper proof closure therefor, said container including a hollow barrel having a central axis, a bottom wall closing the lower end of the barrel and a top wall closing the upper end of the barrel, an annular outwardly and upwardly protruding chime coaxial with said axis and joining the outer periphery of the top wall to the upper end of the barrel, and a manually controllable dispensing valve having a dispensing head carried by and located centrally above the top wall, said closure comprising

(a) a hollow cap, the cap including a tubular wall of uniform radial thickness, a top wall closing the upper end of the tubular wall, the other end of the tubular wall being open,

(b) a ring coaxial with the axis of the tubular wall and situated adjacent the lower end of the cap,

(c) means tightly securing the ring to the chime with the external surface of the chime covered by the ring and the external surface of the ring being exposed,

(d) a plurality of circumferentially spaced squat broad legs running parallel to the axis of the barrel, interconnecting the cap and the ring and retaining the cap and ring in axially spaced relation, each leg having a circumferential dimension several times greater than the thickness of the leg, each pair of circumferentially adjacent legs defining therebetween a circumferential through slot, and

(e) the closure covering the dispensing valve and the top wall and being a one-piece integral unit formed from a flexible plastic whereby the legs are severable by the cutting edge of a household knife applied by hand pressure thereby to enable removal of the cap from the top of the container and exposure of the dispensing valve.

3,369,713
DEVICE FOR DISPENSING MEASURED QUANTITIES OF LIQUID
Louis A. Godschalk, Jr., Radnor, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 8, 1966, Ser. No. 541,252
4 Claims. (Cl. 222—193)

1. A device for dispensing measured quantities of liquid comprising:

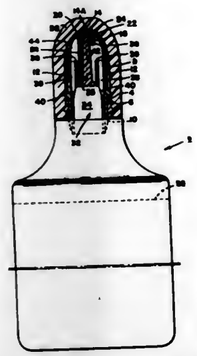
a container having at least one resilient wall and a discharge opening,

a dispensing closure for said container opening,

said closure having a dispensing opening in the top thereof and a chamber for liquid to be dispensed,

means forming a passage for the movement of liquid from the container into the chamber when the container is inverted and preventing the return of a predetermined amount of liquid when the container is righted,

an upwardly extending boss mounted on the bottom of said chamber,

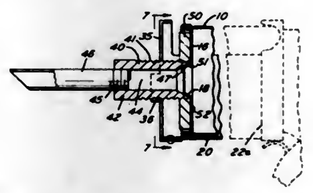


a member secured to said closure and extending downwardly in contact with said boss and into the lower portion of said chamber,

means forming a liquid passage between said member and said boss connecting the dispensing opening and the chamber; and

means forming an air passage conecting the dispensing opening to the chamber.

3,369,714
DISPENSER WITH CARTRIDGE ALIGNING MEANS
Vincent E. Dewees, Jenkintown, and William T. Reynolds, Dresher, Pa., assignors to Kenmar Manufacturing Company, Philadelphia, Pa., a copartnership
Filed June 9, 1966, Ser. No. 556,405
2 Claims. (Cl. 222—327)



Dispensers for materials in drop-in cartridges with or without attached spouts in which the cartridge is retained in optimum alignment, by being held at the rear end during dispensing, cartridges without spouts being accommodated by an adapter providing a dispensing member which holds the front end of the cartridge centered and against rupture and carries a dispensing spout.

3,369,715
SUBMERGED PUMPING SYSTEM
James C. Carter, Pasadena, Calif., assignor to The J. C. Carter Company, Costa Mesa, Calif., a corporation of California
Filed May 10, 1966, Ser. No. 548,985
16 Claims. (Cl. 222—333)

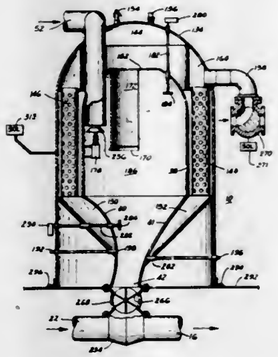
A submersible pumping system especially adapted to cryogenic storage systems which includes a single fluid

transmitting casing extending from the top to near the bottom of the storage container, a normally closed spring biased foot valve on the bottom of the casing, a sealing gland closing the top of the casing having a shiftable portion, and a pump and motor unit suspended through the shiftable portion of the sealing gland in the casing and



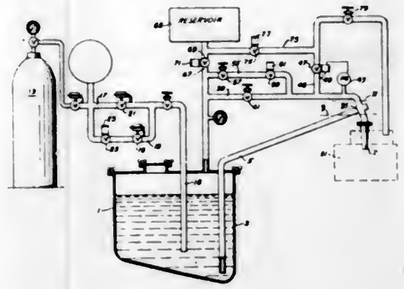
adapted to open the foot valve. The pump and motor unit is centered in the casing and aligned with the foot valve by mating frusto-conical collars associated with the pump and motor unit and with the valve assembly. The shiftable sealing gland allows the pump and motor unit to be lifted off the foot valve so as to close the valve without venting the casing.

3,369,716
HOPPER MEANS HAVING HYPERBOLIC SIDE WALLS
Clarence E. Hulbert, Jr., Houston, Tex., assignor to Capvac Industries, Inc., Freeport, Tex., a corporation of Texas
Filed June 13, 1966, Ser. No. 556,935
4 Claims. (Cl. 222—373)



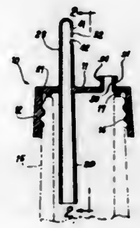
Apparatus for continuous movement of bulk, granular material having an angle of repose as high as ninety degrees. Said apparatus includes vessel means having a funnel chamber with an irregular side and control means coupled to said vessel means for controlling vacuum and pressure applied to said vessel means from a vacuum source and a pressure source.

3,369,717
SHARP CUT-OFF IN PRESSURE POUR APPARATUS
James S. Campbell, Orinda, Calif., assignor to Quality Casting Systems, a limited partnership
Filed May 3, 1966, Ser. No. 547,285
7 Claims. (Cl. 222—399)



1. Pressure pour apparatus for dispensing of liquid comprising
- a sealable receptacle for holding liquid to be dispensed and providing a gas cushion chamber above such liquid,
- a discharge passageway extending from said receptacle from a point substantially below the maximum anticipated liquid level therein to a discharge point at a level above said maximum liquid level,
- means for supplying gas under pressure to said chamber to build up a gas cushion against liquid in said receptacle, to a value of pressure sufficient to cause discharge of liquid through said discharge passageway and initiate a "pour" cycle,
- a reservoir adapted to contain gas at a lower value of pressure,
- a flow line from said gas cushion chamber to said reservoir,
- means for blocking said flow line during a "pour" cycle,
- and means for unblocking said flow line upon shutting off of the supply of gas at "pour" pressure to said receptacle to effect a completion of a "pour" cycle.

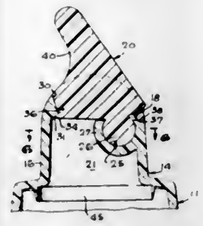
3,369,718
DISPENSING CLOSURES WITH FLEXIBLE VENT
Sidney M. Libit, 441 Lakeside Terrace, Glencoe, Ill. 60022, and Arthur Wesley Newby, 1265 Schaumburg Road, Elgin, Ill. 60120
Filed Oct. 7, 1966, Ser. No. 585,086
6 Claims. (Cl. 222—481.5)



Dispensing closure for incorporation with a receptacle for a fluent substance comprising a base to secure the device to the receptacle, a spout extending from said base through which flow occurs and a nozzle extending from the base having a closed distal end and a side opening

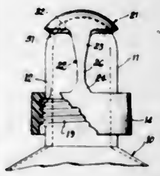
whereby venting is accomplished concurrently with pouring. The nozzle is flexible and the opening therein so arranged that, when the nozzle is bent, the opening engages over the spout to close both the opening and spout.

3,369,719
DISPENSING CLOSURE
T. J. Duke Russell, 609 Las Lomas Ave., Pacific Palisades, Calif. 90272
Filed Oct. 19, 1966, Ser. No. 587,929
6 Claims. (Cl. 222—498)



The application discloses an end cap construction for collapsible tubes adapted to contain viscous liquid or paste products and includes a pivoted element that snaps shut to close a dispensing opening.

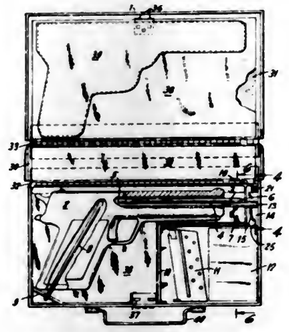
3,369,720
CLOSURE CAP HAVING RESILIENT RETAINING MEANS
Sidney M. Libit, 441 Lakeside Terrace, Glencoe, Ill. 60022, and Arthur Wesley Newby, 1265 Schaumburg, Elgin, Ill. 60120
Filed May 16, 1966, Ser. No. 550,326
7 Claims. (Cl. 222—517)



Dispensing closure including a base portion for securement to a nozzle providing exit of the fluent contents of a receptacle and a cap portion swingable between closed and open positions. The cap portion is permanently secured to the base portion through a pair of flexible straps desirably weakened intermediate their ends whereby movement of the cap portion may be accomplished digitally with minimum effort and lowered incidence of fatigue failure.

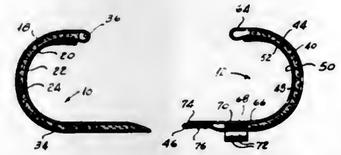
3,369,721
FIREARM SAFETY BOX
Morgan Ernest Lentz, 60 Addison Ave., Rutherford, N.J. 07070
Original application Oct. 22, 1965, Ser. No. 501,447, now Patent No. 3,307,755, dated Mar. 7, 1967. Divided and this application Feb. 23, 1967, Ser. No. 632,482
5 Claims. (Cl. 224—2)

The present invention is directed to a firearm safety box of a generally box-like structure having a safety rod adapted to fit into the chamber of a selected firearm, the other end of the rod adapted to act as a key to close a lock open mechanism, a safety finger adapted to fit into the bullet clip opening of the firearm, the box closeable



only when the safety rod and safety finger are respectively positioned in the firearm.

3,369,722
FLEXIBLE LEATHER WATCHBAND
George C. Hetterich, St. Petersburg, Fla., assignor to Jacques Kreisler Manufacturing Corporation, North Bergen, N.J., a corporation of New Jersey
Filed Apr. 5, 1966, Ser. No. 540,241
2 Claims. (Cl. 224—4)

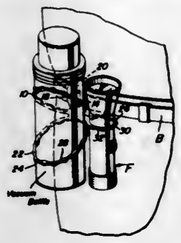


1. A flexible band for securing a watch to the wrist of a wearer including in combination a tongue half, a buckle half, each of said halves comprising an elongated inelastic filler body of leather, a cover of thin flexible decorative material, a liner of thin flexible material and means for adhering said cover and filler and liner to each other with said filler disposed between said cover and said liner, a plurality of longitudinally spaced transversely extending cuts extending into each of said fillers from the surfaces thereof adjacent said covers, said cover and said liner substantially enveloping said filler to conceal said cuts, said adhering means being such as to permit said cuts to open when said band flexes without separation of said liner and cover and filler.

3,369,723
BOTTLE AND FLASHLIGHT HOLDER AND CARRIER
Rudy T. Saari, 517 Zinc St., Bruce Crossing, Mich. 49912, and Eino F. Kananen, Box 57, Ontonagon, Mich. 49953
Filed Nov. 30, 1966, Ser. No. 598,050
6 Claims. (Cl. 224—5)

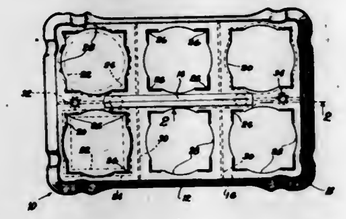
The holder and carrier shown lends itself to use while hunting, fishing, trapping, boating and for numerous outdoor purposes. It is preferably, but not necessarily, molded from a tough, weather-resistant grade of rubber. The end product comprises a specially delineated blank embodying a first elongated bottle-embracing collar, a flap coplanar with and encircled by said collar, said flap having a belt loop, a second bottle embracing elongated

collar, and a second cap coplanar with and surrounded by said second collar, said collars and flaps having inner



end portions and said inner end portions being joined together by an intervening connective web.

3,369,724
SILVERWARE CARRIER FOR DISHWASHING APPARATUS
Ralph Ettlinger, 1370 Lincoln Ave. S., Highland Park, Ill. 60035
Filed Sept. 12, 1966, Ser. No. 578,638
8 Claims. (Cl. 224—48)

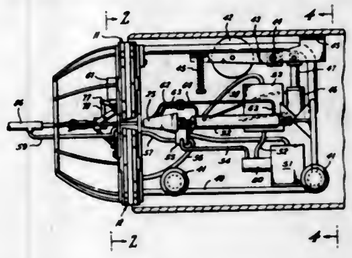


A silverware carrier for a dishwashing apparatus comprising a frame having a plurality of openings in its top surface. Silverware receptacles comprising cups for vertically supporting silverware are adapted to be received in said openings. The openings are provided with four corners defining right angles to receive rectangular receptacles while outwardly curved side wall portions are provided intermediate the corners so that the openings may alternatively receive receptacles of substantially circular cross section.

A U-shaped handle is normally separated from the carrier so that a compact arrangement for storage and shipment will be provided. The handle includes bifurcated ends so that it can be connected to the carrier by pressing the ends into additional openings defined by the carrier. The bifurcated ends include enlarged end sections whereby the handles can be snapped into locking engagement with the carrier.

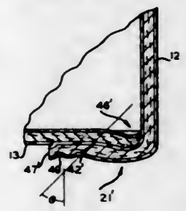
3,369,725
PIPELINE WELDING CLAMP
Robert Thomas and Henry W. Shannon, Houston, Tex., assignors to Thomas Contracting Company, Houston, Tex.
Filed Mar. 31, 1965, Ser. No. 444,228
9 Claims. (Cl. 228—50)

An internal pipeline welding clamp is disclosed. The clamp has two arcuate back-up shoes for expansion into engagement with the abutting adjacent ends of two pipe lengths. The back-up shoes bridge the gap between the ends and hold the ends in alignment while they are welded together. As the back-up shoes are moved outwardly into engagement with the pipe, their adjacent ends move apart. The ends of the shoes are at an angle to receive wedges moved between them along the inside surface of the pipe. The wedges span the gaps between the shoes and force the shoes into firmer engagement with the inside surfaces of the abutting pipe ends. Controls are provided for actuating fluid cylinders for expanding and



contracting the back-up shoes, for moving the wedges into and out of position between the ends of the shoes, and for anchoring the clamp in the pipe. The controls are arranged so they can be operated only in a given sequence.

3,369,726
CONTAINER
Isaac L. Wilcox, Fulton, N.Y., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 4, 1966, Ser. No. 531,941
7 Claims. (Cl. 229—5.5)



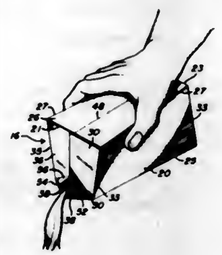
A container is comprised of a circular wall member, which is crimped inwardly at the bottom to form a radial flange, and a bottom disc, which is placed in contact with the upper surface of the flange within the hollow of the wall member. The radial flange and the bottom disc are coated with a heat sealable thermoplastic material to allow bonding. A gutter is formed in the outer portion of the bottom disc, with the width of the gutter being less than the width of the flange. The flange is crushed in a continuous annular area located to the inside of the gutter to form a liquid tight seal between the flange and the bottom disc and to recess the inner edge of the flange with respect to the bottom of the gutter portion of the flange. Various cover members, for example, a film of heat sealable thermoplastic material which is heat sealed to the top rim of the container, can be used.

3,369,727
CONTAINER
Timmy E. Wright, 1837 Auburn Ave., Dayton, Ohio 45406
Filed June 17, 1966, Ser. No. 558,290
24 Claims. (Cl. 229—17)

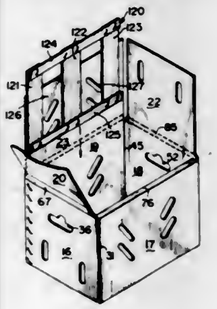
1. A container of paperboard material or the like comprising:

a body formed from a single sheet of material, the body having a bottom base and a top base, the bases being substantially parallel one with the other, the body also having a plurality of side portions which extend between the bottom base and the top base, there being a pair of opposed side portions which have

edges which converge, one of said side portions having edges which converge from the top base to the bottom base and the other of said side portions having edges which converge from the bottom base to the top base, there also being a pair of opposed side portions of the body each of which has a curved surface.



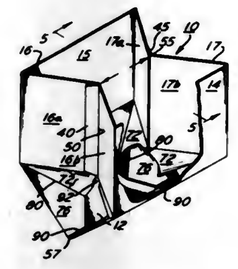
3,369,728
VENTILATED FRUIT OR VEGETABLE CONTAINER
Mark B. Royce, Ho-Ho-Kus, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Nov. 23, 1965, Ser. No. 509,301
9 Claims. (Cl. 229—23)



This disclosure relates to a novel ventilated container or carton of the type adapted to receive peaches, apples, and similar fruit or vegetables, and is particularly directed to a novel container which is highly reinforced, has unusually high ventilation characteristics, will not bulge under the influence of a packaged product, and insures adequate ventilation of packaged articles when stacked or stored with similar containers while in storage or shipment.

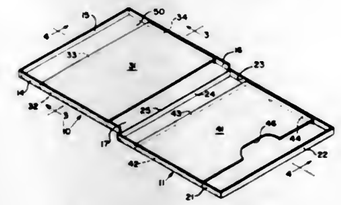
3,369,729
COLLAPSIBLE CONTAINER
Charles A. Stopper, Perkiomenville, Pa., assignor to Sage Folding Box Co., Philadelphia, Pa., a corporation of Delaware
Filed Dec. 27, 1965, Ser. No. 516,336
11 Claims. (Cl. 229—41)

A collapsible container formed from a single blank which may be collapsed into a flat and compact rectangle and easily and readily assembled, said blank having intersecting fold lines thereacross to define rectangular bottom, side, and end walls forming said container with corners thereof at intersections of said fold lines, said blank including a hinge portion at each of said corners, each hinge portion being an integral continuation of said bottom and end walls extending across said fold lines, said hinge portions each having a section fastened flat against said bottom, said bottom and end walls having central



crease lines thereacross along which said end walls can be folded inward and said bottom can be folded outward to collapse said container to a flat and compact rectangle.

3,369,730
CONTAINER FOR SHEETS OF CARBON AND TYPEWRITING PAPER
Richard V. Bowman, Star Rte., R.D., Pottstown, Pa. 19464
Filed Mar. 17, 1967, Ser. No. 623,993
5 Claims. (Cl. 229—44)

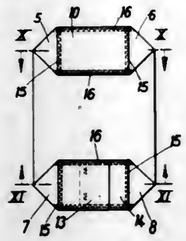


This container has a cover section with walls around four sides and a bottom section having walls on three sides only, being hingedly connected along its other side to the cover. The bottom has a copy paper compartment with a flat top on which carbon paper sheets are placed. This compartment is open toward the open end of the bottom section. The cover contains a compartment, for holding letterhead sheets, also open at one end and having a flat top. The typists collates by pulling copy and carbon sheets alternately and placing them on top of the second compartment. A letterhead sheet is then pulled and placed on top of this stack. The collated stack is now ready for typing.

3,369,731
SQUARE-BOTTOM BAG OF WELDABLE MATERIAL
Friedrich Franz Brockmuller, Lengerich, Westphalia, Germany, assignor to Windmoller & Holscher, Lengerich, Westphalia, Germany, a firm
Original application July 16, 1963, Ser. No. 295,440, now Patent No. 3,272,093, dated Sept. 13, 1966. Divided and this application May 20, 1966, Ser. No. 578,919
Claims priority, application Germany, July 21, 1962, W 32,643
2 Claims. (Cl. 229—62.5)

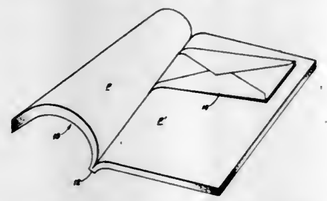
A flat-bottom plastic bag, consisting of a hose section, formed at least at one end by means of corner folds so that a hexagon is formed, and comprising at least one base sheet, secured to the edge of the hose at the bottom by known means, i.e. welding, glueing, etc., in the form of

two pairs of sealed seams, which are perpendicular with respect to each other, and one pair of which is parallel



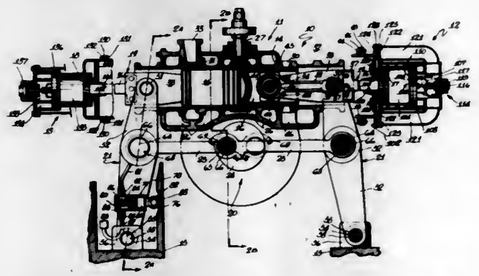
to the longitudinal axis of the hose section; the sealed seams of the two pairs of sealed seams crossing each other.

3,369,732
ENVELOPES
Bror E. Hanson, 3 Bellingham Road, Worcester, Mass. 01606
Filed Oct. 22, 1965, Ser. No. 500,511
1 Claim. (Cl. 229—68)



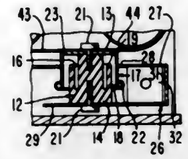
An envelope suitable for use as an insert in a magazine or other bound publication is provided. A line of perforations extends parallel and close to one end of the envelope and defines a binding portion which may be fixed to the bound edge of the publication and from which the remainder of the envelope may easily be detached by tearing along the perforations. Inwardly of the line of perforations is a line of adhesive which joins the front panel to the back panel of the envelope so that after detaching such remainder from the binding portion the edge adjacent the perforations remains sealed.

3,369,733
ENGINE-COMPRESSOR TYPE MACHINE
James S. Campbell, Kingston, Ontario, Canada, assignor to Free Piston Development Co., Ltd., Kingston, Ontario, Canada
Filed Nov. 1, 1965, Ser. No. 505,914
10 Claims. (Cl. 230—56)



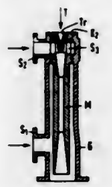
A compressor having in a single engine cylinder a pair of opposed engine pistons connected directly to compressor pistons in compressor cylinders disposed at opposite ends of the engine cylinder. A pair of rocker beams each pivoted at one end to a framework of the compressor and connected at the opposite end to one each of the engine pistons by piston rods is connected by a pair of connecting rods to a synchronizing crankshaft which is provided with auxiliary component drive means.

3,369,734
HIGH VOLTAGE STAND-OFF INSULATOR ASSEMBLY IN A SPUTTER-ION VACUUM PUMP
William R. Wheeler, Saratoga, Calif., assignor to Varian Associates, Palo Alto, Calif.
Filed Nov. 16, 1966, Ser. No. 594,739
8 Claims. (Cl. 230—69)



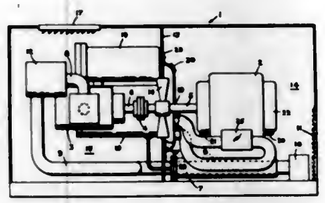
An insulator assembly for use in a sputter-ion vacuum pump. The ceramic insulator element has a re-entrant portion which is shielded from sputtered getter material by an open metal cup which is fastened to the anode and by a box-shaped bracket which is connected to the cathodes. By eliminating the formation of getter-metal deposits on the re-entrant portion of the insulator, electrical breakdown across the surface of the insulator is prevented.

3,369,735
GAS-JET SUCTION DEVICE, PARTICULARLY FOR CONNECTION TO A VACUUM PUMP
Günter Hoffmeister, Mulheim (Ruhr), Germany, assignor to Siemens Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
Filed June 20, 1966, Ser. No. 558,870
Claims priority, application Germany, June 19, 1965, S 97,695
9 Claims. (Cl. 230—95)



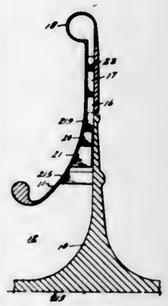
Gas-jet suction device, particularly for connection to a pump inlet of liquid ring gas pumps in shunt with a controllable bypass includes a housing structure having a suction inlet and a bypass inlet and an outlet, and an injector unit formed of a mixing tube and a jet nozzle located within the mixing tube, the injector unit being mounted in the housing structure, the mixing tube and the housing structure defining therebetween an interspace communicating with the bypass inlet and with the outlet, the mixing tube having a neck portion seated and peripherally sealed in the housing structure at a locality remote from the outlet, the neck portion separating the interspace from the suction inlet, the jet nozzle being coaxially seated in the neck portion for driving a gas jet through the tube toward the outlet. the neck portion having lateral openings through which the suction inlet communicates with the interior of the tube near the jet nozzle.

3,369,736
FORCED VENTILATION FOR MOTOR COOLING ON ENCLOSED MOTOR DRIVEN COMPRESSOR UNIT
Ralph Francis Coleman, Thompsonville, Conn., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Apr. 26, 1966, Ser. No. 545,312
3 Claims. (Cl. 230—117)



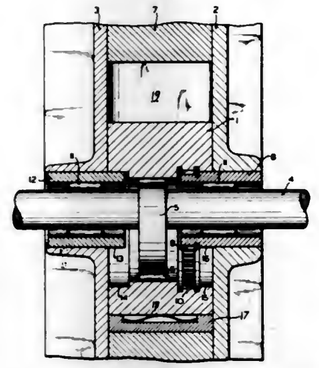
An apparatus for cooling the windings of the electrical motors used in enclosed industrial motor driven compresor units. The apparatus includes a shrouded fan which establishes a flow of cooling air within the electrical motor housing by forceably withdrawing air from the motor housing through air ducts which connect the shroud of the fan directly to the motor housing. The fan exhausts remotely from the motor compartment of the compressor unit to prevent the recirculation of the air which has cooled the electric motor windings.

3,369,737
RADIAL FLOW MACHINE
John R. Switzer, Walnut Creek, Calif., and John R. Erwin, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York
Filed Dec. 10, 1962, Ser. No. 243,562
10 Claims. (Cl. 230—127)



1. A radial outflow fluid machine comprising:
a rotor disk,
a casing to define with said disk an unobstructed curved inlet fluid passage along the disk face to direct fluid axially and then radially out along the disk,
seriate means arranged radially outward including,
highly cambered rotor blades carried by said disk to receive radial flowing fluid only, said disk and blades rotating as a unit in the direction of camber of the blades,
said fluid passage contracting through said rotor blades,
a vaneless diffuser passage in said casing for receiving fluid from said blades,
and a set of diffuser vanes in said casing,
whereby the fluid flow along the rotor disk is substantially two-dimensional and secondary vortical flows in the rotor blades are substantially eliminated.

3,369,738
ROTOR GUIDE ARRANGEMENT FOR A ROTARY INTERNAL COMBUSTION ENGINE
Franz Rottmann, Neuschwangerstr. 22, Schweinfurt, Germany
Filed Mar. 16, 1966, Ser. No. 534,898
Claims priority, application Germany, Mar. 20, 1965, F 45,581
7 Claims. (Cl. 230—145)

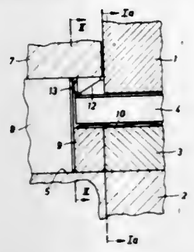


1. In a rotary combustion engine, in combination:
(a) a casing having a first axis and including two end walls transverse of said axis and a circumferential wall connecting said end walls to define a cavity in said casing;
(b) a shaft journaled in said end walls for rotation about said axis;
(c) an eccentric fixedly fastened to said shaft for rotation therewith in said cavity;
(d) rotor means mounted on said eccentric for rotation about a second axis spaced from said first axis and extending in a common direction therewith, said rotor means defining a first annular contact face of circular cross section about said second axis;
(e) first gear means fixed on said casing and having a pitch circle centered on said first axis;
(f) second gear means fixed on said rotor and meshing with said first gear means, said second gear means having a pitch circle centered in said second axis;
(g) collar means secured to said casing and defining a second annular contact face of circular cross section about said first axis, said contact faces being axially spaced from said gear means and abuttingly engaging each other during rotation of said shaft and of said rotor means about said first and second axes respectively; and
(h) sealing means sealingly connecting said casing and said rotor means for defining a plurality of circumferentially spaced chambers between the casing and the rotor means during rotation of the latter.

3,369,739
ROTARY PISTON INTERNAL COMBUSTION ENGINE, ESPECIALLY CIRCULAR PISTON INTERNAL COMBUSTION ENGINE
Hubert Abermeth, Cologne, Germany, assignor to Klockner - Humboldt - Deutz Aktiengesellschaft, Cologne-Deutz, Germany
Filed Apr. 27, 1967, Ser. No. 634,343
Claims priority, application Germany, Apr. 30, 1966, K 59,132
5 Claims. (Cl. 230—145)

The present invention relates to a rotary piston internal combustion engine, especially circular piston internal combustion engine, with the outer profile of said piston de-

termined by a trochoid and the inner profile of the surrounding housing portion following the enveloping curve of the trochoid, the said engine is according to the present invention characterized primarily in that the sealing strip means which are carried by the lobe portions of the



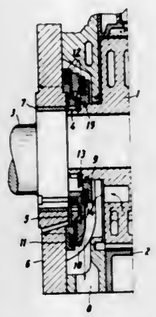
inner housing profile extend into grooves in the housing side walls which latter have arranged therein sealing bodies facing the respective adjacent end wall of said piston and elastically pressed against both the respective adjacent piston end wall and the respective adjacent sealing strip means.

3,369,740

ROTARY PISTON INTERNAL COMBUSTION ENGINE, ESPECIALLY CIRCULAR PISTON INTERNAL COMBUSTION ENGINE

Hubert Abermeth, Cologne, Germany, assignor to Klockner - Humboldt - Deutz Aktiengesellschaft, Cologne, Germany

Filed May 1, 1967, Ser. No. 634,966
Claims priority, application Germany, May 4, 1966, K 59,159
5 Claims. (Cl. 230—145)



The present invention relates to a rotary piston internal combustion engine of the type which has an exhaust gas collecting chamber between a side wall of the engine housing and the piston journalled in bearing means in said side wall, while gear means are respectively arranged near said chamber means and are respectively connected to said side wall and said piston for kinematically controlling the piston.

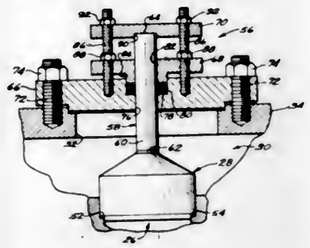
The invention is characterized primarily in that the said bearing means and gear means are sealed with regard to said exhaust gas collecting chamber means by a three sectional labyrinth seal with the first section thereof connected to said side wall, the second section thereof connected to said piston, and with the third section arranged between said first and second sections, said first and second sections having circular teeth respectively cooperating with oppositely extending teeth of said third section.

3,369,741

VALVE ASSEMBLY RETAINING MEANS

Philippus P. Weggeman, Caracas, Venezuela, assignor to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 31, 1966, Ser. No. 554,006
11 Claims. (Cl. 230—228)



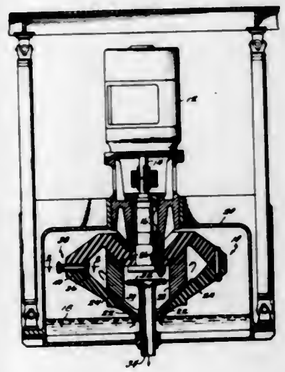
1. In combination, an inner wall formed with an opening, an outer wall in spaced relation to said inner wall, said outer wall being formed with an opening aligned with said inner wall opening, removable cover means for said outer wall opening, valve means in said inner wall opening, stop means to prevent said valve means from moving through said inner wall opening in one direction beyond a predetermined position, means for retaining said valve means engaged with said stop means, said retaining means comprising adjustable urging means to urge said valve means towards said stop means, said cover means being formed with a central opening; and said retaining means including a portion slidably extending through said cover opening, said outer wall opening, and into the space between said outer and inner walls, said portion having one end engaging said valve means and the other end engaged by said urging means.

3,369,742

DISCHARGE VALVE FOR CENTRIFUGE

Carl W. Weiland, 1300 Lafayette E., Detroit, Mich. 48207

Filed Nov. 30, 1965, Ser. No. 510,566
4 Claims. (Cl. 233—20)



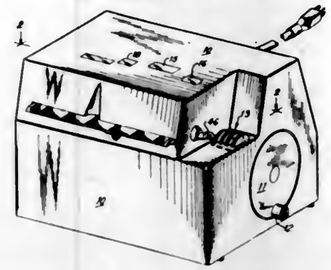
An improved discharge valve is provided in a centrifuge, and the discharge valve includes a ball element which can open and close a discharge opening in a wall of the centrifuge. The ball element is loosely carried in a recess of a lever for opening and closing movements over the discharge opening, and the loosely carried ball element can position itself over the discharge opening for a tight sealing of the opening.

3,369,743

AUTOMATED DISCOUNT DEVICE

Barnett Glassman, 245 W. 55th St., New York, N.Y. 10019

Filed Jan. 24, 1967, Ser. No. 611,288
6 Claims. (Cl. 235—58)



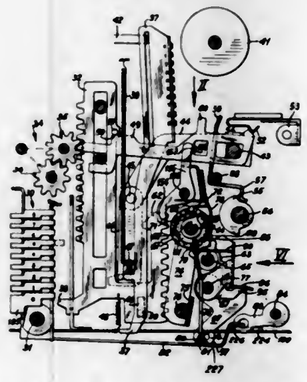
This invention is a device for automatically discounting a preselected value by a predetermined amount and it also prints both the original and the discounted amount. The invention comprises a first operative gear train connected to a first set of counting gears to indicate the given number, a second operative gear train mounted on a yoke and adapted to discount the given number by use of a lesser predetermined number of teeth engaging a second set of counting gears to indicate the discounted number, and a shaft connected at one end directly to said first operative gear train and connected at its other end to receive said yoke and its discounting wheel.

3,369,744

DEVICE FOR PERFORMING DIRECT MULTIPLICATIONS OF FACTORS SET ON AN ADDING MACHINE, BY THE HIGHEST COMPENSATION, SHORT-CUTTING METHOD

Gian Piero Barozzi and Giancarlo Horeschi, Tokyo, Japan, assignors to Ricoh Company, Ltd., a corporation of Japan

Filed July 1, 1965, Ser. No. 468,818
Claims priority, application Italy, July 4, 1964, 14,633/64
8 Claims. (Cl. 235—60)



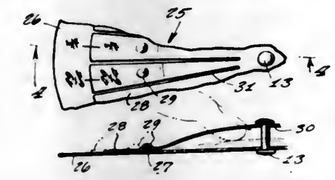
Apparatus for performing direct multiplication of factors set on an adding machine by a short-cut method involving repeated additions and/or subtractions. A row of gear registers is provided with stop means and a multiplier slide having a feeler mounted thereon. Means are provided for shifting the multiplier slide along the registers and each of the registers has a normal and reduced depth portion according to the digit assigned thereto. The registers are provided with two zero positions. When the feeler moves into one of the reduced depth portions of the gear registers by a movement corresponding to a multiplicand set on the registers means are operated by the feeler to cause the adding machine to perform a given number of operative steps in a positive or negative direction. Also, when one of the registers is in one of the zero positions an extended portion on the feeler permits the feeler to proceed through the tooth space corresponding to such zero position until it abuts a covering means on one of the gear registers set to a digit other than zero thereby causing said multiplier slide to be shifted to perform the multiplying operation.

3,369,745

FRACTIONAL DIAL COMPUTER

Arnold F. Merz, Port Alice General Delivery, British Columbia, Canada

Filed Apr. 10, 1967, Ser. No. 629,766
1 Claim. (Cl. 235—78)



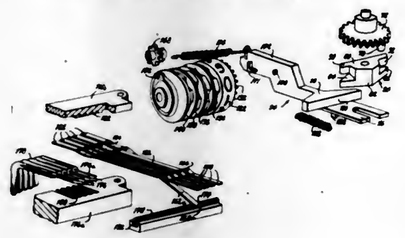
A computer for adding and subtracting fractional numbers, including a pair of different sized circular discs centrally pivoted together, each disc being graduated in one sixty-fourth of an inch digits around its edge, and the graduations of one disc being in adjacent alignment position with the graduations of the other disc.

3,369,746

STORING DATA

Robert Raymond Siders, Medfield, and Roger Williams Hood, North Attleboro, Mass., assignors to Hersey-Sparling Meter Company, Dedham, Mass., a corporation of Massachusetts

Filed May 24, 1966, Ser. No. 552,602
12 Claims. (Cl. 235—94)



Totalizing apparatus having an element movable in response to the condition being measured, a storage unit responsive to the element, and switches mechanically actuated by the storage unit to reflect the positions of the storage unit.

3,369,747

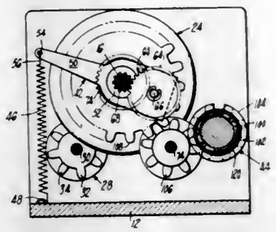
COUNT TRANSFER MECHANISM

Raymond H. Devanney, Winsted, Conn., assignor to Veeder Industries Inc., Hartford, Conn., a corporation of Connecticut

Filed Mar. 14, 1967, Ser. No. 623,012
12 Claims. (Cl. 235—133)

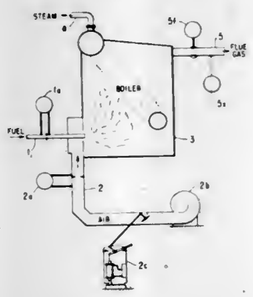
A transfer mechanism for assisting the count transfer operation of a counter is positioned between the lowest order number wheel and the next higher order number

wheel of the counter. The transfer mechanism is provided with a planetary drive subassembly loaded during 9/10 of each revolution of the lowest order number wheel. A clutch subassembly connected to the drive is restrained by the lowest order wheel and intermittently released



during the remaining 1/10 movement of the lowest order wheel to permit controlled advancement of the higher order wheel by the drive subassembly. The clutch subassembly additionally includes a lost motion driving connection which assures advancement of the higher order number wheel.

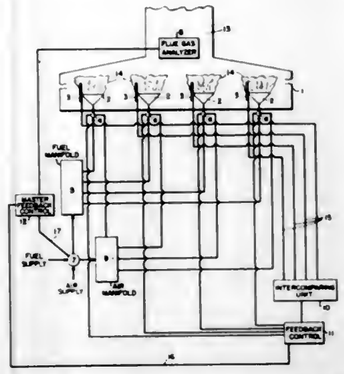
3,369,748
COMBUSTION CONTROL SYSTEM
Guy M. Baudelet de Livois, Paris, France, assignor to Controle Bailey (Societe Anonyme), a company of France
Filed Mar. 28, 1966, Ser. No. 537,786
Claims priority, application France, Aug. 14, 1965, 28,388
1 Claim. (Cl. 236—15)



A combustion control system in which air flow is in ratio to fuel flow but readjusted from the larger of two signals, one of which is proportional to the oxygen content in the products of combustion and the other of which is proportional to the opacity of the products of combustion.

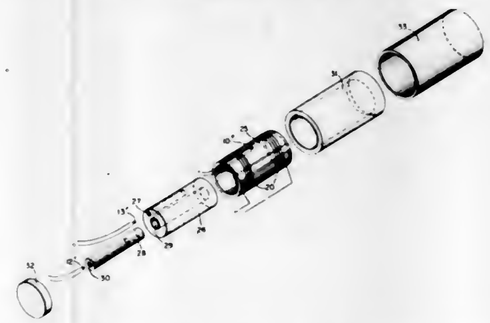
3,369,749
LOW EXCESS AIR OPERATION OF MULTIPLE-BURNER RESIDUAL-FUEL-FIRED FURNACES
Charles W. Siegmund, Morris Plains, and John E. Gerrard, Matawan, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Continuation of application Ser. No. 447,293, Apr. 12, 1965. This application Feb. 17, 1967, Ser. No. 616,991
5 Claims. (Cl. 236—15)

A process and apparatus is provided for establishing and maintaining optimum combustion at a low level of excess air in a multiple-burner furnace or boiler. The air and fuel feed to each individual burner of a multiple-burner furnace are adjusted so that the flame temperatures of the burners are essentially equal. The flue gas from the furnace is then analyzed and the feed to the air and fuel



manifolds of the multiple-burner furnace is adjusted so that a desired level of excess air is delivered as determined by analysis of the flue gas.

3,369,750
ELECTRICAL CONTROL NETWORK
Elwood T. Davis, Havertown, Pa., assignor to Leeds & Northrup Company, a corporation of Pennsylvania
Filed Sept. 3, 1965, Ser. No. 484,997
13 Claims. (Cl. 236—68)
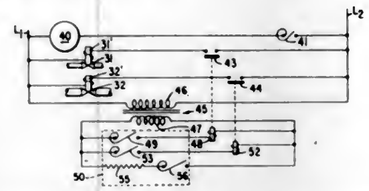


An electrical control network and a thermal control unit utilized therein providing proportional, rate and reset actions. The control network includes a fast response rate and proportional action thermocouple connected in series aiding relationship with the process variable and in series opposition to a parallel circuit which includes intermediate and slow thermal response thermocouples which provide reset action wherein the rate, proportion, and reset action thermocouples are heated in accordance with the input to the process. The thermal control unit includes at least two temperature responsive devices of different thermal responses which are insulated one from another and from the ambient temperatures surrounding the unit.

3,369,751
FURNACE CONTROL
Harlan L. Howe, Manlius, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Mar. 30, 1966, Ser. No. 538,669
3 Claims. (Cl. 236—68)

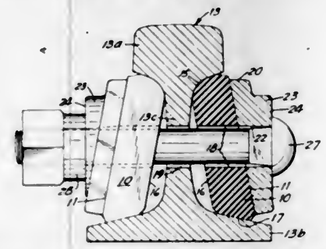
A control arrangement for a furnace equipped with a two stage heat input, the control including separate thermal control members having pre-set cut in and cut out

temperatures for each stage together with a third thermal control member having a pre-set cut in and cut out temperature substantially intermediate the temperatures regulating the first and second thermal control members, said



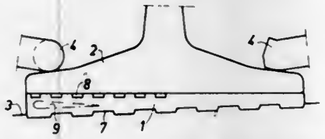
third member being operable in a reverse temperature direction, the third thermal control member being effective to apply heat to at least the second stage thermal control member to bias the control temperature regulating its operation.

3,369,752
ELECTRICALLY INSULATED RAIL JOINT MEANS
Robert W. Youngward, Columbia Heights, and Alex Kovalchuk, Burnsville, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Continuation-in-part of application Ser. No. 503,085, Oct. 23, 1965. This application Apr. 27, 1967, Ser. No. 648,510
5 Claims. (Cl. 238—243)



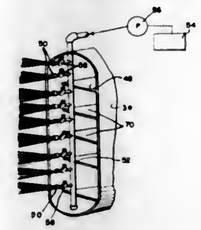
Structural rail joint having electrically insulating filament-reinforced resinous joint bars. The joint bars are shaped to nest against the underlying curved surfaces of the rail heads and against the tapered rail bases, but not against the rail webs, while clamped with two pairs of bearing plates or paired sets of bearing plates to join adjacent railroad rails.

3,369,753
PADS FOR SUPPORTING RAILS
Per Erik Olson, Nasbypark, near Stockholm, Sweden, assignor to Swedish Rail System AB-S.R.S., Solna, near Stockholm, Sweden
Filed Sept. 2, 1966, Ser. No. 577,026
Claims priority, application Sweden, Oct. 7, 1965, 13,007/65
7 Claims. (Cl. 238—283)



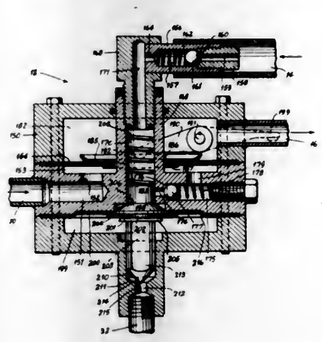
A resilient (i.e. compressible), wedge shaped pad is interposed between a rail and a sleeper for the latter and in supporting relationship to the rail so that the rail is normally disposed at an inclination relative to the vertical. The pad is provided with means, such as wall structure defining a cavity or a plurality of grooves, at the thickest portion of the pad, so that the latter is rendered more compressible at such portion than at the opposite portion thereof. Thus, when normal working forces are applied to the rail, the more compressible portion will be compressed to a greater extent and the rail will be rotated about its horizontal axis.

3,369,754
METHOD AND APPARATUS FOR UNIFORMLY DISTRIBUTING TREATMENT MATERIAL BY AIR
Dale E. Wolford, Ashland, Ohio, assignor to The F. E. Myers & Bro. Co., Ashland, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 295,895, July 18, 1963. This application Sept. 20, 1966, Ser. No. 596,713
7 Claims. (Cl. 239—8)



Spraying apparatus, and method, wherein an air blast blown through a vertically elongated discharge opening of substantially uniform width carries treatment material out over a surface to be treated and the material is supplied to the upper portion of the blast in a greater concentration than to the lower portion of the blast.

3,369,755
PRESSURE MIXER AND DISPENSER SYSTEM
Richard L. Roden and Russell L. Johnson, Dallas, Tex., assignors to John E. Mitchell Company, Dallas, Tex., a corporation of Missouri
Filed Dec. 31, 1964, Ser. No. 422,612
7 Claims. (Cl. 239—126)



4. A liquid mixing and dispensing system comprising a control gun, a liquid inlet to the control gun, liquid outlet means from the control gun, a control chamber communicating the inlet with the outlet, thereby establishing a liquid passage through the gun from the inlet through the control chamber to the outlet, valve means in the liquid passage for regulating the flow of liquid into the

control chamber, means to control the valve means to individual settings to selectively provide a first closed setting for completely blocking the flow of liquid through the control chamber, a second restricted setting for permitting restricted flow of liquid through the control chamber, a third restricted setting for providing a greater restriction to flow than is povided by the second setting, and a fourth unrestricted setting in which flow of liquid through the gun is unrestricted, a first liquid source, a second liquid source, a fluid mixer, means to supply the first liquid from its source to the mixer, means to supply the second liquid from its source to the mixer, a first pump to pump liquid from the mixer to the control gun inlet, a second pump for pumping liquid from the second liquid source to the control gun inlet when the second pump is exposed to pulsation of the first pump, means responsive to setting of the valve means to the first setting for deactivating the first pump, means responsive to setting of the valve means to the second setting for permitting liquids to flow serially from the first liquid source, through the first pump and through the gun, means responsive to setting of the valve means in the third setting for exposing the second pump to pulsations of the first pump and thereby causing liquid from the second liquid source to mix with liquid from the first liquid source, and means responsive to setting of the valve means in the fourth setting for terminating exposure of the second pump to pulsations of the first pump.

3,369,756
AEROSOL APPARATUS HAVING A CHAMBER-LIKE DEFLECTOR

Jean Ramis, 13 Chemin du Bas des Ormes, Marly-le-Roy, Seine-et-Oise, France

Continuation-in-part of application Ser. No. 258,440, Feb. 14, 1963. This application Feb. 17, 1966, Ser. No. 528,284
Claims priority, application France, Feb. 23, 1962, 888,964
2 Claims. (Cl. 239—338)

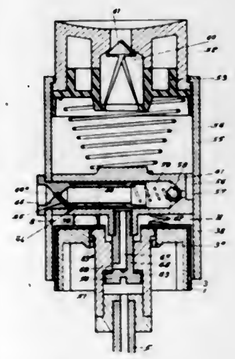


1. A dispenser for an aerosol dispersion, comprising an elongated tube having a first end opening directly into the open air and an at least partly open second end communicating with the atmosphere; supply means outside said tube for delivering a mixture of a propellant and a conveyed solution; a nozzle connected to said supply means and extending axially within said tube at a location remote from said first end and close to said second end, said nozzle having a single orifice on the tube axis facing said first end for discharging said mixtrue axially into said tube toward said first end, the inside of said tube beng unobstructed between said orifice and said first end, the effective length of said tube from said orifice to said first end ranging between substantially 3 and 10 times its inner diameter and being at least equal to 10 cm., said inner diameter lying between substantially 1 and 4 cm., said orifice having a diameter between substantially 0.1 and 0.3 mm; and normally closed valve means at said nozzle selectively operable to trigger the discharge of said mixture in the form of a divergent spray cone striking the wall of said tube ahead of said first end, resulting in an aerosol dispension with particle sizes ranging between 0.5 and 5 microns in diameter.

3,369,757
LIQUID SPRAYING DEVICES

Michel Boris, Paris, France, assignor to Societe Anonyme dite: Societe Technique de Pulverisation (par abreviation STEP), Paris, France, a company of France

Filed Oct. 11, 1965, Ser. No. 494,320
Claims priority, application France, Oct. 16, 1964, 3,152
13 Claims. (Cl. 239—355)



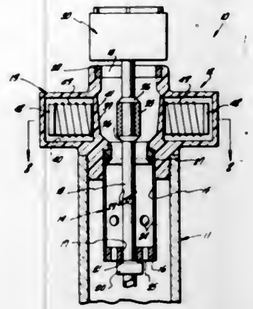
A liquid sprayer in which the liquid is positively sealed in the bottle when the sprayer is not in use. The sprayer has a closure which fits onto a bottle, a passage which vents the bottle to the atmosphere, another passage which leads from the liquid to an air jet spray and a variable volume air chamber which can be operated to force air to the jet spray and simultaneously through connecting elements cause valves in both of the passages to open and permit the liquid to be pulled into and sprayed out of the air jet spray.

3,369,758
LIQUID DISCHARGE DEVICE

John O. Hruby, Jr., Burbank, Calif., assignor to Rain Jet Corporation, Burbank, Calif., a corporation of California

Filed June 8, 1965, Ser. No. 462,213
8 Claims. (Cl. 239—380)

A liquid discharge device arranged to discharge liquid droplets of substantial size in comparison to the size of atomized liquid droplets and preferably of the type illustrated in United States Patent 3,081,036, for example, in which the device is of sufficiently large size that viscous shear forces of liquid handled by the device are insufficient in magnitude to produce gyration of a pendulously mounted stem within a hollow tubular body and in which stem drive means are coupled between the stem and the body at a point along the stem remote from a point of pivotal mounting of the stem to the body, the stem drive means being effective to move the stem in a circular path at a rate below that which produces significant vibration in the stem. The stem drive means is arranged so that the only effect of its operation upon liquid flowing

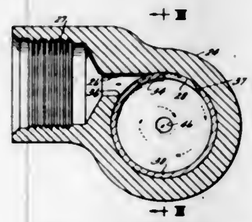


through the device is that effect produced by gyration of the stem within the body.

3,369,759
ATOMIZING NOZZLE

Howard B. Kast, Fairfield, Ohio, assignor to General Electric Company, a corporation of New York

Filed Jan. 13, 1966, Ser. No. 520,511
4 Claims. (Cl. 239—471)

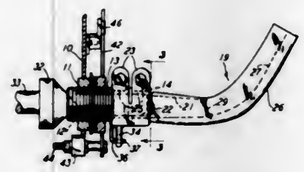


The disclosure illustrates a liquid atomizing nozzle having a cylindrical chamber which connects a tangential inlet passageway and a swirl type exit atomizing orifice. A sleeve having a reed integral therewith is positioned in the chamber. The reed overlies the tangential inlet passageway and provides a variable restriction to flow therefrom which enables the nozzle to effectively atomize fuel over a broad range of flow rates.

3,369,760
LIQUID MANURE SPREADER

Aaron M. Schaible, Rockford, Ill., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin

Filed Sept. 13, 1965, Ser. No. 486,841
3 Claims. (Cl. 239—513)

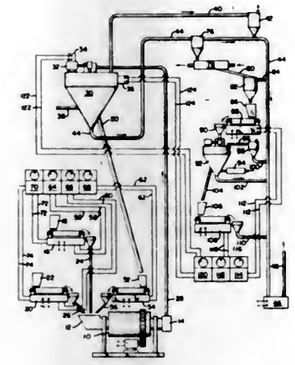


A liquid manure spreader fan which is rotatable on a tank by means of adjustment members connected to the fan. Indexing means cooperates with the adjustment members to hold the latter in selected positions for selective positioning of the spreader fan.

3,369,761
GRINDING MILL AND FINENESS CONTROL SYSTEM

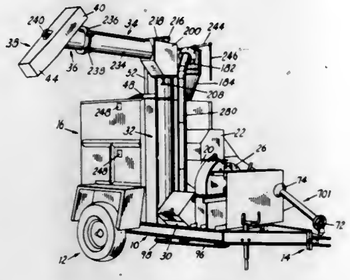
John W. Hand, 305 Kearney St., Denver, Colo. 80220

Filed Jan. 19, 1966, Ser. No. 521,719
14 Claims. (Cl. 241—33)



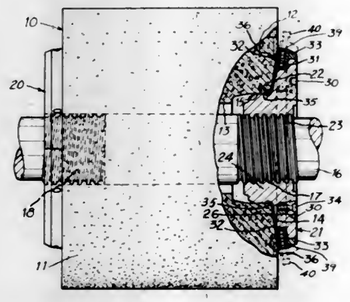
1. Apparatus for reducing a coarse aggregate to a fine-grained powder product and for continuously controlling the fineness and particle size distribution of the product, comprising: a grinding mill having an inlet and an outlet; supply means to continuously feed fresh aggregate to the mill inlet; a production separator; conduit means extending between the mill outlet and the separator to transport ground material to the latter; said separator being adapted to separate the finer particles of the material and send them onward as a product stream and to reject the coarser particles as tailings; conduit means extending between the separator and the mill inlet to return the tailings to the latter; product stream conduit means to transport the product from the production separator to a storage receiver; a sample splitter communicating with said product stream conduit means to withdraw a sample portion of the product stream for analysis; first weighing means communicating with the sample splitter to receive and weigh said sample portion; a control separator adapted to receive the sample portion and to separate it into finer and coarser particle groups, and being pre-set to make the separation at a particle diameter cut-point approximately at the midpoint or smaller of the range of particle sizes in the product stream; second weighing means to receive and weigh one of the particle groups from the control separator and to pass it on to the product stream conduit means; additional means to receive the other particle group from the control separator and transport it to the product stream conduit means; and a fineness control system to maintain a desired ratio between the quantities of finer and coarser particles in the product stream as determined by said control separator; said fineness control system including means communicating with each of said weighing means and acting to transmit to said production separator indications of the departure of the ratio of weights of product on said weighing means from a control ratio fixedly related to said desired ratio; and means associated with said production separator acting in response to said indications to alter the particle size composition of the product stream in a direction to restore said desired ratio.

3,369,762
MOBILE FEED GRINDING AND MIXING AND DISTRIBUTING APPARATUS
Robert J. Buzenberg and Peter C. De Graff, Manhattan, Kans., assignors to Viking Manufacturing Company, Manhattan, Kans.
Filed June 1, 1965, Ser. No. 461,228
7 Claims. (Cl. 241—63)



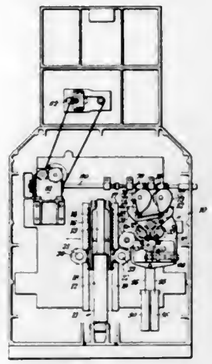
A mobile grinding and mixing apparatus having a grinding mill thereon for grinding natural feeds. The ground feed is fed through a first screw conveyor into a second upright screw conveyor and is then deposited into the upper end of a mixing tank. A hopper containing feed supplements is positioned adjacent the first screw conveyor to permit the supplements to be mixed with the natural feed as it is transported through the first screw conveyor. A third screw conveyor permits material to be removed from the tank and recirculated through the second upright screw conveyor so as to mix same with the feed being supplied by the grinding mill. A swingable horizonal conveyor mounted at the upper end of the second upright screw conveyor permits the mixed material discharging therefrom to be selectively conveyed either to the tank or to an external discharge station.

3,369,763
PULPSTONE MOUNTING FLANGES
James H. Perry, 36 Sun Valley Drive, Worcester, Mass. 01609
Filed July 7, 1965, Ser. No. 470,157
4 Claims. (Cl. 241—293)



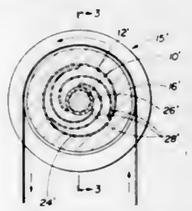
A flange mounting and driving structure for massive grinding stones such as pulpstones adapted to engage the stone to center it on the drive shaft and engage the ends of the stone with extremely high pressure to transmit the driving force from the shaft to the stone, the flange means being constructed in several separable parts which when assembled serve as a unitary flange element but which may be readily disassembled in a manner to easily break the tight engagement of the flange against the ends of the pulpstone when it is necessary to change stones.

3,369,764
BUILDER MOTION FOR TEXTILE MACHINES
Harold Whittaker, Alkrington, Middleton, and Joseph Walmsley, Breightmet, Bolton, England, assignors to T.M.M. (Research) Limited, Oldham, Lancashire, England, a British company
Filed Mar. 28, 1966, Ser. No. 537,947
11 Claims. (Cl. 242—26.3)



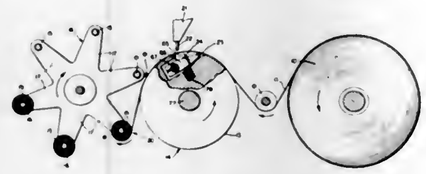
The invention provides a builder motion for a textile machine, said builder motion including a traverse rail drive switchable between first and second conditions in which said rail is driven in one direction and in the opposite direction respectively. Means for switching said drive alternately from one condition to the other which comprises two differential mechanisms each having a first rotary input member oscillated in synchronism with said rail, a second rotary input member responsive to a build adjusting mechanism, and a rotary output member. The two rotary output members, one in each differential mechanism, respectively initiate switching of said rail drive from said first to said second condition, and from said second to said first condition.

3,369,765
WEB TRANSPORT SYSTEM
Einar W. Jensen, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 6, 1966, Ser. No. 555,361
5 Claims. (Cl. 242—55.01)



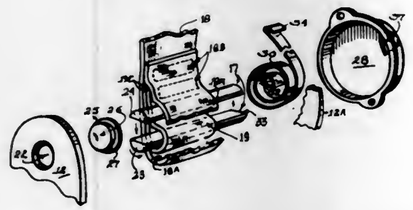
1. A web transport system comprising a shaft having a drive member mounted thereon; a web support spool arranged for rotation about said shaft and comprising a substantially rigid central hub portion disposed substantially coaxial with said shaft and arranged to rotate thereabout adjacent said drive member, a substantially rigid constant diameter rim portion disposed about and having a larger diameter than said hub, said rim portion being arranged to encircle said drive member, at least one flexible member connecting said rim portion to said hub portion whereby said rim portion may rotate about said shaft at varying radial distances; said support spool being normally disposed in radial spaced relation to said web drive member whereby said support spool rotates independently of said shaft and said drive member until said rim portion is deflected into contact with said drive member.

3,369,766
WEB WINDING
Walter H. Herman, South Hadley, Mass., assignor to Scott Paper Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 17, 1966, Ser. No. 550,738
11 Claims. (Cl. 242—56)



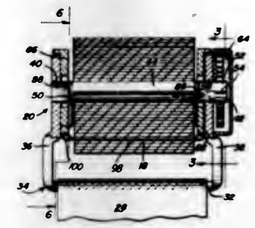
6. Apparatus for transferring a moving flexible web to a roll core to start the winding of a web roll while the web is traveling to a roll that is being wound, comprising support means for supporting the web traveling to the roll, a plurality of rotatably mounted roll cores, means for successively moving said rotatably mounted roll cores to a pickup position and to a winding position, means for lifting and supporting a transverse segment of the web to a first position outwardly spaced from said support means, means for applying adhesive to at least portions of said transverse segment while in said first position, means for severing said web along a transverse line in front of said transverse segment, and means for urging said transverse segment toward a second position more remote from said support means into contact with a fresh rotating roll core upon which the web is to be wound to commence the winding of a new roll.

3,369,767
SEAT BELT RETRACTOR
Alec Greenfield, Chicago, Ill., assignor to The Greenfield Company, Elk Grove Village, Ill., a corporation of Illinois
Filed Sept. 27, 1965, Ser. No. 490,531
14 Claims. (Cl. 242—107)



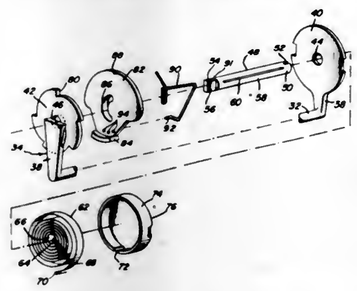
A composite spindle shaft is formed by a pair of mating semi-cylindrical bars each having a flat face juxtaposed with the flat face of the other to clamp a belt-web member therebetween, the ends of the shaft being supported for rotation by journal means preventing separation of the pair of bars and the belt-web having further looped portions embracing the shaft. Supplemental to the subject: first, a spiral driving spring has convolutions encircling one end of the shaft to prevent separation of the pair of bars while applying torque thereto; second, an end of the spring is caught between the pair of bars for coupling thereto.

3,369,768
ROTARY LOCKING SEAT BELT RETRACTOR
Joel A. Burns, 3717 Del Mar Drive NE., Albuquerque, N. Mex. 87111
Filed Nov. 5, 1965, Ser. No. 506,560
12 Claims. (Cl. 242—107.4)



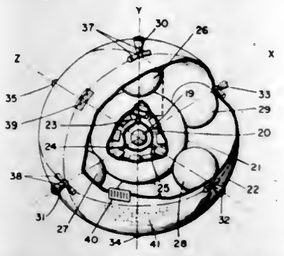
A journaled winding member having one end of a seat belt secured thereto for winding on and unwinding from the winding member with means being operatively associated with the winding member for automatically locking the latter against rotation in a direction to unwind the seat belt therefrom upon rotation of the winding member past a position with a predetermined minimum amount of the seat belt wound thereon at a speed lower than a predetermined minimum speed.

3,369,769
ROTARY-INERTIA LOCKING SEAT BELT RETRACTOR
Joel A. Burns, 3717 Del Mar Drive NE., Albuquerque, N. Mex. 87111
Filed Apr. 22, 1966, Ser. No. 544,578
10 Claims. (Cl. 242—107.4)



A rotary lock assembly including a base provided with first abutment means and a shaft journalled from said base and having a single movable component defining second abutment means mounted on and supported from the shaft for rotation therewith and limited shifting relative thereto between first and second positions with a portion of the component positioned out of and in position, respectively, for engagement with the first abutment means of the base to lock the shaft against rotation relative to the base, the shaft and movable component including coacting cam surfaces engageable with each other and operative, in response to torque above a predetermined value being applied to the component through the shaft in one direction of rotation thereof, to shift the component from the first position toward the second position.

3,369,770
DRAG FREE SPACECRAFT
Bernard F. Cohlan, 2850 Moraga Drive, Los Angeles, Calif. 90024
Filed May 20, 1965, Ser. No. 457,344
3 Claims. (Cl. 244—1)



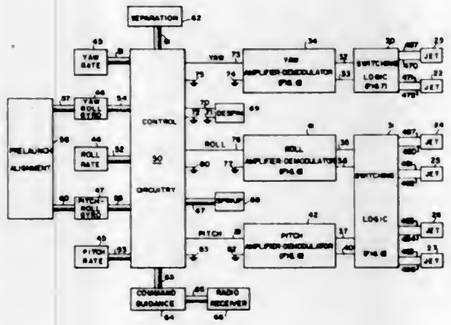
This disclosure relates to a drag free spacecraft made up of inner and outer bodies. The outer body includes an inner module surrounding the inner body and free of any physical engagement with the inner body, an intermediate module connected to and surrounding the inner module, and an outer module incorporating instruments connected to and surrounding the intermediate module. The inner body constitutes a free mass and the inner module surrounding the inner body incorporates sensing means for detecting the position of the mass. The intermediate module includes propulsion means extending to the exterior of the outer module. These propulsion means are responsive to the sensing means to move the entire outer body comprised of the inner, intermediate, and outer modules as a unit in a direction to maintain the inner body or mass substantially centered within the inner module while the inner body is in free orbit with respect to an external celestial body. Drag forces experienced by the outer body are therefore compensated and the spacecraft travels as a whole substantially in an orbit as though gravity were the only force acting on the craft. The intermediate and outer modules are interchangeable with different intermediate and the outer modules for use with the same inner body and inner module so that the same inner mass and sensing system may be utilized with different intermediate and outer modules in conducting a series of experiments.

3,369,771
SPACE VEHICLES
Gerald David Walley, Longridge, near Preston, Thomas William Smith, Wrea Green, near Preston, and Robert Philip Stewart Wilson, Blackburn, England, assignors to British Aircraft Corporation (Operating) Limited, London, England, a company of Great Britain
Filed June 16, 1965, Ser. No. 464,481
Claims priority, application Great Britain, June 18, 1964, 23,219/64
11 Claims. (Cl. 244—1)



A space vehicle composed of a plurality of interconnected modules, at least one intended as a first stage, and having a final stage, two of the modules being so shaped as to be capable of flight in the atmosphere with aerodynamic lift, the modules having a delta planform and carrying large amounts of fuel; the modules further having rocket nozzles at the rear which are exposed when the modules are assembled together; the modules preferably being assembled in a pyramid.

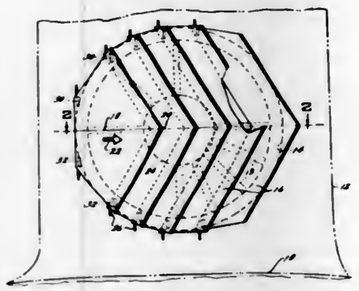
3,369,772
CONTROL APPARATUS
Allen J. Eberlein, St. Anthony, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Oct. 8, 1964, Ser. No. 402,405
5 Claims. (Cl. 244—3.2)



1. The method of conducting the flight of a vehicle having first and second gyroscopes, each including inner and outer gimbal axes and a spin axes, which comprises the step of initially positioning the gyroscopes so that the outer gimbal axes are in alignment, the respective planes defined by the gimbal axes are aligned in predetermined directions, and the spin axes are so oriented in intersecting planes as to depart from a mutually orthogonal relationship by appreciable predetermined angular displacements.

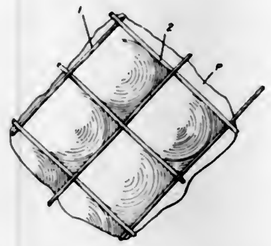
5. In combination with an aerodynamically unstable vehicle which is to initially rise generally vertically from an angularly movable launcher on the surface of a rotating planetary body, for a predetermined interval, and to subsequently pitch-over toward the body through a predetermined angle of generally ninety degrees; a pair of gyroscopes each having mutually perpendicular inner and outer gimbal axes and mutually perpendicular inner gimbal and spin axes; means mounting said gyroscopes in the vehicle with said outer gimbal axes aligned with the longitudinal axis of said vehicle; means initially positioning said gyroscopes so that the dihedral angle between the planes defined respectively by the gimbal axes of said gyroscopes has a predetermined value, and the angle between the spin axes and the line of intersection of said planes depart from an orthogonal relationship by the angular drift anticipated to result from the rotation of the vehicle during said interval; means for continuously modifying the initial positions of said gyroscopes in accordance with angular movement of said launcher; means for causing initial longitudinal movement of the vehicle from said launcher and simultaneous rotation of the vehicle about the longitudinal axis thereof; means for arresting said rotation of said vehicle at the end of said interval; means for positioning the vehicle in a predetermined relationship to the plane defined by the gimbal axes of one of said gyroscopes; means operable to thereafter cause rotation of said vehicle about an axis perpendicular to said plane; and means for thereafter controlling the attitude of the vehicle, about mutually perpendicular axes normal to said longitudinal axes, in accordance with the angles between the inner and outer gimbals of both said gyroscopes.

3,369,773
SWEPT VANE LOUVER SYSTEM
John R. Erwin, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Aug. 12, 1965, Ser. No. 479,253
7 Claims. (Cl. 244—12)



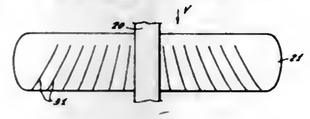
The invention is directed to a louver system for vectoring the flow through aircraft lift fans. It uses swept louvers as opposed to straight and this permits a constant flow area over a large vectoring operating range and is intended to replace vectoring cascades of vanes that are rotated below lift fans.

3,369,774
BALLOON ENVELOPE STRUCTURE
Arthur D. Struble, Jr., 2101 Rosita Place, Palos Verdes, Calif. 90274
Filed Aug. 2, 1961, Ser. No. 128,799
7 Claims. (Cl. 244—31)



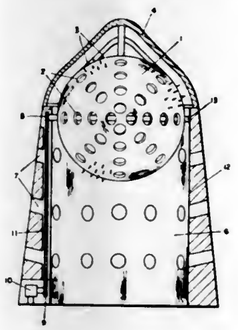
1. A balloon envelope structure characterized by the following combination of features:
(a) a gas envelope comprising a synthetic plastic film,
(b) said plastic film having a thickness within the range of about ¼ to 1/16 mil,
(c) said plastic film being non-load bearing except for the gas pressure differential,
(d) said plastic film being divided into a plurality of small multi-sided panels by means of a plurality of thin, elongated strengthening grid members affixed to said plastic film,
(e) the amount of plastic film within each panel being in excess so that the plastic film can billow above and beyond its own extensibility under the influence of gas pressure and assume a comparatively small radius of curvature,
(f) said grid members functioning as the load bearing members for the balloon envelope structure.

3,369,775
AIRCRAFT WING SYSTEM HAVING ZERO INDUCED DRAG
Scott C. Rethorst, 1661 Lombardy Road, Pasadena, Calif. 91106
Continuation-in-part of application Ser. No. 424,169, Dec. 31, 1964, which is a continuation of application Ser. No. 358,792, Apr. 10, 1964. This application Jan. 11, 1965, Ser. No. 425,381
11 Claims. (Cl. 244—41)



1. In combination, first means defining a first fluid contact surface of finite spanwise dimensions and over which a main fluid flows from a leading to a trailing edge, to trail off the trailing edge,
second means defining a second fluid contact surface having the same leading and trailing edges as said first means and separating the fluid, so that a second main flow portion flows under the second means from the leading edge to trail off from the trailing edge, at least one of said first and second means being curved to produce lifting force for sustaining said first and second means in the fluid, there resulting a first flow component along said first means in a first spanwise oriented direction and second component along the second means in the respective opposite direction, and
third means structurally combined with said first and second means for substantially eliminating said first and second flow components in both of the main flows along substantially the entire span aft of said fluid contact surfaces.

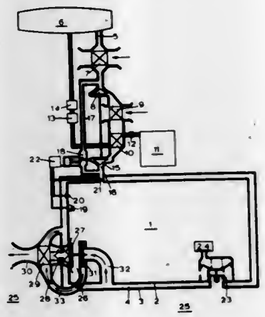
3,369,776
REVOLVING JET AIR INTAKE GUARD
Joseph Harlon Puryear, 1908 2nd St., Bakersfield, Calif. 93304
Filed Oct. 18, 1965, Ser. No. 497,149
4 Claims. (Cl. 244—53)



1. In an aircraft jet engine, a jet air intake for filtering out debris comprising, in combination; a casing for said engine forming a primary air intake at the forward end thereof, said casing having auxiliary air intake holes, a metal shaft rotatably mounted at either end within said casing and extending across said primary intake, a hollow ball mounted on said shaft for rotation therewith, said ball including a plurality of holes through which air may pass and a plurality of metal spears mounted thereon, a grill mounted on said casing and extending upstream of

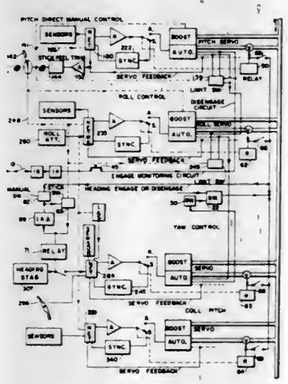
said ball across said primary intake, a motor having a plurality of forward speeds and one reverse speed to drive said shaft, two chain sprockets mounted on said motor and said shaft respectively, and a small link chain joining said sprockets for driving said shaft.

3,369,777
AIRCRAFT COOLING SYSTEM
Owen D. A. C. Furlong, East Coker, near Yeovil, Somerset, England, assignor to Westland Aircraft Limited, Yeovil, Somerset, England
Filed Jan. 14, 1966, Ser. No. 520,608
Claims priority, application Great Britain, Jan. 22, 1965, 3,025/65
5 Claims. (Cl. 244—59)



Apparatus providing temperature insulation for an aircraft having a pressurised cabin, wherein air is recirculated between double skinning of the fuselage by a fan which draws air from the cavity formed by the double skinning, and passes it through a heat exchanger before returning it to the cavity. The heat exchanger provides heat transfer with air discharged from the cabin and cooled by expansion through a turbine which drives the fan.

3,369,778
AUTOMATIC PILOTS
Benjamin H. Ciscel, 6505 Glenwood Ave., Minneapolis, Minn. 55427
Continuation of application Ser. No. 431,862, May 24, 1954. This application June 8, 1967, Ser. No. 645,568.
39 Claims. (Cl. 244—77)



A three axes stabilization system plus altitude control of a dirigible craft, such as a helicopter, uses a novel flight control system involving a fluid type, differential operated, actuator. The actuator has a manually controlled section and an automatic condition control section, for each of the axes of the craft. The manually operated section has greater authority over the actuator output member than does the automatic operated section.

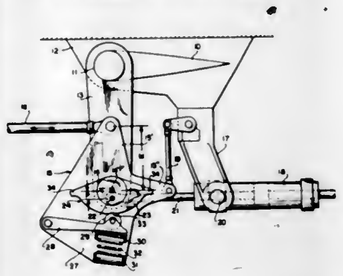
During long term departures of the automatic section from a normal or unoperated position a centering arrangement for the manual section is automatically repositioned to reposition the manual section causing return of the automatic section to unoperated position.

The manual section may be operated also to initiate forward flight of the helicopter and roll attitude change may also be effected, if roll attitude change occurs above a predetermined airspeed a banked turn automatically results.

The automatic section of the fluid actuator is of the piston-cylinder type reversibly controlled in accordance with the operation of a pilot valve. The valve is responsive to electrical control signals supplied by sensors. Included in the automatic section is a centering device for the piston and cylinder; and centring device is disabled upon energization of a solenoid operated, fluid transmitting valve. The electrical energy for the solenoid operated valve and for the electrical control signals is provided by a common supply or common source, whereby failure of the common electrical supply interrupting operation of the pilot valve also results in operation of the centering device, centering the piston and cylinder.

By reason of the differential arrangement, the manual control section may be operated to control the craft accompanied by the inclusion or exclusion of operation of the automatic section, selectively.

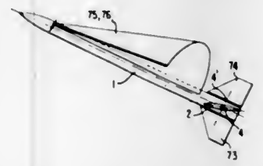
3,369,779
FORCE BOOSTING MECHANISM
Edward M. Frederiksen, David O. Gunson, and William W. Williams, Atlanta, Ga., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed July 18, 1966, Ser. No. 566,045
7 Claims. (Cl. 244—85)



1. A force boosting mechanism for aircraft having an external control surface hinged to fixed structure of the aircraft and exposed to aerodynamic forces comprising:
- a horn connected to and extending from said control surface;
- a transverse shaft pivotally mounted in the outer end of said horn;
- a bellcrank rotatably mounted on said shaft;
- a pilot's push-pull rod;
- a pivotal connection between one arm of said bellcrank and said push-pull rod;
- a plate fixedly mounted on said shaft;
- a power actuator pivotally connected at its outer end to said plate in spaced relation to the axis of rotation of said shaft;
- a control for the extension and contraction of said actuator whereby said plate is rotated about said shaft axis of rotation;

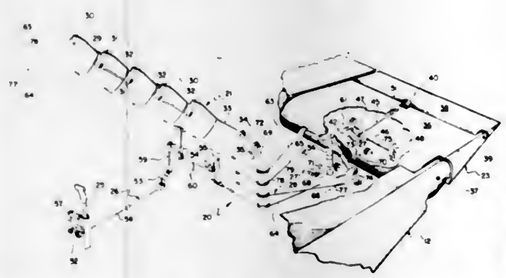
- a pivotal connection between the other arm of said bellcrank and said control; and
- biasing means operative on said plate tending to maintain it with its pivotal connection to said actuator, the pivotal connection of said one bellcrank arm and said shaft axis of rotation in a line.

3,369,780
AIRCRAFT HAVING FLEXIBLE WING SURFACES
Ernst Wieland, Langenargen, Heckenweg, Wilfried Sackmann, Immenstaad am Kippenhorn, Alfons Friedel, Neukirch Kreis Tettnang, Erich Kuhn, Langenargen, and Gunther Harms, Friedrichshafen-Manzell, Germany, assignors to Dornier System G.m.b.H., Friedrichshafen, Germany, a limited-liability corporation of Germany
Continuation-in-part of application Ser. No. 379,400, June 30, 1964. This application Jan. 14, 1966, Ser. No. 520,740
Claims priority, application Germany, July 5, 1963, D 41,910
12 Claims. (Cl. 244—87)



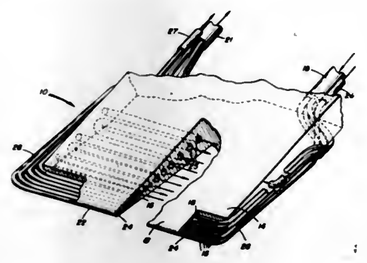
1. An aircraft comprising a keel, flexible and foldable wing surfaces secured to the keel and to leading edges adapted to form an acute angle with the keel, at least one non-foldable aerodynamic control and stabilizing surface mounted on the keel, and means for varying the angle between the control surface and the keel.

3,369,781
AIRCRAFT FLIGHT CONTROL SYSTEM
Daniel R. Cichy, Reynoldsburg, and James L. Denniston and James K. L. MacKay, Columbus, Ohio, assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Dec. 12, 1966, Ser. No. 600,828
2 Claims. (Cl. 244—90)



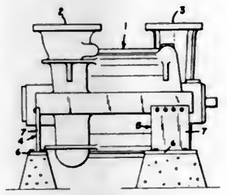
Aircraft apparatus utilizing fully manually powered aileron tab devices to control the simultaneous coordinated operation of opposed bi-directionally movable aileron surface assemblies combined with opposed bi-directionally movable spoiler surface assemblies in an aircraft wing installation. Such apparatus is normally operated to control the roll attitude of the incorporating aircraft during flight.

3,369,782
COOLED LEADING EDGE
Frederick S. Billig and Stephen E. Grenleski, Jr., Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Oct. 5, 1965, Ser. No. 493,279
6 Claims. (Cl. 244—117)



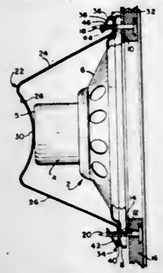
The invention relates to an internally cooled leading edge structure for hypersonic vehicles and includes a plurality of stainless steel tubes that are aligned in parallel relationship and bonded together. The corner portions of the tubes are aligned in clusters which are disposed in generally vertical planes perpendicular to the bonded portions of the tubes. A coating of metal is electroformed over the tubes to form an aerodynamic wedge-shaped structure. The rearmost portion of the wedge-shaped structure is provided with means, for example, a groove, to facilitate attachment of the leading edge structure to the main body of a hypersonic airfoil.

3,369,783
MACHINE SUPPORT
Thomas F. Keating, Jeannette, Pa., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Feb. 24, 1966, Ser. No. 529,850
2 Claims. (Cl. 248—19)



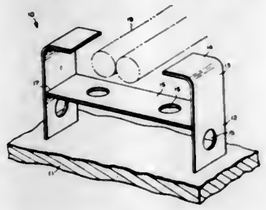
A support system for a machine subject to thermal expansion and contraction comprising a first pair of upstanding planar legs adapted for connection to one end of the machine with the planar section of the legs oriented parallel to the machine axis so as to allow expansion or contraction of the machine in a direction perpendicular to the machine axis and a second pair of upstanding planar legs adapted for connection to the other end of the machine with the planar section of the legs oriented perpendicular to the machine axis so as to allow expansion or contraction of the machine in a direction parallel to the machine axis. A plurality of parallel slits in the second pair of legs add flexibility thereto so as to compensate for thermal expansion and contraction of the machine in a direction perpendicular to the machine axis.

3,369,784
MOUNTING ASSEMBLY
George P. Whitney, Villa Park, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Jan. 12, 1966, Ser. No. 520,171
3 Claims. (Cl. 248—27)



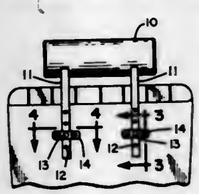
The assembly comprises a spring device having flanges to attach to studs extending through a baffle upon which a loudspeaker is to be mounted. A portion resiliently bearing against the rear face of the speaker is attached to the flanges by a set of legs to draw the speaker tightly against the baffle.

3,369,785
CABLE RETAINING BRACKET
Robert L. Moore, Orlando, Fla., assignor to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland
Filed Sept. 13, 1965, Ser. No. 487,013
8 Claims. (Cl. 248—68)



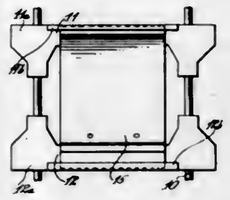
A collapsible bracket apparatus for catching and retaining a cable, pipe, or the like, comprising a pair of posts, which are normally attached to a base, and an impact bar connected between the posts. Weakened points located in the bracket cause it to collapse in a predetermined manner when a cable, pipe, or the like is impacted against the impact bar so that the upper part of the posts close over and hold the cable, pipe, or the like, in the bracket.

3,369,786
CLAMPS FOR AUTOMOBILE SEAT HEADREST
Earl D. Schloemer, Hudson, Wis., assignor to Sterling Products Co., Inc., St. Paul, Minn., a corporation of Minnesota
Filed Oct. 22, 1965, Ser. No. 502,230
5 Claims. (Cl. 248—118)



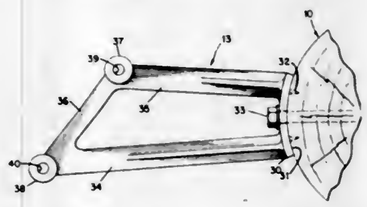
A pair of plate clamp members for each supporting strap of an automobile headrest are constructed in a manner to be bolted securely to the back support of an automobile seat and to provide a slot through which the supporting strap may be adjustably moved and releasably secured by a clamping screw.

3,369,787
HEAD-POSITIONING DEVICE FOR X-RAY PHOTOGRAPHY
Anthony G. Dasta and Edward L. Curran, both of 2716 N. Central Ave., Chicago, Ill. 60639
Filed Dec. 13, 1965, Ser. No. 513,371
1 Claim. (Cl. 248—118)



A bracket fitted with a back portion in the cassette support of an X-ray apparatus, the bracket projecting a frontal plate in forwardly-inclined direction for receiving the cassette. A brace is secured between the back portion and the lower part of the plate.

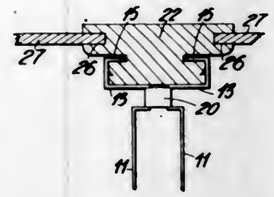
3,369,788
UTILITY POLE MOUNTING BRACKET FOR ELECTRICAL SAFETY DEVICES
Albert C. Eisele, Cuyahoga, Ohio
(2039 Wooster Road, Rocky River, Ohio 44116)
Filed Jan. 24, 1966, Ser. No. 522,596
5 Claims. (Cl. 248—221)



The disclosure pertains to the art of electrical power distribution and more particularly to a utility pole mounting bracket for electrical safety devices having a shape adapted to maintain the proper spacing relationship between a utility pole and/or the electrical safety devices.

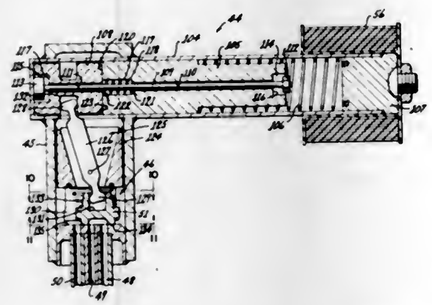
3,369,789
ADJUSTABLE SUPPORTS
Ronald John Harris, Dunstable, England, assignor to Deckvale Limited, Coventry, England, a British company
Filed Jan. 5, 1966, Ser. No. 518,947
Claims priority, application Great Britain, Jan. 6, 1965, 662/65
12 Claims. (Cl. 248—245)

1. In combination: an upright, said upright having sides composed of a relatively soft material, said sides having receiving means adapted to engage a bracket element, and a bracket element, said bracket element comprising two integrally formed sides joined at one end so as to form a generally U-shaped member with an open end and sides resiliently movable toward or away from one another, each side of said generally U-shaped member having means to receive a clip means whereby said sides may be clipped and held in a fixed position relative to one another, said bracket element further having two generally opposed upright gripping means affixed at substantially right angles to each of said two resilient sides respectively whereby when said bracket is positioned along said upright, said upright gripping means, being of less soft material than the sides of said upright, may be



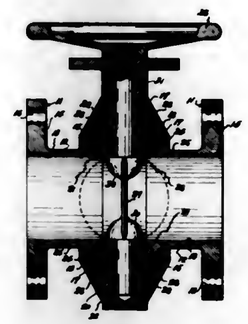
pressed so that the receiving means of said sides of said upright engage the bracket element and said gripping means of relatively less soft material dig into the relatively softer sides of said upright, and a clip adapted to engage and retain said two resilient sides in a fixed position relative to one another, whereby said upright gripping means may be resiliently held in digging contact with said upright.

3,369,790
FLUID SYSTEM AND METHOD AND PARTS THEREFOR OR THE LIKE
William L. McHale, Broomall, and Svend E. Sorensen, King of Prussia, Pa., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Continuation of application Ser. No. 313,040, Oct. 1, 1963. This application May 19, 1967, Ser. No. 639,916
9 Claims. (Cl. 251—78)



This disclosure relates to a pneumatic valving means wherein a pilot valve means is moved between operating positions thereof upon the actuation of a solenoid coil, the pilot valve means directing fluid flow to a main valve member to shift the main valve member between its operating position so that the main valve member can control a main fluid flow for a refrigeration system or the like, the pilot valve means having lost motion means not only between a member and an armature that is moved by the coil to first take up the lost motion between the armature and the member before moving the member, but also having lost motion means between the member and a plunger means that directs the fluid flow to the main valve member.

3,369,791
DISC TYPE FLOW CONTROL VALVE
Lee P. Snodgrass, 44 Sandra Circle, Apt. 1A, Westfield, N.J. 07090, and Dagny A. Ahrens, 2111 Gallagher Ave., Scotch Plains, N.J. 07076
Filed Mar. 18, 1965, Ser. No. 440,755
6 Claims. (Cl. 251—170)



A butterfly flow control valve is described which consists of a vertically disposed valve stem having manual means to turn it and a disc-shaped valve member intermediate its ends. The disc-shaped valve member is rotatable between open and closed positions within the axial bore of an annular, resilient valve seat member in the form of a section of a cylinder. A pair of union ends having flat faced annular flanges at their inner ends are disposed on opposite sides of the valve seat members with the flat faces of the flanges in sealing contact with the seat member. Two or more valve body members having central bearing surfaces in contact with the circumference of the valve seat member have sloping planar bearing surfaces spaced from each side of the planar bearing surface. The sloping bearing surfaces of the body members slidably contact complementary sloping bearing surfaces on the back of the annular flanges of the union ends. Means are provided for drawing the body members together whereby the central planar bearing surfaces apply radial constrictive force to the seat member and the sliding contact of the opposed sloping bearing surfaces on the body members and union ends apply axial constrictive forces to the seat member. In this way tightening or loosening the means for drawing the body members together results in increasing or decreasing the axial and radial constrictive forces on the seat member thus adjusting the sealing forces as necessary to prevent leakage due to a change in pressure, wear or swelling of the resilient valve seat member.

3,369,792
AIRFOIL VANE
Robert Henry Kraimer, Cincinnati, Ohio, and William R. Theodore, Belmont, Mass., assignors to General Electric Company, a corporation of New York
Filed Apr. 7, 1966, Ser. No. 540,967
8 Claims. (Cl. 253—39.1)

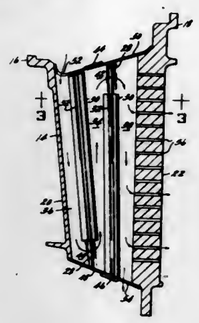
1. A fluid directing element for turbomachinery comprising, a hollow airfoil vane having leading and trailing edges,

at least one pair of longitudinally extending ribs disposed on opposite internal surfaces of said hollow airfoil,

said pair of ribs being spaced apart throughout their longitudinal length,

thin-walled generally U-shaped insert means extending lengthwise of said vane internally thereof from one end,

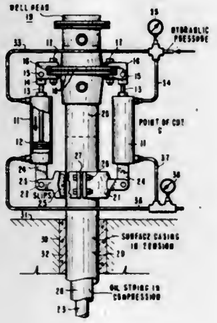
said insert having crimped surfaces on opposite legs of the U and spanning said ribs whereby said insert may be slid along said ribs into said vane to form a longitudinal baffle,



means on said insert limiting its extension into said vane, and

means on opposite sides of the baffle and at opposite ends of said vane for fluid entry and exit.

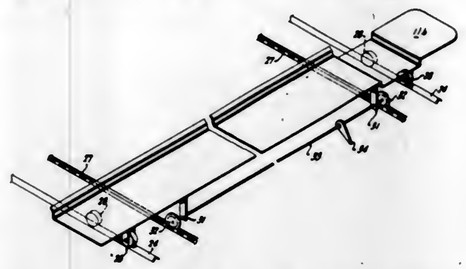
3,369,793
WELL REPAIR
John S. Boldrick and Henry M. Krause, Jr., Houston, Tex., assignors to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Original application Apr. 27, 1964, Ser. No. 362,646, now Patent No. 3,316,963. Divided and this application Aug. 15, 1966, Ser. No. 583,155
3 Claims. (Cl. 254—30)



Tension is resorted to surface pipe of a well having a wellhead by employing apparatus involving a hydraulic piston operated arrangement including a hinged clamp which is placed around the surface pipe to engage therewith as clamp means on the piston arms connect to the wellhead to move same when the surface pipe is cut to relieve compression and restore tension.

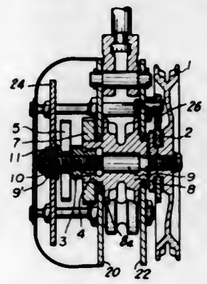
3,369,794
SUPPORT RACK FOR VEHICLES
O. B. Reeves and Harold W. Sattler, both of 740 Harrison St., San Francisco, Calif. 94103
Filed Sept. 16, 1966, Ser. No. 580,568
2 Claims. (Cl. 254—88)

The nature and gist of the technical disclosure of the invention herein, lies in a mechanical means for rapidly changing and then fixing the lateral distance between two



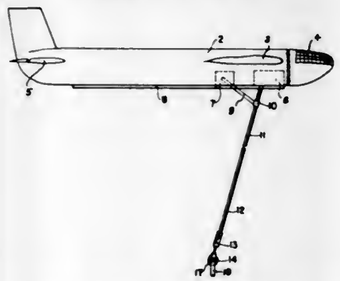
runways upon which the wheels of a motor vehicle are to be placed.

3,369,795
HOISTING DEVICE
Naoyuki Fujita, 22–2 3-chome, Shimo, Kitak-ku, Tokyo, Japan
Filed Jan. 13, 1967, Ser. No. 609,173
Claims priority, application Japan, Mar. 8, 1966, 41/13,807
5 Claims. (Cl. 254—169)



A hoisting device having a drive or transmission which is automatically changed from a low speed high power transmission under load to a high speed relatively low powered transmission when unloaded.

3,369,796
AIRCRAFT IN-FLIGHT CARGO LOADERS
Joel B. Guin, 148 E. 48th St., New York, N.Y. 10017
Filed May 3, 1965, Ser. No. 452,637
3 Claims. (Cl. 258—1.2)



1. An aircraft in-flight lader for picking up objects from limited surface areas while flying low at moderates speeds, comprising in combination:

motor means mounted within the aircraft fuselage forward of the center of gravity of the aircraft;

a beam made of several telescoping sections, movably attached to and extended and retracted by said motor means from which it projects backward along the fuselage when not in use;

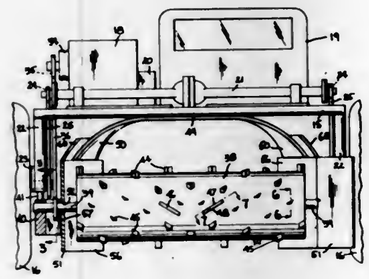
a sliding collar movably disposed around said beam and integrally connected to a plunger arm whose other end is movably attached to a variable speed power unit which extends and retracts the plunger arm in the process of swinging said beam downward and upward respectively;

an attaching member mounted upon the lower end of the bottom section of said beam;

an object holder mounted upon said attaching member to pick up objects suitably disposed on the surface; and

shock absorbing means selectively located and mounted on the sections of said beam to reduce inertial shock when picking up objects from the surface.

3,369,797
COMPOST TURNER AND WINDROW FORMING MACHINE
Herbert T. Cobey, P.O. Box 685, Galion, Ohio 44833
Filed June 8, 1966, Ser. No. 556,152
11 Claims. (Cl. 259—28)



A mobile apparatus for straddling ground-deposited material, such as compost, and provided with a power-driven rotatable throwing member which engages and fragments the material and transfers it through a passageway in the apparatus so that it is discharged and redeposited in a desired windrow formation.

3,369,798
APPARATUS FOR AND METHOD OF BLENDING DRY MATERIALS
Arthur C. Avril, Cincinnati, Ohio, assignor to A & T Development Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 13, 1965, Ser. No. 513,487
17 Claims. (Cl. 259—148)

6. The method of blending separate metered quantities of at least two different dry particulate materials, each of which is characterized as having a particle weight and fineness range different from the other, said method comprising:

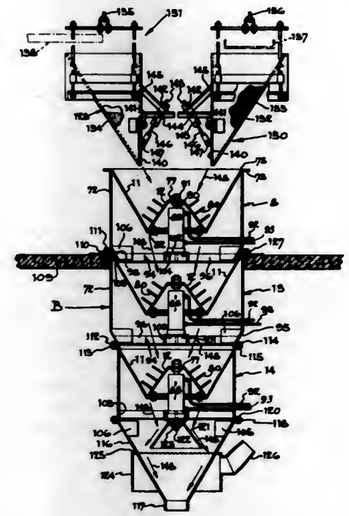
providing at least two receiver elements, one above the other, and enclosing the same in a housing;

placing said separate metered quantities of materials in the upper receiver element and confining said separate metered quantities of materials temporarily in said upper receiver element;

discharging said separate metered quantities of materials by gravity from said upper receiver element in the form of a flow stream;

providing air pressure in said upper receiver element and a partial vacuum in the lower receiver element to assist in the flow of materials from the upper to the lower receiver element;

deflecting the said flow stream to at least partially blend said materials as the flow stream falls by gravity from said upper receiver element;

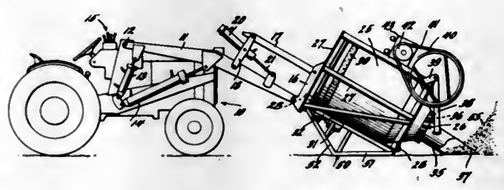


stopping and temporarily confining said flow stream of partially blended materials in the lower receiver element;

discharging said partially blended metered quantities of materials by gravity from said lower receiver element in the form of a second flow stream;

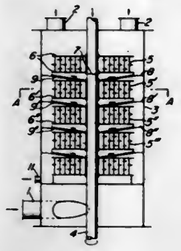
and collecting said materials after the second flow stream issues from the second receiver element.

3,369,799
TRACTOR-MOUNTED CONCRETE MIXER
Merle E. Vig, Mud Butte, S. Dak. 57758
Filed Mar. 29, 1967, Ser. No. 626,791
6 Claims. (Cl. 259—154)



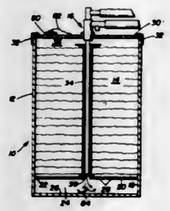
This invention relates to improvements in a rotary concrete mixer adapted to be carried on a tractor of the type ordinarily equipped as a front end loader, where the mixer replaces the dirt scoop or the like. The improvements consist of modifications to the mixer, including a metering scoop and a loading skid, whereby the mixer can be motivated by the tractor to load the mixer with a known quantity of material and to adjust the position of the mixer while in ground contact for the addition of other materials into the mixer.

3,369,800
GAS-LIQUID CONTACT APPARATUS
Takeichiro Takamatsu, Kyoto-shi, Shiro Nakai, Hirakata-shi, and Teizo Miyauchi, Nara-shi, Japan, assignors to Kimura Entetsu Kagaku Kikai Co., Ltd., Amagasaki-shi, Japan, a corporation of Japan
Filed July 10, 1964, Ser. No. 381,821
Claims priority, application Japan, July 19, 1963, 38/38,908
9 Claims. (Cl. 261—88)



A gas-liquid cross flow contact apparatus having a plurality of rotatable, vertically spaced apart, porous spiral discs axially aligned in a vertical housing, in which a liquid is injected from the center outwardly through said spiral discs by centrifugal forces thereby promoting a cross-flow contact with a gas passing upwardly through the housing whereby the contacting efficiency is greatly improved by the increased formation of liquid droplets.

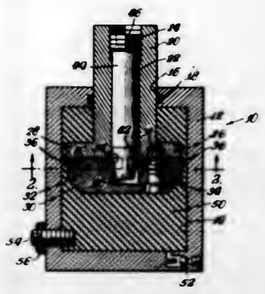
3,369,801
SILVER RECOVERY UNIT
Harlan G. Hartman, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 10, 1965, Ser. No. 507,156
8 Claims. (Cl. 266—22)



Apparatus for recovering silver from a silver-containing solution, such as a photographic fixing bath, comprising a container enclosing a fluid permeable metallic filler element composed of a metal above silver in the electromotive force series, for example, a continuous sheet of steel wool wound about an open core, and fluid fitting means removably attached to the container, for example, a pair of concentrically arranged pipes equipped with quick attach and release means, adapted to direct the solution through the filler element, whereby the solution reacts with the metal of the filler element so that the silver is deposited therein.

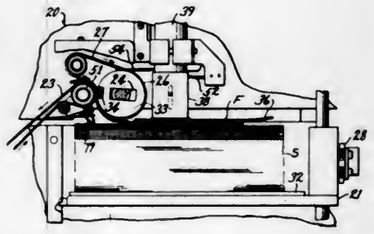
3,369,802
ADJUSTABLE DAMPED SPRING
William D. Wallace and Robert L. Carlson, Chicago, Ill., assignors to W. H. Miner, Inc., Chicago, Ill., a corporation of Delaware
Filed Feb. 2, 1966, Ser. No. 524,554
10 Claims. (Cl. 267—1)

1. A damped spring comprising a housing with a chamber therein, a piston ram extending outwardly of said chamber for receiving impact forces, piston head elements carried at the end of said piston ram within said chamber, the outer circumference of said piston head elements being spaced from the interior of said chamber to define an orifice therebetween, said piston head elements being



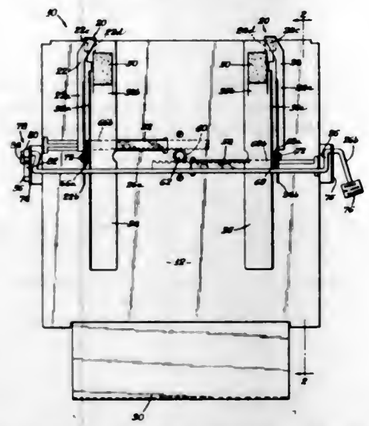
radially adjustable whereby the area of said orifice may be varied, and a compressible solid filling said chamber for providing a damping and spring force on said piston ram as the same moves into said chamber and reduces the volume of said compressible solid while the latter is forced through said orifice.

3,369,803
FABRIC WORK PIECE FEEDERS
Richard R. Walton, Boston, and Waldo B. Hanson, Rowley, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., and Boston, Mass., a corporation of New Jersey
Filed Aug. 11, 1966, Ser. No. 571,865
15 Claims. (Cl. 271—10)



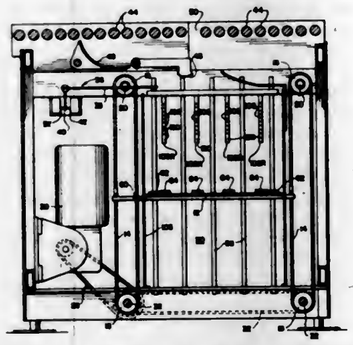
1. Apparatus for feeding fabric sheets singly from a stack, comprising means for supporting a stack of fabric sheets, pick-off means disposed in spaced relation with said support means for cyclically engaging and moving a portion of each successive upper sheet of the stack with a component initially parallel to and then away from the top of the stack, then releasing the sheet and finally returning to its starting position, drive means operatively connected with said support means for movement of said support means from a first position wherein the upper sheet of the stack is in engagement with said pick-off means to a second position wherein the stack is disposed below its first position; and automatic control means connected to said drive means to cause said drive means to move said support means from said first position to said second position and back to said first position during one cycle of said pick-off means.

3,369,804
SHEET FEEDING APPARATUS
John J. Schulze, Prospect Heights, and Donald E. Raterman, Mount Prospect, Ill., assignors to Addressograph-Multigraph Corporation, Mount Prospect, Ill., a corporation of Delaware
Filed Nov. 26, 1965, Ser. No. 509,779
2 Claims. (Cl. 271—21)



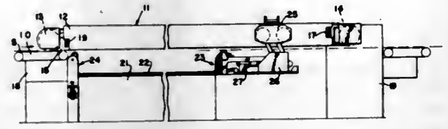
A tray supports a stack of sheets to be fed one by one by drive rollers. A pair of conjointly movable edge guides engage the sides of the stack. A pair of separator arms pivot freely above the tray on supports movable with and spaced to the side of the edge guides, each arm including a forwardly extending segment spaced to the side of the stack, an inwardly veering segment resting on the front corner of the stack and a downwardly extending segment abutting the front of the stack. An eccentric bail above the tray is normally held in a neutral position by a resilient latch and is manually movable to an operating position to engage upwardly and rearwardly extending segments of the arms to lift the arms from the stack. The latch frictionally holds the bail and arms in the raised position.

3,369,805
APPARATUS FOR LOADING WRAPPERS INTO A BUNDLE UNDERWRAPPER
Edward D. Pierson, Denver, and James C. Wright, Aurora, Colo., assignors to Miner-Denver, Inc., Denver, Colo., a corporation of Colorado
Continuation-in-part of application Ser. No. 406,472, Oct. 26, 1964. This application Feb. 23, 1967, Ser. No. 617,966
12 Claims. (Cl. 271—62)



This invention concerns a palette and palette supporting mechanism that will hold a partially-used stack of folded wrappers in an elevated operative position while the stack elevator shown in our application Ser. No. 406,472 is dropped down to receive a second palette containing an additional wrapper supply. The elevator is employed to elevate the second palette and fresh wrapper supply into position underneath the first palette, whereupon, said first palette is withdrawn from between the stacks and used to receive a fresh supply of wrappers in the same manner as the second palette while the underwrapper continues to operate.

3,369,806
SHEET PILER WITH STAGGER PILING MECHANISM
Dario Buccicone, Gary, Ind., assignor to Bucciconi Engineering Co., Inc., Gary, Ind., a corporation of Indiana
Filed Oct. 14, 1966, Ser. No. 586,795
17 Claims. (Cl. 271—68)

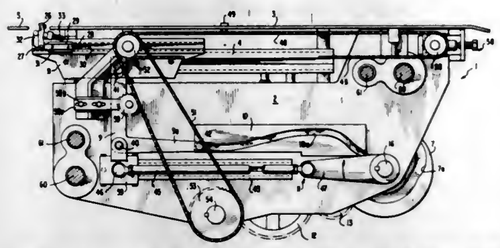


1. A sheet piler comprising an overhead conveyor and an end stop mechanism disposed below the conveyor and having a main bumper pad positioned in a generally vertical plane for engagement with the leading edges of successive sheets as they are released by the conveyor for deposit in a pile in front of the stop mechanism, said end stop mechanism including a main bumper frame on which said main bumper pad is mounted, a frame-like supporting carriage mounted for adjustment longitudinally of said conveyor, a supporting platform suspended from said carriage and having a horizontal track forming means thereon for receiving said bumper frame, means for cushioning the horizontal movement of said bumper frame on impact of the leading edges of successive sheets with said main bumper pad, a stagger bumper device adapted to provide in one position thereof a sheet engaging surface in a generally vertical plane in front of said main bumper pad, the bumper frame for said main bumper pad having a track formation with vertical and horizontal portions, an articulated stagger bumper carriage for said stagger bumper device mounted for movement on said track formation, and means for moving said stagger bumper carriage between said one position and another position where said stagger bumper pad is disposed horizontally below the path of the sheets advanced across the top of said end stop mechanism by said overhead conveyor.

3,369,807
RECIPROCATING FEED MECHANISM
Edward J. Whelan, Jr., Hasbrouck Heights, N.J., assignor to Sun Chemical Corporation, New York, N.Y., a corporation of Delaware
Filed May 20, 1966, Ser. No. 551,726
7 Claims. (Cl. 271—69)

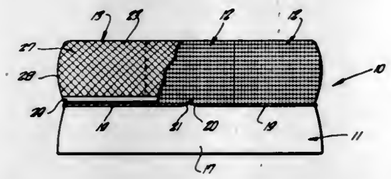
6. A conveyor assembly of the character described for delivering metallic sheets into a metal decorating press comprising, a frame, a sprocket-driven endless chain mounted on said frame, pusher lugs carried by said chain, a rotary drive shaft mounted on said frame, cam means connected to one end of said drive shaft, a track secured to one side of said frame, riser arm means slidably mounted in said track, one end of said riser arm means being connected to said cam means, whereby the rotary

motion of said drive shaft imparts horizontal reciprocatory movement to said riser arm means, inclined surface means formed on said riser arm means, track means positioned above the riser arm means in proximity to said sprocket-driven endless chain, vertically extending rod means connected between the track means and said riser arm means, the lower end of said vertically extending rod means engaging the inclined surface means on the riser arm means, whereby the horizontal reciprocatory movement of the riser arm means imparts a vertical reciprocatory movement to said track means, work-moving carriage means slidably mounted on said track means, a slide-crank



mechanism connected to the opposite end of said drive shaft, lever means connecting said work-moving carriage means to said slide-crank mechanism, whereby horizontal reciprocatory movement is imparted to the carriage means, cam means connected to said lever means, whereby the relative velocity of the carriage means with respect to the slide-crank mechanism may be varied, and pusher lug means mounted on said carriage, whereby the pusher lugs on the endless chain engage the trailing edge of a sheet to be decorated and push the sheet into position where the carriage pusher lug means engage the trailing edge of the sheet and push said sheet the remaining distance into the decorating machine.

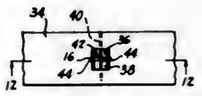
3,369,808
JUMPER'S LANDING PIT
Jerry W. Sconce, 842 E. Cypress, Glendora, Calif. 91740
Filed Sept. 2, 1965, Ser. No. 484,574
13 Claims. (Cl. 272—1)



1. A jumper's landing pit comprising an open-top receptacle, a plurality of substantially identical cushion units disposed in the receptacle to fill the same and to project above the top of the receptacle, each cushion unit comprising an envelope filled with pieces of resilient foamed material, the filled envelope having a substantially rectangular parallelepiped configuration, and a cover disposed over the upper portions of the cushion units.

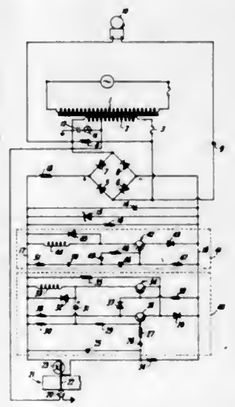
3,369,809
ISOMETRIC TYPE EXERCISING DEVICE
Harry L. Morrill, Jr., P.O. Box 6467, Trails End Road, Marietta, Ga. 30060
Filed May 11, 1965, Ser. No. 454,805
4 Claims. (Cl. 272—79)

Manually manipulated apparatus to provide for isometric and isotonic exercising and including a platform to be mounted by the user, the platform having at least one pulley journalled for rotation thereon and reeved with a length of rope, the free ends of the rope being connected



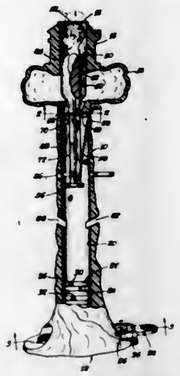
to handle means adapted to be grasped by the user and pulled upwardly away from the platform to exert a tension on the rope in the performance of the exercises.

3,369,810
FOUL DETECTOR
John Herbert Day, Shelby, Ohio, assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Sept. 28, 1964, Ser. No. 399,515
5 Claims. (Cl. 273—50)



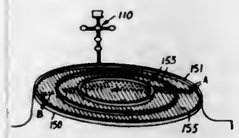
1. In an automatic foul detecting and indicating apparatus for use with a bowling alley, the combination of visible indicating means; audible indicating means; a photoelectric transducer characterized by having a low electrical impedance condition when subjected to radiant energy and a high impedance condition when the incident radiant energy is markedly reduced; a source of radiant energy for directing radiant energy across the bowling alley to said transducer to maintain said transducer normally in said low impedance condition; first circuit means having a stable state and an unstable state, said first circuit means being connected to operate one of said indicating means when in said unstable state; a first circuit portion interconnecting said first circuit means and said transducer, said first circuit means being operative to convert from said stable state to said unstable state in response to change of said transducer from said low impedence condition to said high impedance condition and to revert to said stable state at the end of a first predetermined time interval; second circuit means connected to operate the other of said indicating means; and a second circuit portion interconnecting said first circuit means and said second circuit means, said second circuit means being responsive to change of said first circuit means from said stable state to said unstable state to operate said other indicating means for a second predetermined time interval.

3,369,811
SIMULATED BEANSTALK GAME
Marvin I. Glass, Chicago, and Hans E. Jernstrom, Northbrook, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed June 4, 1965, Ser. No. 461,400
4 Claims. (Cl. 273—135)



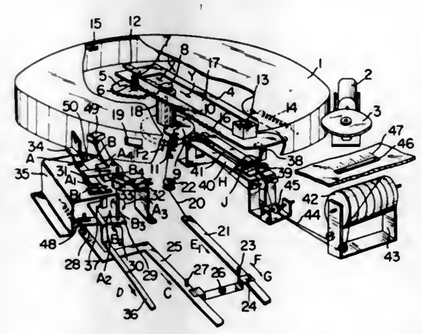
A game including a playing base in the form of a hollow column simulating a beanstalk, a series of vertically spaced-apart openings in the side of the column and having various cross-sections, a plurality of markers each with a stem portion complementary to one or more of the openings in the column, a marker dispensing tray, means defining a transverse opening in the lower portion of the column for slidably receiving the tray, means defining an additional opening in said column above the tray-receiving opening to permit entry therein of a marker, indicating means representing a giant at the top of the column and movable between a position within the column and an exposed position above the column, and spring biased latch means for retaining the indicating means within the column and responsive to the insertion of a marker stem in a predetermined opening in the column to release said latch means and move the indicating means to its exposed position.

3,369,812
SIMULATED GOLF GREEN TARGET INCLUDING CONCENTRIC RINGS DEFLECTABLE BY HIGH SPEED BALLS
James B. McKee, 3615 Townsend Drive, Dallas, Tex. 75229
Application Oct. 10, 1963, Ser. No. 315,253, now Patent No. 3,310,310, dated Mar. 21, 1967, which is continuation-in-part of application Ser. No. 139,665, Sept. 21, 1961. Divided and this application Dec. 2, 1966, Ser. No. 611,195
2 Claims. (Cl. 273—181)



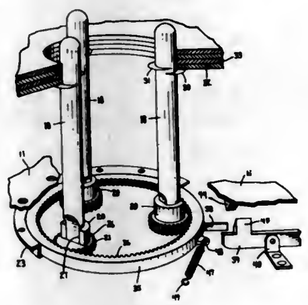
1. A golf course target green comprising: a substantially circular base sloping downwardly; a plurality of substantially concentric spaced rings supported on said base defining different scoring zones of the green; resilient mats on said base between said rings, said rings extending upwardly above said mats, and said mats having means for directing balls to peripheral lowermost areas of each scoring zone, said base and mats having aligned apertures therethrough at the lowermost portions of said zones whereby balls reaching each of said zones may move by gravity off said mats through said apertures, said mats and said rings being formed of a resilient material and said rings being so resilient that they may deflect upon engagement by balls driven at a high speed and permit said balls to move therepast.

3,369,813
APPARATUS FOR RECORDING AND REPRODUCING SOUNDS ON MAGNETIC SHEETS
Tatsuo Nagashima and Fujio Suganuma, Tokyo, Japan, assignors to TDK Electronics Company, Limited, and Toyo Music Broadcasting Company, Limited, both of Tokyo, Japan, corporations of Japan
Filed Oct. 18, 1965, Ser. No. 496,874
Claims priority, application Japan, Aug. 2, 1965, 40/46,907; Aug. 6, 1965, 40/47,815
3 Claims. (Cl. 274—4)



A transverse magnetic sheet recorder having a translating rack carrying a magnetic head and a gear eccentrically mounted on the turntable which drives the rack in response to turntable rotation. Provision is made for both automatic and manual stopping of the turntable so that the head shall always stop in a predetermined fixed position. An indicator is synchronized with the position of the head.

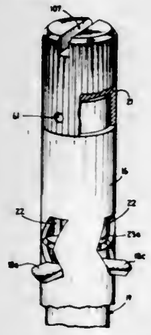
3,369,814
RECORD HANDLING MECHANISM FOR PHONOGRAPHS
Carl R. Hart, New Haven, Ind., assignor to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware
Filed July 19, 1965, Ser. No. 473,084
2 Claims. (Cl. 274—10)



A record changer for either small or large aperture records without addition or removal of parts and including a center-drop spindle for automatic changing of small

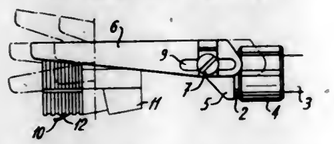
aperture records and three foldable circularly-spaced spindles for large aperture records. A turntable-mounted gear engaged with pinions serving as mounts for the three spindles and having a finger thereon engageable with a stop operable by change cycle control means to momentarily stop gear rotation as turntable rotation continues, to thereby rotate the three spaced spindles for the drop of a record. A cam on the turntable and follower on the stop member to effect release of the gear after drop of a record, and a return spring on the gear for return to original condition.

3,369,815
SPINDLE FOR RECORD CHANGER
William A. Fordeck, Garrett, and Carl R. Hart, New Haven, Ind., assignors to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware
Filed June 13, 1966, Ser. No. 557,172
28 Claims. (Cl. 274—10)



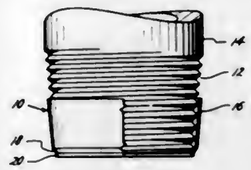
A spindle assembly including a first set of record supporting lugs projecting radially from a stationary post and a second set of lugs retracted into said post, a sleeve on said post and apertured to accommodate said lugs, the margins of the apertures being cam contoured to engage and operate the lugs of both sets during limited rotation of the sleeve on the post for dropping one record at a time from a stack, the limited rotation for record change being attainable manually or automatically. An adapter for large aperture records, and including an adapter body mountable on the spindle sleeve and an adapter sleeve mountable on the spindle post, with record support lugs operable by limited relative rotation between the adapter body and adapter sleeve caused by the relative rotation between the spindle sleeve and spindle post, to which the adapter body and adapter sleeve, respectively, are keyed.

3,369,816
PICKUP ARM
Adrien Zahner, Yverdon, Switzerland, assignor to Paillard S.A., Sainte-Croix, Switzerland, a corporation of Switzerland
Filed Feb. 24, 1965, Ser. No. 434,989
Claims priority, application Switzerland, Mar. 10,1964, 3,098/64
4 Claims. (Cl. 274—24)



A turntable pickup arm has a head that carries a pickup cell. The portion of the head that carries the pickup cell is mounted for sliding movement lengthwise of the arm and pivotal movement about a horizontal axis perpendicular to the vertical plane of symmetry of the cell, the tip of the needle being disposed in that vertical plane of symmetry.

3,369,817
PREFORMED DEFORMABLE PLASTIC SLEEVE SEAL
Charles G. Bandy, John C. Krepak, and James R. Parker, Shreveport, La., and John B. Parker, Tenaha, Tex., assignors to Parkan, Inc., Shreveport, La.
Filed Dec. 7, 1964, Ser. No. 416,338
6 Claims. (Cl. 277—11)



1. A unitary preformed sealing element of polytetrafluoroethylene material adapted to be used to seal a threaded joint including a male member having external threads and a female member having internal threads adapted to receive said threads of said male member, said sealing element comprising,

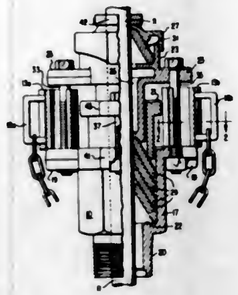
a frusto-conical deformable annular sleeve section having a size to readily fit in covering relationship to at least a portion of the threads of one of the joint members,

said sleeve section when installed on said one of said joint members having a size to be in close spaced relationship to the apices of the covered threads with each longitudinal portion of the sleeve section between adjacent apices extending in a substantially straight line, and

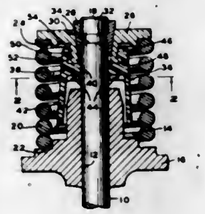
a deformable retaining section extending from said sleeve section and having a diameter approximately the same as the root diameter of the threads at the end of said one of said joint members, whereby when said joint members are connected, said retaining section initially retains said sleeve section to assure positioning of said sealing element between the threads of said joint members, and whereby said annular section is progressively stretched and deformed and the entire sealing element is disposed between the threads of said threaded joint members.

3,369,818
OIL WELL STUFFING BOX PACKING GUARD
Dick L. Hale, Covington, Okla., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 2, 1964, Ser. No. 348,381
4 Claims. (Cl. 277—105)

1. A stuffing box including means for preserving packing rings in the stuffing box upon the exertion of a longitudinally-directed compressive force which consists essentially of an elongated hollow stuffing box body, a reciprocating member slideably arranged within the body, packing means disposed within said body between the body and the reciprocating member to seal against fluid flow through said body, a sleeve ring partially within said body, means for holding said sleeve ring compressively against the packing means, a hollow follower ring surrounding and spaced from said member arranged within the sleeve ring, said follower ring having one end bearing against said packing means and containing lubrication gland means adjacent the member, cooperating flanges on the other end of said follower ring and on said body, a plurality of spaced connecting bolts extending between said cooperating flanges and serving to compress said follower ring against said packing means, cap means for said lubrication gland means secured to said follower ring, and removable, rigid members adjacent said connecting means and between said flanges to prevent excessive compressive force on said follower ring from being applied to said packing comprising a plurality of elongated, slotted cylinders placed around the bolts which bolts, when tightened, compress the flanges and thus the packing, the slots of said slotted cylinders extending vertically along the entire length of said cylinders and completely across the walls of said cylinders.

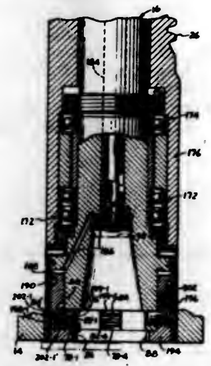


3,369,819
VALVE STEM SEAL
Arpad Sob, Dearborn Heights, Mich, assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 10, 1964, Ser. No. 417,327
1 Claim. (Cl. 277—178)



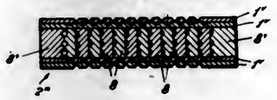
1. A valve stem seal for use in a valve train assembly having a valve spring retainer element secured by a valve lock element to a valve stem slidable in a valve guide element, said seal comprising, an elastomeric member having a radially extending base portion sealingly surrounding and engaging said stem for movement therewith and a skirt portion radially spaced from and overlapping said guide element and extending axially in one direction from one side of said base portion, and means providing an interlocking engagement between said member and one of said elements, said means comprising an annular flange integral with and extending axially in the opposite direction from the other side of said base portion and having a hook-like portion, said hook-like portion having flat radial and axial surfaces respectively engaging corresponding surfaces of a matingly shaped portion of one of said elements.

3,369,820
POWER CHUCK
Robert A. Lehmkuhl, Appleton, and Robert E. Reed, Kaukauna, Wis., assignors to Giddings & Lewis, Inc., a corporation of Wisconsin
Original application Sept. 19, 1962, Ser. No. 224,626. Divided and this application Jan. 28, 1965, Ser. No. 428,642
7 Claims. (Cl. 279—4)



5. In a machine tool spindle having a socket with a tapered section, the combination of: a tool adapter including a tapered shank adapted to be received in said socket, a tool carrying portion adjacent the larger end of said shank, an annular radially extending ridge extending peripherally around the larger end of said shank, said ridge presenting an annular camming surface, inclined to the axis of said shank, facing toward said tool carrying portion of said tool adapter; and a power chuck in said spindle comprising a plurality of radially movable jaws mounted adjacent the mouth of said socket and between the latter and said tapered section of said socket, each of said jaws having a shoulder facing toward the socket mouth for engaging the ridge of a tool adapter as the ridge is moved past said shoulder and urging the jaws outwardly, and power means for moving said jaws radially inwardly, each of said jaws further having an arcuate camming surface, inclined to the spindle axis, facing away from the socket mouth and effective upon radially inward movement of said jaws by said power means after the ridge of a tool adapter is positioned past said shoulder to engage a segmental portion of said annular camming surface on said ridge and thereby develop an axial force urging the tapered shank into seated engagement with the tapered section of said socket.

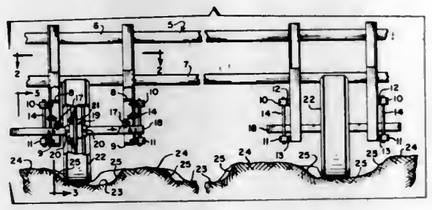
3,369,821
CORE UNIT FOR SKIS
Christine Weber, Innsbruck, Austria, assignor to Establishment Osheko, Schaanwalt, Mauren, Liechtenstein
Filed June 8, 1965, Ser. No. 462,270
Claims priority, application Austria, June 10, 1964, A 4,965/64
18 Claims. (Cl. 280—11.13)



A core unit for laminated skis is disclosed as comprising a plurality of relatively thin and elongated prefabricated strips cut from extruded lengths of plastic

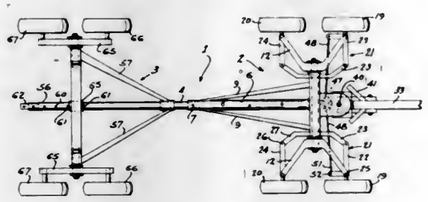
composition material. These strips are laminated together in superposed relation to form the unit, and each of the strips has, as prefabricated, discontinuities therein to reduce the weight of the unit. The discontinuities are preferably in the form of alternating ribs and grooves extending longitudinally throughout the complete length of each strip.

3,369,822
WHEEL MOUNT FOR AGRICULTURAL MACHINES
Louis J. Prenner, Milton Prenner, Andrew B. Marello, and George I. Kleger, all of P. O. Box 1446, Pompano Beach, Fla. 33061
Filed Jan. 3, 1966, Ser. No. 528,326
4 Claims. (Cl. 280—80)



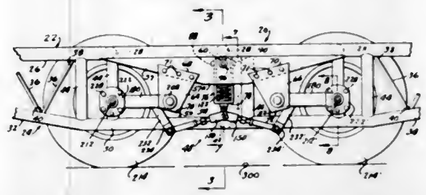
Wheel mounting for agricultural machines to permit the wheels to be maintained in furrows. The nonrotatable axle or shaft which carries a wheel is mounted for lateral sliding movement in auxiliary frame members of the agricultural machine.

3,369,823
TRAILER
Daniel Tomen, 34 Devon Road, Chatham, Ontario, Canada
Filed May 13, 1966, Ser. No. 549,916
Claims priority, application Canada, Apr. 1, 1966, 957,168
4 Claims. (Cl. 280—103)



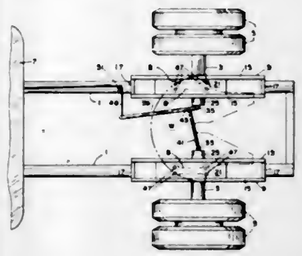
1. A trailer comprising:
(a) a frame having front and rear cross-bars;
(b) a tow bar for connecting the trailer to a towing vehicle, said tow bar being pivotally connected to said frame for pivoting about a first vertical axis;
(c) at least one rear wheel mounted on each end of said rear cross-bar for rotation about a horizontal axis;
(d) a yoke pivotally mounted at its centre on each end of said front cross-bar for pivoting about a horizontal axis defined by said cross-bar;
(e) a front wheel mounted for rotation about a horizontal axis on each free end of said yoke, said wheel being mounted on said yoke to pivot about a further vertical axis; and
(f) steering means interconnecting said tow bar and each said front wheel whereby pivoting of said tow bar about said first vertical axis produces a corresponding pivoting of each said front wheel about its further vertical axis for steering the trailer.

3,369,824
BELL-CRANK SPRING-SUSPENSION SYSTEM FOR WHEELED VEHICLES
Harry J. Bunch, 1108 Clay Ave., Louisville, Ky. 40219
Filed May 3, 1966, Ser. No. 547,202
7 Claims. (Cl. 280—104.5)



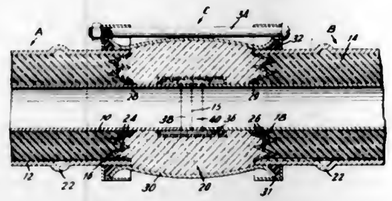
1. A suspension system for land vehicles having a chassis provided with a pair of opposed sides and ground-engaging means, said chassis being normally positioned substantially parallel to a horizontal ground plane and said ground-engaging means being disposed, respectively, on opposite sides of said chassis, said suspension system including means extending and connected between said chassis at each side thereof and said ground-engaging means, said last-named means comprising a pair of elongated members for each side of said chassis, each of said members having a pair of opposed ends, means connecting one end of each of said members with, respectively, one of said ground-engaging means, the other ends of said members converging toward one another and being pivotally connected on the immediately-adjacent side of said chassis, an inclined lever for each of said members, each of said levers having an end thereof fixedly connected to its associated member with the other ends of said levers at each side of said chassis extending toward one another and into proximity with respect to one another by linkage means, and substantially vertically disposed resilient means pivotally connected at one end with each pair of said proximate ends through said linkage means and being pivotally connected at the other end to the adjacent side of said chassis for swinging movement about a horizontal pivot axis, said resilient means constantly biasing said one end of said members for swinging movement in contra directions.

3,369,825
ADJUSTABLE FIFTH WHEEL MOUNT
Lloyd J. Wolf, 2425 Irving Blvd., Dallas, Tex. 75207
Filed Apr. 27, 1966, Ser. No. 545,599
4 Claims. (Cl. 280—407)



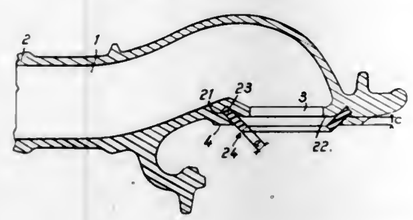
An adjustable mount for a fifth wheel in which the fifth wheel trunnion blocks are supported on plates toothed along one of their sides and slidably mounted in upwardly open channel shaped guide members with inwardly directed flanges on their sides completely overlying the toothed margin of the support plates, and a completely enclosed transversely movable locking plunger mounted on the side of the guide members adjacent the toothed side of the support plate with only its operating plunger protruding from the enclosure, which also encloses the operating spring.

3,369,826
CRYOGENIC FLUID TRANSFER CONDUIT
Lawrence N. Boosey, Ralph A. Trentham, and John H. Beckman, Indianapolis, Ind., assignors to Union Carbide Corporation, a corporation of New York
Filed Aug. 22, 1961, Ser. No. 133,073
2 Claims. (Cl. 285—47)



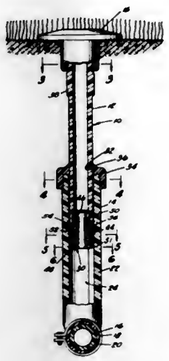
1. A vacuum-insulated double-walled fluid transfer conduit, comprising an inner conduit for such fluid; a larger outer jacket concentrically spaced around said inner conduit so as to form an evacuable annular insulation space therebetween, the continuity of the inner and outer surfaces of the outer jacket being disrupted to form a plurality of annular anticlinal-like protrusions which provide longitudinal flexibility spaced apart by nondisrupted portions of such surfaces which provide lateral stiffness, such protrusions constituting a minor portion of such surfaces relative to the nondisrupted portions; insulating material substantially filling the insulating space; means for gas tightly joining the ends of said outer jacket to said inner conduit, at least one such joining means comprising intersecting oppositely oriented frusto-conical annular surfaces formed of separate frusto-conical annular rings gas-tightly joined together in base-to-apex end fashion, such joining means in combination with said outer jacket and said inner conduit being constructed to maintain a pressure below about 30 microns of mercury within said insulation space.

3,369,827
HOSE COUPLING FOR BRAKE PIPE OF RAILWAY VEHICLES
Andre Rouillon, Villemomble, France, assignor to Compagnie des Freins et Signaux Westinghouse, Paris, France
Filed Feb. 9, 1966, Ser. No. 526,278
Claims priority, application France, Feb. 16, 1965, 5,770
3 Claims. (Cl. 285—68)



A hose coupling head including a conical gasket disposed in a groove of corresponding shape, the gasket being flexible against a ledge recessed relative to the face portion of the head to facilitate a tight seal with a similar gasket in a similar head, and to facilitate pull-apart release of the heads without dislodging the gasket.

3,369,828
ADJUSTABLE RISER FOR SPRINKLER SYSTEMS
William J. Trickey, East Lansing, Mich., assignor to Mahagony Corporation, Williamston, Mich., a corporation of Michigan
Filed May 3, 1965, Ser. No. 452,695
2 Claims. (Cl. 285—119)

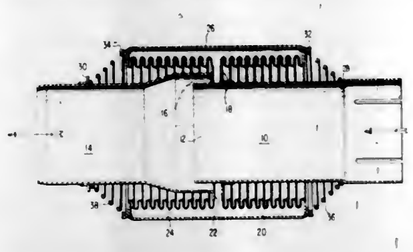


1. A riser for use in an underground sprinkler system comprising a lower tubular riser section having an open upper end, an upper tubular riser section telescoped in said lower section for axial and rotational movement, means on the upper end of said lower section in sealing engagement with the external surface of the telescoped portion of said upper section, and a unitary securing and sealing assembly means for sealing said upper section in said lower section and for interengaging said upper and lower sections to restrain relative axial movement between said sections comprising a hollow post having a lower radial flange, said flange being keyed in said lower section for axial and nonrotatable movement therewith, a resilient packing ring disposed on said post above said flange, said ring fitting closely and slidably in said lower section and in frictional contact therewith and being radially expansible in response to axial compression, external thread means on the upper end of said post above said ring, the outer diameter of said post between said threads and said flange being less than either the outer diameter of the threaded portion or the outer diameter of said flange, and a retaining ring having an inner diameter less than the outer diameter of said threads or said flange mounted on said post above said packing ring and below said thread means for retaining said packing ring on said post, the lower end of said upper section having internal thread means mating with said thread means of said post and a radial shoulder on the lower end of said upper section engageable with said retaining ring when said upper section is threadedly engaged with said post to move said retaining ring on said post against said packing ring and said packing ring against said lower radial flange and axially compress said packing ring thereby radially expanding said packing ring into sealing engagement with said post and said lower tubular riser section.

3,369,829
FLEXIBLE CONNECTOR FOR FLUID CONDUIT SYSTEMS
William C. N. Hopkins, P.O. Box 551, Walnut Creek, Calif. 94597
Filed Oct. 15, 1965, Ser. No. 496,322
6 Claims. (Cl. 285—227)

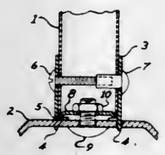
1. A flexible connector comprising an outlet conduit having an inlet end, an inlet conduit having an outlet end disposed within said inlet end of said outlet conduit, said inlet end surrounding said outlet end in spaced relation

to enable both telescoping and angulation of said conduits relative to each other, a tubular bellows surrounding one of said conduits in spaced relation thereto, means securing one end of said bellows to the end portion of said surrounded conduit, a tubular shield surrounding said bellows in spaced relation thereto, means connecting one end of said shield to the other of said conduits, means



securing together the other ends of said bellows and shield, and a coiled spring surrounding said one conduit and having one end anchored thereto, the other end of said spring being anchored to the bellows connected end of said shield and serving to center and align said conduits, said spring in frusto-conical in configuration with its smaller diameter end surrounding said conduit and its larger diameter end engaging said shield.

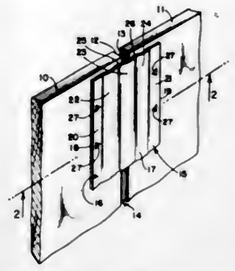
3,369,830
TUBULAR HANDLE CONNECTION
Carl E. Meyerhoefer, Little Neck, N.Y., assignor to The Regina Corporation, Rahway, N.J., a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 606,185
2 Claims. (Cl. 287—20)



This invention relates to mounting a handle to the tool holding head of a floor care tool such as a brush or a mop. A split sleeve is formed with a plurality of tabs on one end; some of the tabs are bent radially inwardly of the sleeve. The other tabs extend axially into mating holes in the tool head. A circular spring washer rests on the inwardly facing tabs and is through bolted to the tool head. The handle is held by a transverse bolt through the sleeve.

3,369,831
COVER STRIP IN EXPANSION AND CONTRACTION JOINTS
James R. McKinnie, 3211 McManus Ave., Los Angeles, Calif. 90034
Filed Jan. 21, 1966, Ser. No. 522,171
2 Claims. (Cl. 287—20.92)

An elongated strip for covering joints in adjacent panels to provide a neat appearance and yet permit expansion and contraction of the panels to take place. The strip includes flat longitudinal marginal portions between which there are provided rib portions in an undulating manner to provide the desired flexibility. The rib portions have large radii of curvature relative to the distance the ribs extend above the plane of the panels so that a relatively smooth external appearance is provided. In addition, apex portions on the under surface of the strip lie generally in the plane of the flat margin portions of the strip so that no portions of the strip itself extend into the joint between

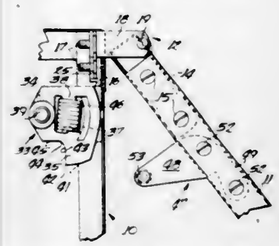


the adjacent panels. The strip is secured in place by suitable fastening means in the flat longitudinal marginal portions of the strip.

ERRATUM

For Class 287—189.36 see: Patent No. 3,370,301

3,369,832
DOOR CATCH ASSEMBLY
Edward M. Webster, Rockford, Ill., assignor to National Lock Co., Rockford, Ill., a corporation of Delaware
Filed Jan. 24, 1966, Ser. No. 522,466
1 Claim. (Cl. 292—78)

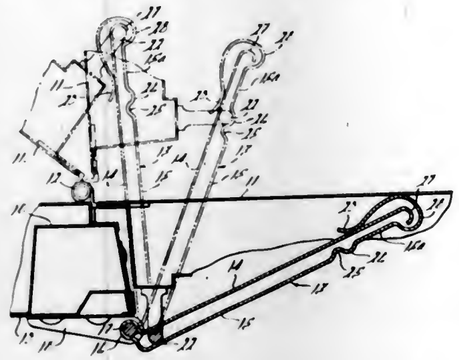


A catch assembly utilized adjacent the hinged edge of a cabinet door or for sliding doors or drawers providing a positive action catch having a mounting bracket on the enclosure perpendicular to the plane of the door with a central elongated cutout having opposed end tabs and an opening adjacent the edge of the bracket removed from the door. A generally rectangular pivotally mounted member is disposed parallel and aligned with the bracket and has a pivot pin extending into the opening of the bracket and an aligned elongated cutout with end tabs; the aligned cutouts receiving a compression spring. The pivotally mounted member also has a lateral projection forming a retaining hook which cooperates with a roller or a strike mounted on the movable door or drawer.

3,369,833
DOOR CHECK
Arthur L. Schaldenbrand, Farmington, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 14, 1966, Ser. No. 579,306
9 Claims. (Cl. 292—268)

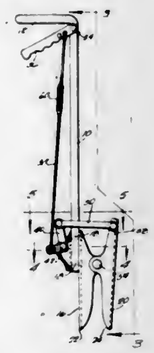
A door check mechanism for checking the opening movement of doors, such as the cargo doors of a panel truck or other vehicle bodies, by means of an elongated pivoted link comprising substantially parallel members,

one end of which is pivoted on the vehicle body, with a crossbar mounted on the door and interposed between the parallel members for movement therebetween. The link opposite the pivoted end has one of the parallel members terminating in an inwardly turned hook-like portions, and the other parallel member terminating in an enlarged loop encompassing the hook-like portion and



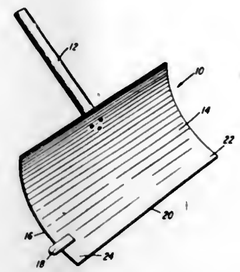
overlying the other parallel member on its outer side. One of the parallel members has a detent pocket intermediate the ends of the members to receive the crossbar to hold it in a first predetermined checked position, and when the crossbar is moved beyond this position the hook-like portion provides a terminal checking position to hold the door at its maximum displacement relative to the supporting structure on the vehicle body.

3,369,834
TRANSPLANTER DEVICE
Woodrow F. Miles, 3216 Lyles St., Columbia, S.C. 29201
Filed June 8, 1967, Ser. No. 644,661
3 Claims. (Cl. 294—50.9)



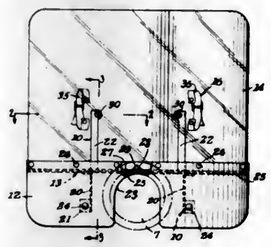
A transplanter device having an extended handle with a handle arm at one end, a semicircular scoop at the other pivotally related to a mating scooper shell, a rocker arm mounted on the back of the fixed scooper shell and being driven by a turnbuckle linkage means attached to a pivoted handle means, and the other end of the rocker arm adapted to operably move the mating scooper shell, and in which there is also provided a fixedly attached foot pedal on the upper free end of the mating scooper shell. A biasing spring is provided to hold the rocker arm in a position in order that the pivoted handle and the scooper shells are in a normally opened position.

3,369,835
SHOVEL
Rinaldo G. Marino, Corona, N.Y., assignor of twenty percent to Leopold Kaplan, twenty percent to Robert M. Cavello, and ten percent to Robert C. Cummings, all of New York, N.Y.
Filed Sept. 13, 1965, Ser. No. 486,671
1 Claim. (Cl. 294—54)



1. In a shovel for removing material such as snow and the like having (a) a handle and (b) a blade, said handle attached to one side of said blade, said blade having a concave cross-sectional configuration when viewed in a plane normal to the leading edge of said blade, the improvement which comprises a laterally projecting essentially blunt metal tab securely affixed to one of the lateral sides of said blade adjacent to the leading edge of said blade, said tab adapted to be struck with a sharp blow to thereby cause snow and the like adhering to said blade to be removed therefrom.

3,369,836
REMOVABLE PROTECTIVE SHIELD FOR MOTORCYCLES
Gerald E. Haycock, Monterey Park, Calif. (P.O. Box 615, Alhambra, Calif. 91802), and Richard A. Duffy, P.O. Box 615, Alhambra, Calif. 91802
Filed Aug. 1, 1966, Ser. No. 569,141
6 Claims. (Cl. 296—78.1)



1. A shield for motorcycles and similar vehicles comprising:

(a) a lower transversely curved shield provided with an upwardly extending channel,

(b) bracket means affixed to the shield and adapted to be mounted on the steerable front fork of said vehicle with the convex face of the shield facing forwardly, said bracket means being provided with vertical extensions,

(c) a transparent, bullet- and shatter-proof upper shield with its lower edge disposed in said channel and forming an upper extension of the lower shield, and

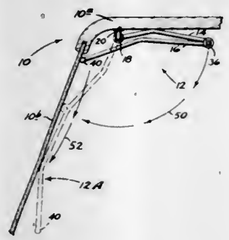
(d) means to releasably connect the upper shield to the mentioned extensions to retain the upper shield releasably connected to the lower shield.

3,369,837
VEHICLE VISOR DEVICE
Ardeth T. Metier, 409 Fourth St., SW., Spencer, Iowa 51301
Filed Nov. 12, 1965, Ser. No. 507,459
4 Claims. (Cl. 296—97)



A vertically and horizontally adjustable extension for a visor comprising a flat member adapted to be magnetically affixed to the visor. The visor may have a plurality of magnets embedded within the visor or a magnet carrying support may be detachably secured to the visor.

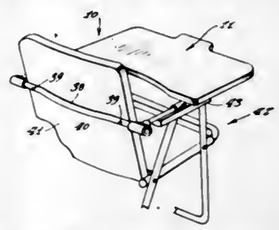
3,369,838
SAFETY VISOR ASSEMBLY
Karl M. Nelson, 7834 SW. Capitol Hwy., Portland, Oreg. 97219
Filed Aug. 15, 1966, Ser. No. 572,514
7 Claims. (Cl. 296—97)



1. A safety visor assembly in combination with a vehicle including a vehicle body and windshield, which assembly has a folded up state when stored and an unfolded state where the assembly provides a protective shield behind the windshield of the vehicle on sudden deceleration of the vehicle, said safety visor assembly comprising, with the visor assembly in its folded up state; an upper visor section, and first pivot means mounted adjacent a forward edge thereof mounting the upper visor section on the vehicle body adjacent the top of the windshield accommodating pivotal movement of the section about a substantially horizontal axis extending transversely of the vehicle; a lower visor section, and second pivot means pivotally interconnecting the lower visor section and upper visor section; said lower visor section having a forward edge free to swing on relative movement between the sections; said second pivot means interconnecting the visor sections being below said first pivot means and said visor sections having masses distributed with relation to the first and second pivot means so as to cause unfolding and dropping of the visor section on vehicle deceleration.

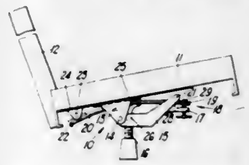
3,369,839
TRAY ATTACHABLE TO CHAIR OF AN INVALID
George J. Telarico, 187 Genesee St., Geneva, N.Y. 14456
Filed Sept. 6, 1966, Ser. No. 577,242
3 Claims. (Cl. 297—150)

A tray assembly for an invalid which can be removably mounted on a chair and wherein the tray can be adjusted to various positions to provide maximum convenience for



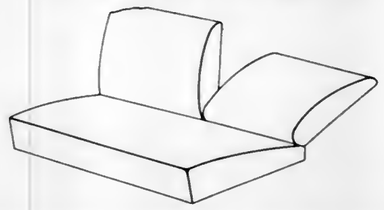
usage and for the user to mount and leave the chair without removing the tray.

3,369,840
CHAIR TILTING MECHANISM
Ronald Dufton, Bushey Heath, England, assignor to Dare-Inglis Products Limited, Harrow, Middlesex, England, a British company
Filed July 22, 1966, Ser. No. 567,209
Claims priority, application Great Britain, July 23, 1965, 31,603/65
7 Claims. (Cl. 297—303)



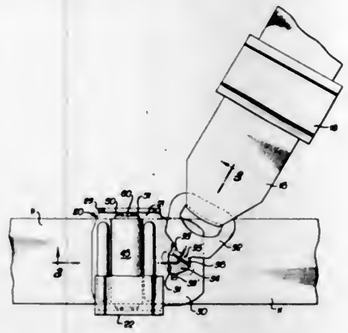
A chair tilting mechanism comprising a base portion, a seat portion, a back-rest portion pivotally connected to the base portion, an elongated leaf spring mounted transversely of the pivot axis between the base and back-rest portions to resist pivotal movement therebetween; a tension adjustment device connecting the forward end of the leaf spring to the base portion, the rearward end of the leaf spring engaging the back-rest portion; an abutment pivotally mounted on the base portion engaging the leaf spring substantially at the center thereof to effect bowing of the leaf spring.

3,369,841
POSITIONING MECHANISM FOR A RECLINING SEAT
Russell G. Heyl, Jr., Birmingham, Mich., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Dec. 10, 1964, Ser. No. 417,462
16 Claims. (Cl. 297—361)



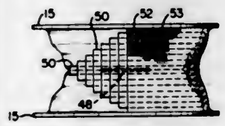
A positioning mechanism for controlling the reclining of a seat assembly and including a male threaded element, a female threaded element threadedly engaging the male element for rotation thereon and consequent axial movement therealong in response to a force urging such movement, the female element having notches thereabout and a control means for selectively engaging the notches of the nut for preventing rotation of the female element to prevent relative axial movement between the male element and the female element.

3,369,842
ADAPTER DEVICE FOR RELEASABLE ATTACHMENT OF A SHOULDER STRAP TO A LAP-TYPE SAFETY BELT
John H. Adams, Rochester, and Louis Romanzi, Jr., Le Roy, N.Y., assignors to American Safety Equipment Corporation, New York, N.Y., a corporation of New York
Filed Jan. 17, 1967, Ser. No. 609,811
14 Claims. (Cl. 297—389)



An adapter device to be immovably assembed to a lap-type safely belt strap for releasably attaching a shoulder harness strap to the lap belt to provide a combination shoulder harness and lap belt safely restraint apparatus for passengers in moving vehicles.

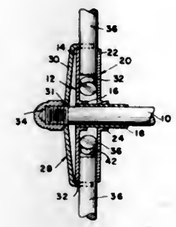
3,369,843
LAMINATED WHEEL AND METHOD OF MANUFACTURE
Philip E. Prew, 536 Gilpin St., Denver, Colo. 80218
Filed July 16, 1965, Ser. No. 472,415
14 Claims. (Cl. 301—63)



1. A laminated vehicle wheel structure comprising a relatively flat, axle-receiving hub section and an outer, laterally extending rim section, said hub and outer rim sections being integrally formed of a plurality of radially extending triangular plies of reinforced synthetic resin material diverging outwardly from said hub section in circumferentially overlapping relation to one another, and said plies being united to form a rigid inextensible wheel structure.

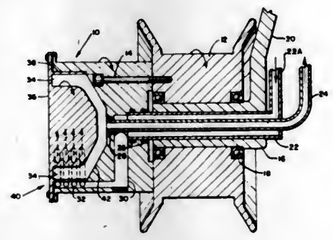
3,369,844
SPOKED WHEEL AND RESILIENT TIRE THEREFOR
Earl F. Hamilton, Boca Raton, Fla., and Edwin K. Moore, Columbus, Ind., assignors to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Feb. 2, 1966, Ser. No. 524,552
2 Claims. (Cl. 301—84)

A wheel having a hub assembly formed from a pair of axially spaced annular flanges mountable on an axle and between which the inner ends of a plurality of spokes are received. A cover is also mountable on said axle and extends over one of said flanges with its outer end received



between the spokes. A rim is connected to the outer ends of the spokes and a tire is bindingly mounted thereon.

3,369,845
ANTI-SKID BRAKE CONTROL
John A. Leonard, Windsor Locks, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Aug. 2, 1966, Ser. No. 569,744
15 Claims. (Cl. 303—21)

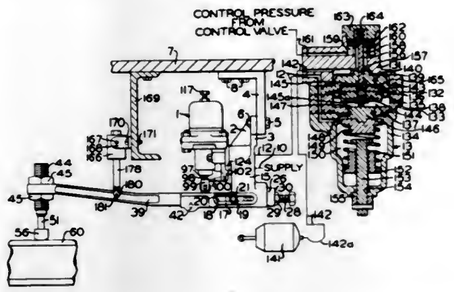


1. An anti-skid brake control system for a vehicle comprising:
- means operatively connected to a first wheel on the vehicle for generating a first stream of fluid, the pressure of said first fluid being commensurate with the rotational speed of said first side wheel;
- means operatively connected to a second wheel on the vehicle for generating a second stream of fluid, the pressure of said second fluid being commensurate with the rotational speed of said second wheel;
- means responsive to said first and second fluid streams for generating an output signal in response to a pressure difference between said first and second signals, said output signal being indicative of which of said wheels has the lesser rotational speed; and
- means responsive to said output signal for adjusting the braking force applied to the wheel which has the lesser rotational speed, said adjusting means causing a decrease in said braking force whereby said wheels will rotate at the same speed.

3,369,846
VARIABLE LOAD BRAKE CONTROL APPARATUS
Daniel G. Scott, Westmoreland, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed May 25, 1966, Ser. No. 552,963
8 Claims. (Cl. 303—22)

A railway car load-sensing valve mechanism for interposition between a spring-supported (or sprung) part and

an unsprung part of a car truck, the constant operation of which mechanism always provides a supply of fluid pressure, the value of which is in accordance with the



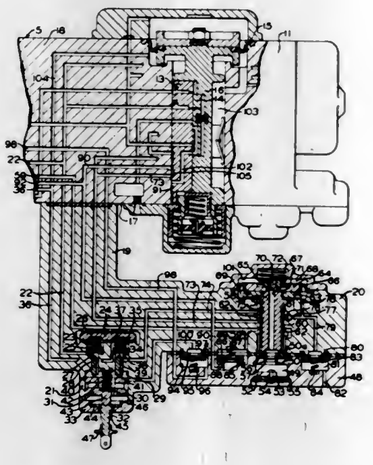
weight of the load carried by the spring-supported part, to a limiting valve device which is adjusted thereby to operate to correspondingly limit the braking force on the car.

3,369,847

FLUID PRESSURE BRAKE CONTROL APPARATUS

Howard I. Lee, Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

Filed Apr. 15, 1966, Ser. No. 542,878
3 Claims. (Cl. 303—70)



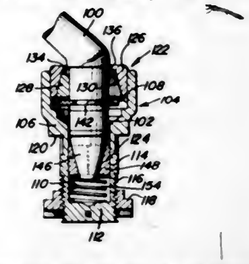
A brake cylinder pressure release valve device, for interposition in a communication between a brake control valve device and a brake cylinder, the operation of which under manual control, while a brake application is in effect due to reduction of the pressure in the brake pipe from a normal charged value, effects release of fluid under pressure from the brake cylinder to atmosphere and simultaneously effects reduction of the pressure in the auxiliary reservoir to a chosen value less than the minimum normal charged pressure in the brake pipe, to assure restoration of the brake control valve device to its brake release position upon recharging of the brake pipe to a pressure at least equal to the minimum normal charged pressure.

3,369,848

ANCHOR END PIVOTAL CONNECTION FOR IDLER ARMS

Theodore C. Gerner, 1800 S. Broadway, Oklahoma City, Okla. 73109

Continuation-in-part of application Ser. No. 246,631, Dec. 21, 1962. This application July 8, 1966, Ser. No. 573,730
6 Claims. (Cl. 308—71)



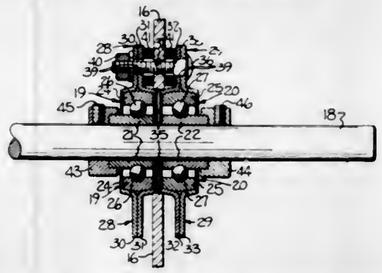
An idler arm end bracket for use in the steering linkage of an automative vehicle including a housing with a female bore therethrough and a male pin extending into the bore and being journaled in relation thereto by spaced wedge means having bearing contact with the pin and wedging contact with the bore. Spring means is associated with the wedge means to automatically compensate for and eliminate looseness caused by wear, imprecision and shock. The spring means engages one of the wedge means and serves to exert an axial force for retaining the other wedge means in biased engagement between the bore and pin.

3,369,849

ROLLING COULTER STABILIZER MOUNTING ARRANGEMENT

John C. Hatcher, Charlotte, N.C., assignor to Cole Manufacturing Company, Charlotte, N.C., a corporation of North Carolina

Filed Mar. 29, 1966, Ser. No. 538,268
3 Claims. (Cl. 308—181)



A rolling coulter stabilizer mounting arrangement wherein first and second bearings including spherical segment surfaces are spaced along a shaft defining an axis of rotation and corresponding first and second pairs of flange members including spherical surfaces are secured in mating engagement with the spherical surfaces of the bearings, to facilitate positioning perpendicular to the axis defined by the shaft of a coulter disc secured between the pairs of flange members.

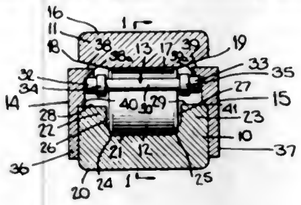
3,369,850

QUILL TYPE ROLLER BEARING

Arthur S. Irwin, Jamestown, N.Y., assignor to TRW Inc., Euclid, Ohio, a corporation of Ohio

Filed May 10, 1966, Ser. No. 549,002
9 Claims. (Cl. 308—206)

1. A roller bearing comprising inner and outer rings with rollers between said rings and having radially extending side surfaces, quills between said rollers having intermediate surfaces engaging said rollers and end surfaces having larger diameters than said intermediate surfaces, side plates mounted on opposite sides of said inner ring and having races for engagement by said end surfaces, said side plates having radially extending side surfaces



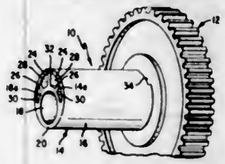
facing the side surfaces of said rollers and axially spaced therefrom to form annular spaces therebetween and said quills having radially extending rims of larger diameter than said end surfaces and extending into said spaces for free setting of said rims at a diameter to provide proper side contacting areas for maintenance of the position of said quills.

3,369,851

EXPANDABLE MOLDED PLASTIC JOURNAL

Donald S. Perry and James A. Purdy, Fayetteville, N.Y., assignors to Eltra Corporation, Brooklyn, N.Y., a corporation of New York

Filed Oct. 15, 1965, Ser. No. 496,300
7 Claims. (Cl. 308—237)



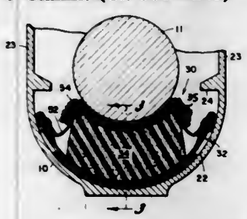
A rotatable plastic journal capable of maintaining a maximum dimension of an outer bearing surface under varying temperature conditions by providing longitudinal internal cavities oppositely disposed and communicating with a longitudinal opening with an integral longitudinal tower element projecting into the opening to limit movement of the cavity walls into the opening.

3,369,852

JOURNAL LUBRICATOR

Arthur F. Emmerson, 425 Bell Ave., Altoona, Pa. 16602, and Clarkson T. Hunt, 247 E. Orange St., Lancaster, Pa. 17602

Filed Dec. 6, 1965, Ser. No. 511,665
8 Claims. (Cl. 308—243)



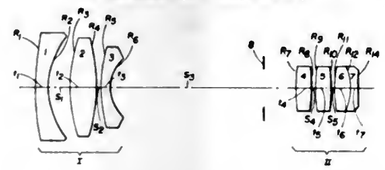
A journal box lubricator is provided by an oil-absorbent fabric folded to form two inwardly open pockets and sewed to a harness which holds it in the bottom of a railroad journal box. Cores of resilient material are inserted in the pockets and serve both to urge the top stretches of the fabric against the journal surfaces and to form absorbent reservoirs for a supply of oil in the bottom of the journal box.

3,369,853

REVERSED TELEPHOTO OBJECTIVE IN WHICH THE FRONT DIVERGENT MEMBER HAS THREE SPACED COMPONENTS

Karl Tolle, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed July 1, 1964, Ser. No. 379,449
7 Claims. (Cl. 350—214)



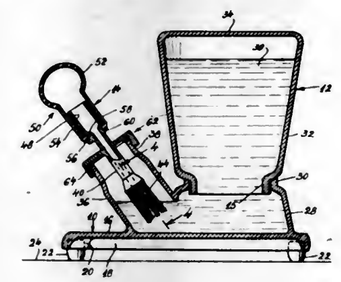
A photographic objective of the reversed telephoto type is disclosed consisting of a front divergent member adapted for use with one of a plurality of rear convergent members. The front divergent member comprises in spaced alignment a front negative meniscus element concave to the rear, a middle positive element and a rear negative meniscus element concave to the rear. The rear convergent members each comprise three positive elements in spaced alignment and a negative meniscus element concave to the front, the negative element being positioned in alignment with and to the rear of the three positive elements of the rear member. The two rearmost elements of the rear member may be in surface contact or separated by an air space.

3,369,854

CONTAINER WITH APPLICATOR AND SUPPORT THEREFOR

Jack Ferris, 130—40 227th St., Laurelton, N.Y. 11413

Filed Mar. 17, 1966, Ser. No. 535,165
1 Claim. (Cl. 401—119)



A combined liquid container and applicator for the contents of the container. The container has a discharge opening at its bottom end leading to a storage chamber for the discharged liquid. The applicator device includes a brush with a tubular shank supported on the storage chamber, the brush adapted to be immersed in the liquid in the storage chamber. The shank leads to the bristles of the brush and there is a recess and bulb on the other end of the shank adapted to suck up the contents of the chamber.

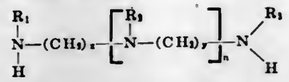
3,369,855
LEVELLING SULFUR AND VAT DYES WITH LOW MOLECULAR WEIGHT POLYAMIDES

Bjarne Hartmark, Hambach, Weinstrasse, Hans-Gerhard Reppe, Ludwigshafen (Rhine), Rudolf Rokohl, Ludwigshafen-Oppau (Rhine), and Matthias Seefelder, Ludwigshafen-Gartenstadt (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Oct. 24, 1961, Ser. No. 147,148
Claims priority, application Germany, Oct. 29, 1960, B 59,915
8 Claims. (Cl. 8—34)

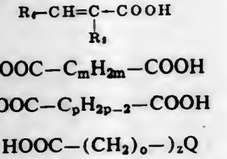
1. In a process for dyeing textile materials with vat and sulfur dyes the improvement comprising leveling the dyeings by contacting the dyed textile materials in an alkaline vat with a water-soluble polyamide having a mean molecular weight between 600 and 1500, said polyamide being derived from

(a) a polyamine of the general formula

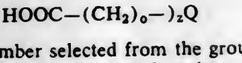


where R_1 and R_3 are members selected from the group consisting of hydrogen, alkyl with 1 to 4 carbon atoms and hydroxyalkyl with 1 to 4 carbon atoms and, when x is 2 and n is 0, may together represent an ethylene radical; R_2 is a member selected from the group consisting of hydrogen, alkyl with 1 to 4 carbon atoms and hydroxyalkyl with 1 to 4 carbon atoms; each of x and y is one of the integers 1 to 6, n being one of the integers 0 to 20 and the sum of x and n is at least 2; and from

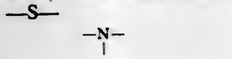
(b) a member selected from the group consisting of acids of the general formulae



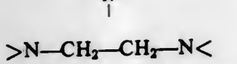
and



where R_4 is a member selected from the group consisting of hydrogen and alkyl with 1 to 3 carbon atoms; R_5 is a member selected from the group consisting of hydrogen and methyl, Q is a member selected from the group consisting of —O—, —S—



and



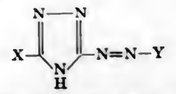
m is one of the integers 1 to 6; p is one of the integers 2 to 6; o is one of the integers 1 to 3, and z represents the number of valencies of Q, and from the acid amides and acid esters of the above polycarboxylic acids.

3,369,856
DYEING POLYPROPYLENE TEXTILES WITH A TRIAZOYLAZO-(N,N-SUBSTITUTED) ANILINE

Johannes Dehnert and Walter Grosch, Ludwigshafen (Rhine), and Herbert Leube, Limburgerhof, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Apr. 15, 1965, Ser. No. 448,233
Claims priority, application Germany, Apr. 20, 1964, B 76,409
9 Claims. (Cl. 8—42)

Process of dyeing an isotactic polypropylene textile material which contains a metal compound capable of forming a chelate complex with an aqueous dispersion of a dye of the formula



where X is hydrogen, carboxy, alkyl or aryl, Y is a coupling component of a N,N-disubstituted aniline which is free from water-solubilizing groups and from complex-forming groups in ortho-position to the azo group. The resulting dyed products exhibit good fastness properties.

3,369,857
MODIFICATION OF CELLULOSIC TEXTILES WITH ESSENTIALLY UREA-FREE COMPOSITIONS COMPRISING N,N'-BIS-(METHOXYMETHYL)URON

Linton A. Fluck and Philip B. Roth, Somerville, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Original application May 21, 1962, Ser. No. 196,499. Divided and this application July 26, 1966, Ser. No. 567,812
3 Claims. (Cl. 8—116.2)

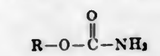
1. A process for imparting a crease resistant finish to cellulosic textile materials characterized by improved resistance to degradation due to chlorine retention which comprises applying a composition consisting essentially of from about 50 to about 90 parts by weight of a N,N'-bis-(methoxymethyl)uron and from about 45 to about 10 parts by weight of formaldehyde and a catalyst therefor, and thereafter curing said composition on the material by the application of heat.

3,369,858
MAGNESIUM FLUOBORATE AS CELLULOSE-CARBAMATE REACTION CATALYST

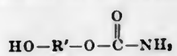
George H. Lourigan, New City, and Carol A. Dupraz, Corona, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 30, 1966, Ser. No. 583,462
12 Claims. (Cl. 8—116.3)

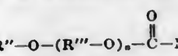
1. In a process for treating a cellulosic textile fabric to improve crease resistance and impart wash and wear properties thereto by applying to said fabric a finishing agent produced by reacting formaldehyde with an aliphatic monocarbamate selected from the group consisting of alkyl carbamates of the formula:



wherein R is an alkyl group of 1 to 4 carbon atoms, hydroxyalkyl carbamates of the formula:



wherein R' is an alkylene radical of 2 to 4 carbon atoms, and alkoxyalkyl carbamates of the formula:

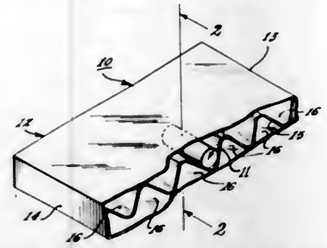


wherein R'' is an alkyl group of 1 to 8 carbon atoms, R''' is an alkylene radical of 2 to 3 carbon atoms, and n is an integer having a value of from 1 to 10, and subsequently curing said finishing agent by the application of heat, the improvement comprising effecting said curing in contact with a catalytically effective amount of magnesium fluoborate.

3,369,859
PACKAGING SYSTEM

Edward B. Cornelius, Swarthmore, Pa., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

Filed Aug. 23, 1963, Ser. No. 304,090
1 Claim. (Cl. 21—61)



In packages in which trace amounts of oxygen are removed by catalytic combination with hydrogen (present as a minor constituent in the inert packaging gas), important advantages are achieved by using as the catalyst a cylindrical pellet of refractory oxide impregnated from an aqueous solution to provide from 0.1 to 1% palladium or platinum. Shielding means prevent the contents of the package from contacting the pellet.

3,369,860
PROCESS FOR RECOVERING BERYLLIUM VALUES

Joseph P. Surls, Jr., Walnut Creek, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 24, 1963, Ser. No. 318,523
12 Claims. (Cl. 23—18)

1. In a process for recovering beryllium from beryllium source materials by reacting said source material with a base, digesting the residual mass with a mineral acid and recovering dissolved beryllium values the improvement which comprises;

(a) admixing a beryllium source material with a base selected from the group consisting of alkali metal oxides, alkali metal hydroxides, mixtures of alkaline earth metal hydroxides and alkaline earth oxides and mixtures of alkali metal hydroxides and alkali metal carbonates, the ratio of said base to said beryllium source material being from about 1 to about 2, expressed as the ratio of NaOH equivalent to beryl,

(b) heating the mixture at a minimum temperature of about 200° C. for a minimum period of about 1 hour,

(c) extracting at a maximum temperature of about 140° C. the resulting solids with an aqueous mineral acid which does not complex beryllium, the amount of said acid employed providing a leach liquor of pH ranging from about 1 to about 4.5 thereby to produce a filterable slurry wherein the bulk of the beryllium from said beryllium source material is dissolved in the liquid acidic phase and

(d) separating the resulting acidic leach liquor containing said dissolved beryllium from the substantially beryllium depleted residual solid source material.

3,369,861
METHOD FOR PRODUCING AMMONIUM CHROMATE

Alvin L. Benham, Littleton, Colo., and Harold D. McBride, Lincoln, Nebr., assignors to Marathon Oil Company

No Drawing. Filed Oct. 9, 1964, Ser. No. 402,958
4 Claims. (Cl. 23—56)

1. The method for producing ammonium chromate comprising reacting at an elevated temperature for at least about 15 minutes chromic oxide, aqueous ammonia and oxygen in the presence of a catalyst selected from the group consisting of cupric sulfate and cobalt naphthenate, wherein,

said aqueous ammonia has an ammonia content of from 4% to 30% by weight, and the mole ratio of said ammonia to said chromic oxide in the mixture is in the range of from 2 to 16,

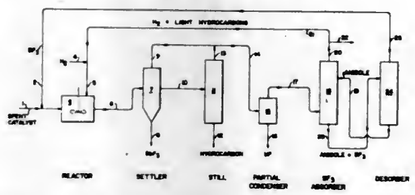
the oxygen partial pressure is from 20 to 500 p.s.i.a.,

said temperature is in the range of from about 140° to about 225° C.

3,369,862
PROCESS FOR PRODUCING ANTIMONY TRIFLUORIDE, AND FOR REGENERATING SPENT HEXAFLUOROANTIMONIC ACID CATALYSTS

Jan M. Oelderik and Anthonius M. Meijer, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Sept. 28, 1964, Ser. No. 396,733
Claims priority, application Netherlands, Dec. 2, 1963, 301,210
3 Claims. (Cl. 23—88)

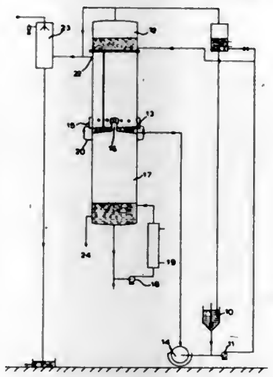


Spent hexafluoroantimonic acid catalysts are regenerated by decomposition with hydrogen in the presence of tetrafluoroboric acid to form lower molecular weight hydrocarbons and antimony trifluoride which may then be converted to antimony pentafluoride or hexafluoroantimonic acid by sequential treatment with chlorine and hydrofluoric acid.

3,369,863
PROCESS FOR THE MANUFACTURE OF A FLUOSILICATE OF A METAL

Leonard William Jones, Blackheath, and David Anthony Lihou, Birmingham, England, assignors to Wellman Incandescent Furnace Company Limited, Smethwick, England, a British company

Filed Apr. 15, 1965, Ser. No. 448,485
2 Claims. (Cl. 23—88)



A continuous process for the manufacture of a fluosilicate of a metal from an aqueous solution containing fluosilicic acid, comprising the steps of heating the aque-

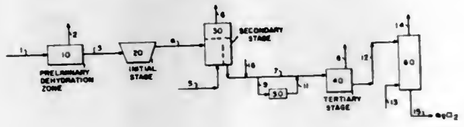
ous solution to produce fluorine-containing vapors, contacting such vapors in a contactor with a stream of an aqueous solution of a salt of a metal of the class consisting of light and heavy metals of Groups I and II, continuously removing the reaction products from the contactor, and recovering the fluosilicate of the metal from the reaction products.

3,369,864

PRODUCTION OF ANHYDROUS MAGNESIUM CHLORIDE

Walter R. Shaw, Mountain Lakes, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed July 28, 1965, Ser. No. 475,544
7 Claims. (Cl. 23—91)



A three-stage method for the dehydration of magnesium chloride wherein in a first stage a solution of magnesium chloride is concentrated in a manner to remove a portion of the water of hydration; in a second stage the concentrated solution is treated to remove additional water so as to produce solid particles of magnesium chloride containing a minor amount of water of hydration, and in a third stage the magnesium chloride particles are melted and the remainder of the water removed.

3,369,865

PROCESS FOR ION EXCHANGING CRYSTALLINE ZEOLITES

William Judson Mattox and Elroy Merle Gladrow, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed July 6, 1965, Ser. No. 469,884
11 Claims. (Cl. 23—112)

1. A method for introducing a desired cation into a crystalline alumino-silicate zeolite by ion exchange thereof which comprises contacting a mother liquor slurry of crystals of said zeolite with a cation exchange resin containing said desired cation, and recovering zeolite crystals in the desired cation form.

3,369,866

PRODUCTION OF SOLID POTASSIUM METABISULFITE

Walter Spormann, Haus, and Joachim Heinke and Horst Luedemann, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed July 24, 1964, Ser. No. 385,051
Claims priority, application Germany, Aug. 14, 1963, B 73,119
4 Claims. (Cl. 23—114)

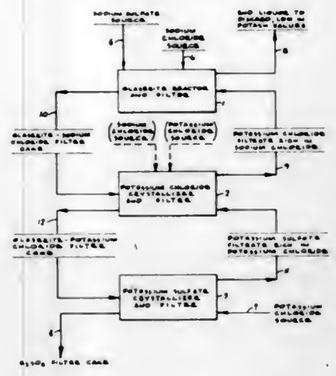
Sulfur dioxide or gases containing sulfur dioxide are reacted with aqueous solutions of potassium hydroxide and/or potassium carbonate by introducing reaction components simultaneously into an aqueous solution saturated with potassium sulfite and potassium bisulfite and reacting at temperatures between 50° and 80° C. After reaction mixture has cooled, deposited potassium metabisulfite is separated by a conventional method.

3,369,867

METHOD OF PRODUCING POTASSIUM SULFATE

Frank H. May, Whittier, Calif., assignor to American Potash & Chemical Corporation, Los Angeles, Calif., a corporation of Delaware

Filed May 14, 1964, Ser. No. 367,531
7 Claims. (Cl. 23—121)



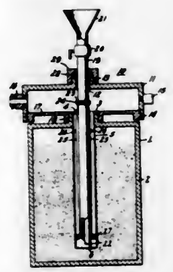
A cyclic three-step process for the manufacture of potassium sulfate from raw materials which contain sodium sulfate. The sulfate-containing raw material is first reacted with KCl values contained in a liquor recovered from the other two steps in the process to form a slurry of glaserite and sodium chloride solids in an end liquor which is low in potassium values. The glaserite and sodium chloride solids are conveyed to a second step where the sodium chloride is dissolved in filtrate recycled from the third step, whereby sodium chloride is dissolved into the filtrate and potassium chloride is crystallized therefrom to form a slurry of glaserite and potassium chloride solids. These solids are conveyed to a third step in which the glaserite is reacted with additional KCl to crystallize potassium sulfate as the solid product. The crystallized potassium sulfate is filtered and recovered.

3,369,868

METHOD FOR HYDROGEN GENERATION FROM WHITE PHOSPHORUS

Robert E. Kegan, Marblehead, Mass, assignor to General Electric Company, a corporation of New York

Filed June 25, 1965, Ser. No. 467,025
11 Claims. (Cl. 23—165)



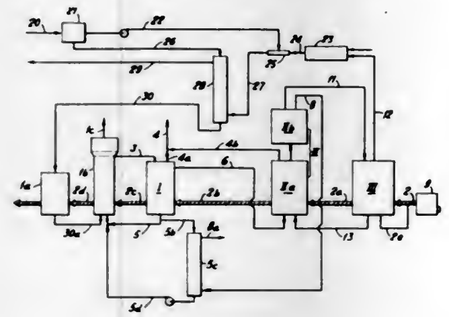
The invention is directed to generating hydrogen by disarming a cartridge including a sealed container of phosphorus. The bursting tube of the cartridge is perforated and water introduced. Air and heat may be used to accelerate the reaction. When the phosphorus is completely consumed, the phosphoric acid which is formed as a reaction product may be reacted with metal scraps to produce additional hydrogen. Apparatus for the practice of the process utilizes an adaptor to sealingly connect a housing to the cartridge casing. A tube which may have a funnel at its upper end sealingly and slidably extends through the housing so as to be able to pierce the bursting tube. The housing is provided with an outlet for delivery of hydrogen.

3,369,869

PROCESS FOR RECOVERING AMMONIA FROM AMMONIA-CONTAINING GAS BY MEANS OF SULFURIC ACID

Wilhelm Deiters, Chur, Grisons, Switzerland, assignor to Inventa AG fuer Forschung und Patentverwertung, Zurich, Switzerland

Filed Feb. 26, 1965, Ser. No. 435,498
Claims priority, application Switzerland, Feb. 27, 1964, 2,426/64
29 Claims. (Cl. 23—193)



A continuous process for recovering ammonia from hot and moist ammonia-containing gas such as coke oven gas. The gas is first cooled to condense a portion of the ammonia in the form of ammonia liquor. The gas is then mixed with sulfuric acid and the acid mixture thus obtained is neutralized with the ammonia liquor obtained by the cooling of the original gas. In this manner, an aqueous ammonia sulfate liquor is obtained which is introduced into a cyclically flowing hot melt of ammonium bisulfate. The ammonium sulfate is thus dehydrated and decomposed to form ammonium bisulfate and a first portion of gaseous ammonia. The ammonium bisulfate is then introduced into a cyclically flowing hot melt of a mixture of alkali metal sulfate and metal sulfate, to liberate a second portion of ammonia. Alkali metal bisulfate and pyrosulfate are formed in this step. The preferred metal sulfates are the sulfates of cobalt, iron, nickel, vanadium, titanium, aluminum and magnesium. The alkali metal bisulfate and pyrosulfate are then decomposed in the presence of the mixture of alkali metal sulfate and metal sulfate to form sulfuric acid. The sulfuric acid is conveyed back for mixing with a fresh amount of the gas after its cooling, while the mixture of alkali metal sulfate and metal sulfate is recycled for contact with further amounts of ammonium bisulfate.

3,369,870

PROCESS AND APPARATUS FOR THE PRODUCTION OF CARBON BLACK

Stephen F. Ganz, Ferguson, Mo., and Alfred A. Hoffman, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 2, 1964, Ser. No. 408,185
10 Claims. (Cl. 23—209.4)

Process and apparatus whereby hot smoke from a carbon black furnace is cooled, producing steam and cooled smoke. Some of the cooled smoke is recycled as a quench to the furnace, and the steam produced is used to power the pump causing the recycle. Additional cooling may be provided using air and/or make oil to the furnace, also pumped by said steam. A trim quench may be provided to maintain a constant temperature in the filter bags that is not too hot for their operation for a long time. The off gas separated from the produced carbon black contains much less water vapor than if a primary direct water spray quench had been used, and therefore is suitable for use as a fuel gas. The boiler may be tilted 10° to 20° to improve the heat exchange.

3,369,871

PREPARATION OF METALLURGICAL CARBON

John F. Hardy and Porter F. Gridley, Andover, and Donald Rivin, Framingham, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

Filed July 15, 1965, Ser. No. 472,290
6 Claims. (Cl. 23—209.9)

1. A process for making a carbon product from petroleum coke which product is useful in metallurgical applications, said process comprising the steps of (1) heating said coke at a temperature of over about 300° F. while flowing an oxygen-containing gas thereover thereby reducing the sulfur content of said coke, (2) subjecting the coke so treated to a temperature of at least 1600° C. thereby partially graphitizing said coke, (3) cooling said coke to about 1000° F., and (4) subjecting said coke to oxidizing gases at a temperature between about 600° F. and 900° F. until the sulfur content of said partially graphitized coke is reduced below 0.2%.

3,369,872

CATALYST FOR THE REACTION BETWEEN HYDROCARBONS AND SULFUR DIOXIDE FOR THE PREPARATION OF PURE SULFUR

Jon Aarvik, Trondheim, Norway, assignor to Norges Geologiske Undersokelse, Trondheim, Norway

No Drawing. Filed Aug. 10, 1965, Ser. No. 478,745
Claims priority, application Norway, Aug. 31, 1964, 154,592
1 Claim. (Cl. 23—226)

There is provided a process for the catalytic reaction of mineral oil with sulfur dioxide to produce sulfur. In such process, there is employed as a catalyst, cordierite or other materials having uniformly sized channels or pores of molecular dimensions in their structure, such as zeolites.

3,369,873

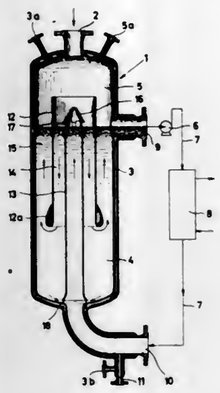
APPARATUS AND METHOD FOR CONTINUOUSLY MELTING A SOLID REACTANT

Hansjuergen Ullrich, Frankfurt am Main, and Manfred Dietze, Offenbach am Main, Germany assignors to Vickers-Zimmer Aktiengesellschaft Planung and Bau Von Industrieanlagen, Frankfurt am Main, Germany, a corporation of Germany

Filed July 9, 1964, Ser. No. 381,392
Claims priority, application Germany, July 11, 1963, Z 10,222
10 Claims. (Cl. 23—293)

8. In a method for continuously melting small grains of reactant solids for producing resins comprising the steps of melting a mass of said solids, adding fresh solids, and providing heat to melt said fresh solids by withdrawing a portion of said mass, heating said portion above the melting point of said reactant solids and charging it back to said mass, the improvement which comprises

charging said fresh solids directly into said molten mass and continuously circulating said mass by withdrawing



said portion near the surface of the mass and charging it into the mass near the bottom thereof to establish flow generally upwardly therethrough.

3,369,874

MIXTURE SEPARATION BY CYCLIC PULSING IN A TEMPERATURE GRADUATED ADSORBENT BED

Richard H. Wilhelm, Princeton, N.J., assignor to Research Corporation, New York, N.Y., a nonprofit corporation of New York

Continuation-in-part of application Ser. No. 228,958, Oct. 8, 1962. This application Feb. 8, 1966, Ser. No. 525,897

7 Claims. (Cl. 23—309)



1. The method of concentrating a component of a liquid mixture comprising contacting the liquid mixture with a liquid permeable stationary column of solid adsorbent, flowing the liquid through the column of adsorbent while maintaining a substantial temperature differential between the ends of the column of adsorbent, and simultaneously cyclically displacing the liquid as it flows through the column of adsorbent with respect to the column of adsorbent at a frequency such that it establishes a substantial degree of heat exchange between the liquid and the solid adsorbent in contact therewith to establish a temperature gradient along the column, thereby establishing a concentration gradient of a component of the liquid mixture along the column.

3,369,875

PROCESS FOR TREATING PHOSPHATE ORES TO OBTAIN METAL SULFIDES AND PHOSPHORUS SULFIDES

Mark M. Woyski, La Habra, Calif., Lamar T. Royer, Oak Ridge, Tenn., and Robert M. Healy, Warrenville, Ill., assignors to American Potash & Chemical Corporation, Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed Oct. 30, 1964, Ser. No. 407,876

11 Claims. (Cl. 23—318)

1. A process comprising: heating a particulate phosphate ore which ore contains a metallic element in the form of a phosphate, said ore being in intimate contact with carbon disulfide to volatilize phosphorus values from said ore and convert metallic values from said ore to the corresponding sulfide.

2. A process comprising: heating a particulate apatite ore which ore contains a metallic element in the form of a phosphate, said ore being in intimate contact with carbon disulfide to volatilize phosphorus values from said ore and convert metallic values from said ore to the corresponding sulfide.

3. A process comprising: heating a particulate monazite ore which ore contains a metallic element in the form of a phosphate, said ore being in intimate contact with a compound selected from the group consisting of sulfur, hydrogen sulfide, carbon disulfide, carbon oxysulfide and a carbon source, the combined sulfur and carbon sources having sufficient reducing capacity to combine with at least a portion of the oxygen in said ore, to volatilize phosphorous values from said ore and convert metallic values from said ore to the corresponding sulfide.

3,369,876

EXTRACTION OF Cu, U, Co OR Fe WITH CERTAIN AMINO SULFIDE COMPOUNDS

Robert A. Grimm, Bloomington, Minn., assignor to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky

No Drawing. Filed June 1, 1965, Ser. No. 460,470

10 Claims. (Cl. 23—340)

1. The process for extracting metal values from an aqueous solution thereof which comprises adjusting to a value of 2–5 the pH of an aqueous solution containing soluble metal values selected from the group consisting of copper, uranium, cobalt, and iron; intimately mixing the resulting aqueous solution with a hydrocarbon solution of an extraction agent having the formula:

$$XR_1—Y—R_2X$$

wherein Y is a radical selected from the group consisting of sulfide and disulfide, and $XR_1—$ and $—R_2X$ are organic radicals having at least 4 carbon atoms and are selected from the group consisting of X-substituted-alkyl, -alkenyl, -alkanoate and -alkenoate in which X is a radical selected from the group consisting of $—NH_2$, $—NHRNH_2$, and —NHROH where R is an alkylene radical of 2–3 carbon atoms; separating the resulting mixture into an aqueous layer substantially free of said metal values and an organic layer containing substantially all of said metal values.

3,369,877

DISPERSION STRENGTHENED ALUMINUM OXIDE WITH TUNGSTEN OR MOLYBDENUM

Michael Humenik, Jr., Allen Park, Charles O. McHugh, Detroit, and David Moskowitz, Oak Park, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Sept. 20, 1965, Ser. No. 488,609

6 Claims. (Cl. 29—182.5)

This invention relates to a fine grained sintered compact which is essentially aluminum oxide. These compacts have utility as cutting tools for metal working.

The fine grained structure and strength of these compacts is due in part to a small content of dispersed finely divided molybdenum or tungsten.

3,369,878

LIQUID HYDROCARBONS

Paul Y. C. Gee, Woodbury, and Harry J. Andress, Jr., Pitman, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 187,185, Apr. 13, 1962. This application Nov. 2, 1964, Ser. No. 408,353

21 Claims. (Cl. 44—73)

1. The method for preparing a fuel stabilizer which comprises: condensing citric acid and a tertiary-alkyl primary amine having from about 6 to about 30 carbon atoms with a tertiary-alkyl group attached to a nitrogen atom, to form the corresponding citramic acid; condensing the citramic acid thus formed with an alkylene polyamine to form the corresponding citramide; and condensing the citramide thus formed with salicylaldehyde to form the corresponding salicylaldimine, the molar ratio of citric acid to each of said tertiary-alkyl primary amine, alkylene polyamine and salicylaldehyde reactants varying from 1:1 to 1:2.

9. A liquid hydrocarbon, normally having a tendency to form sediment during storage, containing a stabilizing amount of the condensation reaction product prepared in accordance with the method of claim 1.

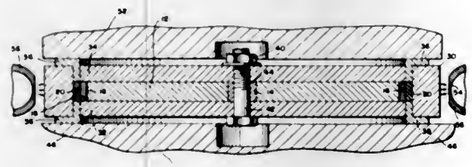
3,369,879

METHOD OF MAKING A PERIPHERAL DIAMOND GRINDING WHEEL

Harold C. Miller, Chicago, Ill., assignor to Super-Cut, Chicago, Ill., a corporation of Illinois

Original application Nov. 19, 1964, Ser. No. 412,493. Divided and this application Dec. 21, 1966, Ser. No. 603,583

6 Claims. (Cl. 51—309)



A method which involves the formation of a peripheral grinding wheel including a circular metal wheel body and a continuous annular grinding member around an in spaced relation with the wheel body and in the form of a metal matrix and abrasive particles within the matrix and is characterized by the fact that the space between the wheel body and the grinding member is filled by an intervening ring which is formed of a ductile metal and adheres strongly to both the outer periphery of the wheel body and the inner periphery of the grinding member.

3,369,880

PROCESS FOR MAKING HUMIDITY SENSING DEVICE

Virgil D. Mochel, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Dec. 22, 1964, Ser. No. 420,384

8 Claims. (Cl. 65—30)

An improved method of making a humidity sensing device having a hygroscopic lithium chloride film on the surface of a glass substrate formed by means of a reaction between the lithum oxide of the glass together with a reactive chlorine containing gas.

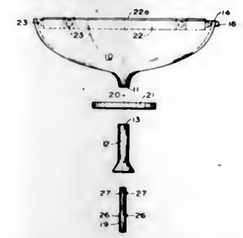
3,369,881

CATHODE RAY TUBE ENVELOPES AND METHODS OF PREPARING PARTS THEREFOR AND FABRICATING SUCH ENVELOPES

Robert W. Bennett, Corning, and Wendell S. Blanding Painted Post, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Oct. 28, 1964, Ser. No. 407,180

6 Claims. Cl. 65—58)



Viewing panel portions and funnel portions used in the fabrication of rectangular glass television picture tube envelopes are provided with three reference protuberances projecting outwardly from two adjacent ones of the sidewalls of each respective portion and summits one precisely ground on said protuberances so that when corresponding ones of such summits on a viewing panel portion and a funnel portion are precisely referenced to each other, with the sealing edges of such portions abutting, a geometrically matched relationship between the abutted portions is attained.

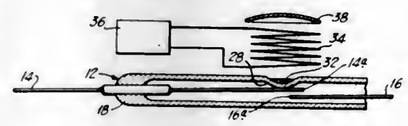
3,369,882

METHOD OF FORMING PROJECTIONS IN REED SWITCH ASSEMBLIES BY SELECTIVE HEAT SOFTENING

John Kutyla, Chicago, Ill., assignor to C. P. Clare & Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 28, 1963, Ser. No. 319,457

9 Claims. Cl. 65—110)



A method of forming magnetic reed damping projections in the glass housing of a sealed magnetic reed switch in which a dot of an infra-red absorbing material, such as a colloidal graphite dispersion in water, is placed on the outside wall of the housing at a point adjacent a magnetic reed. The housing is then subjected to infra-red radiation which is absorbed by the material to heat a localized area of the housing. When the heated area becomes sufficiently softened, it is displaced inwardly by the differential in pressure across the housing to form the damping projection.

3,369,883

METHOD OF SOFTENING GLASS FOR PUNCHING HOLES THEREIN BY HEATING WITH A HIGH FREQUENCY PULSE CURRENT

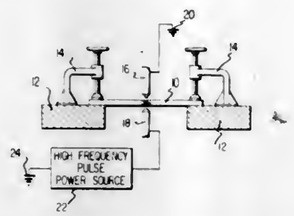
Roy E. Smith, Horseheads, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Oct. 27, 1964, Ser. No. 406,822

8 Claims. (Cl. 65—112)

A method of punching holes in glass by disposing a pair of axially aligned electrodes on opposite sides of a pre-heated piece of glass and applying a high frequency

pulse current having an on/off ratio of 1:10 across the electrodes. When the glass between the electrodes becomes molten one of the electrodes is punched through the glass to form a hole.



3,369,884

FERTILIZER TABLET THAT READILY DISINTEGRATES WHEN WATER IS ADDED

Hollis M. Barron, Los Gatos, Calif., assignor to Agriform-International Chemicals, Inc., Newark, Calif., a corporation of California

No Drawing. Continuation-in-part of application Ser. No. 600,368, Dec. 9, 1966, which is a division of application Ser. No. 324,874, Nov. 19, 1963. This application June 29, 1967, Ser. No. 649,842
6 Claims. (Cl. 71—28)

A tablet that breaks up quickly when initially watered to make slowly-soluble fertilizer available for bacterial action and the action of repeated waterings. Expanded vermiculite acts as a disintegrant and also provides for lubricating the tablet during manufacture.

3,369,885

PROCESS FOR PRILLED UREA-POTASSIUM METAPHOSPHATE FERTILIZER

Takeshi Takahashi, Fujisawa, Haruo Toyoda, Yokohama, Toshihiko Kakizaki, Tokyo-to, Japan, assignors to Toyo Koatsu Industries, Incorporated, a corporation of Japan

No Drawing. Filed Feb. 12, 1965, Ser. No. 432,384
Claims priority, application Japan, Feb. 12, 1964, 39/7,134, 39/7,135
7 Claims. (Cl. 71—29)

A process for producing granular compound fertilizers containing high analyses of nitrogen, phosphorus and potassium which comprises forming a suspension melt by dispersing potassium metaphosphate in a urea melt or by mixing urea and potassium metaphosphate and heating the mixture to melt the urea and prilling the suspension melt.

3,369,886

PROCESS OF PRODUCING FINELY DIVIDED METALS AND ALLOYS

Gershon Metzger and Hugh H. Horowitz, Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Sept. 23, 1964, Ser. No. 398,786
9 Claims. (Cl. 75—.5)

1. A process of producing finely divided large surface area metallic precipitate which comprises:

(a) mixing in solution a soluble aluminum compound selected from the group consisting of soluble aluminum salt and soluble aluminum salt forming aluminum composition with a salt of a metal selected from the group consisting of Group IV–B, Group V–B, Group VI–B, Group VII–B, Group VIII, Group I–B, Group II–B, Group III–B, Group IV–A and Group V–A of the Periodic Chart of the elements;

(b) simultaneously reducing the metal salt from solution and precipitating the aluminum from solution in the form of $Al(OH)_3$ by adding a metal salt reducing agent, said metal salt reducing agent selected from the group consisting of reducing agents which generate acid as the metal salt is reduced and reducing agents which generate base as the metal salt is reduced.

3,369,887

PROCESS FOR THE PRODUCTION OF MANGANESE-SILICON ALLOYS

Naaman H. Keyser, Parma, and Ted J. Dyrdek and Robert A. Leeper, Beverly, Ohio, assignors to Interlake Steel Corporation, a corporation of New York

No Drawing. Filed Dec. 11, 1964, Ser. No. 417,772
20 Claims. (Cl. 75—10)

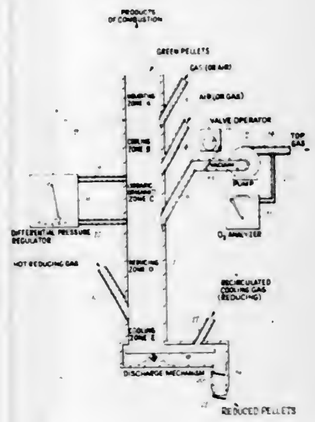
A process for the production of manganese-silicon alloys, more particularly manganese-silicide, wherein a material containing manganese and silicon is provided with a sufficient reducing agent to reduce all of the metallic oxides in the burden, and subsequently reduced in a furnace. The reduced manganese-silicon alloy is treated with oxygen or a material containing oxygen to reduce the aluminum content and retain substantially the same silicon content as was present in the original burden.

3,369,888

TREATMENT AND REDUCTION OF PELLETIZED IRON ORES

Clyde L. Cruse, Jr., Middletown, Ohio, assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

Filed June 1, 1965, Ser. No. 460,368
8 Claims. (Cl. 75—34)



This invention relates to the treatment and reduction of pelletized iron ores in a shaft furnace, and includes the steps of heating green pellets by direct flame reduction in an upper indurating zone to harden the pellets, subjecting the pellets in a lower reducing zone to a counter-current flow of hot reducing gases, introducing cool reducing gases into a lower zone of the furnace which by heat exchange cools the reduced pellets and preheats the reducing gases. Heated reducing gases are withdrawn at a point below the indurating zone, and a stagnant zone is maintained between the reducing and indurating zones.

3,369,889

PRODUCTION OF SPHEROIDAL URANIUM METAL POWDER

Paul E. Trent, Norris, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed July 6, 1967, Ser. No. 651,630
6 Claims. (Cl. 75—84.1)

Spheroidal uranium metal powder in a size range of −44 to +840 microns (μ) is produced in a reaction vessel by the exothermic reaction of uranium dioxide with a calcuim metal reductant and an iodine booster. Particulate uranium metal is incorporated in the reaction mixture in a uranium metal to uraniun dioxide ratio of about 9-to-10 by weight for controlling the particle size of the spheroidal product to assure that about 85 percent of the spheroidal product is of a size greater than 44 microns with the largest single fraction of the spheroidal product being in a preferred size range of 149 to 420 microns.

3,369,890

METHOD FOR MAKING NIOBIUM-URANIUM ALLOY WITH PREDETERMINED TOTAL VOID VOLUME AND VOID SIZE

Harley A. Wilhelm and James K. McClusky, Ames, Iowa, assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Feb. 24, 1967, Ser. No. 619,130
6 Claims. (Cl. 75—122.5)

A method of producing a niobium-uranium alloy with predetermined void size and total void volume by mixing a uranium oxide, a niobium oxide and carbon with various carbon to oxygen ratios and heating the mixture to a temperature below the melting point of the resulting alloy.

3,369,891

HEAT-TREATABLE NICKEL-CONTAINING REFRACTORY CARBIDE TOOL STEEL

Stuart E. Tarkan, Monsey, and John L. Ellis, White Plains, N.Y., assignors to Chromalloy American Corporation, a corporation of New York

No Drawing. Filed Aug. 20, 1965, Ser. No. 481,386
10 Claims. (Cl. 75—123)

A refractory carbide tool steel is disclosed comprising about 20 to 80% by volume of titanium carbide distributed through a low carbon alloy steel matrix making up substantially the balance, the matrix being characterized in the solution annealed state by a microstructure of soft martensite containing at least one age hardening element. The matrix may contain by weight about 10 to 30% nickel, about 0.2 to 9% titanium, up to about 5% aluminum, the sum of the titanium and aluminum not exceeding about 9%, up to about 25% cobalt, up to about 10% molybdenum, substantially the balance of the matrix being at least 50% iron.

3,369,892

HEAT-TREATABLE NICKEL-CONTAINING REFRACTORY CARBIDE TOOL STEEL

John L. Ellis, White Plains, and Stuart E. Tarkan, Monsey, N.Y., assignors to Chromalloy American Corporation, a corporation of New York

No Drawing. Filed Aug. 20, 1965, Ser. No. 481,416
11 Claims. (Cl. 75—123)

A refractory carbide tool steel is disclosed comprising about 20 to 80% by volume of a carbide selected from the group consisting of VC, CbC and TaC distributed through a low carbon alloy steel matrix making up substantially the balance, the matrix being being characterized in the solution annealed state by a microstructure of soft martensite containing at least one age hardening element when air cooled from an austenitizing temperature. The matrix may contained by weight about 10 to 30% nickel, about 0.2 to 9% titanium, up to about 5% aluminum, the sum of the titanium and aluminum not exceeding about 9%, up to about 25% cobalt, up to about 10% molybdenum, substantially the balance of the matrix being at least 50% iron.

3,369,893

COPPER-ZINC ALLOYS

William R. Ople, Keyport, N.J., and Jan A. Paces, New York, N.Y., assignors to American Metal Climax, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 28, 1964, Ser. No. 421,668
6 Claims. (Cl. 75—157.5)

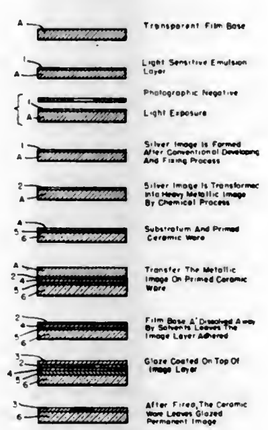
1. An alloy consisting essentially of, by weight, about 0.05% to about 0.35% beryllium, about 0.08% to about 0.5% titanium, up to about 0.5% chromium, up to about 10% aluminum, about 10% to about 45% zinc with the sum of aluminum and zinc being about 10% to about 45%, less than about 0.1% lithium and the balance, apart from incidental elements, being copper in amounts of at least about 54.5%.

3,369,894

METHOD FOR APPLYING PHOTOGRAPHIC IMAGES OR DESIGNS TO CERAMIC OBJECTS AND IMPROVED PHOTOGRAPHIC EMULSION FOR THE PRODUCTION OF MULTI-COLOR IMAGES OR DESIGNS ON SUCH OBJECTS

Charles Yu, 45 Landing Road, Miller Place, N.Y. 11764

Continuation-in-part of application Ser. No. 828,986, July 23, 1959. This application Jan. 25, 1965, Ser. No. 427,876
14 Claims. (Cl. 96—34)



A method of producing multiple color images or designs on ceramic ware by the use of hydrophillic gelatino silver halid emulsion, drying the emulsion, exposing the sensitive material to a photographic transparency, fixing and washing to form a silver image, oxidizing the image to a silver complex compound and simultaneously depositing an insoluble ceramic color component. Variations in the basic method include directly incorporating the colorant in the silver halide emulsion in insoluble form, employing a soluble colorant in a silver halide emulsion and precipitating the same or by transferring an image to a reception layer; forming a silver halide emulsion layer which is allowed to develop and physically pressing against the nucleated substratum or reception layer and peeling off the emulsion layer.

3,369,895
TWO EQUIVALENT YELLOW COUPLERS FOR COLOR PHOTOGRAPHY

Anthony Loria, Ilmari F. Salminen, and Arnold Weissberger, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Original application Aug. 24, 1960, Ser. No. 51,549, now Patent No. 3,277,155, dated Oct. 4, 1966. Divided and this application Dec. 29, 1965, Ser. No. 517,454

18 Claims. (Cl. 96—55)

Two-equivalent yellow dye-forming couplers derived from any of the known 4-equivalent yellow dye-forming couplers by replacing one of the hydrogens on the active methylene group with a fluorine atom are used to advantage as the yellow dye-forming coupler incorporated in light-sensitive silver halide emulsion layers, as the yellow dye-forming coupler in yellow color developer solutions and as the yellow dye-forming coupler in color processes.

3,369,896
FINAL RINSE BATH FOR COLOR PROCESS

James M. Seemann and Howard W. Vogt, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 3, 1964, Ser. No. 387,233

4 Claims. (Cl. 96—56)

A bath comprising water, dye stabilizing agent and an alkoxy substituted polyoxyethylene wetting agent is used advantageously as the final rinse in processing photographic elements, particularly in processing color photographic elements because this bath leaves the processed photographic element free of water spots, scum, foam as well as stabilizing the image against the formation of stains.

3,369,897
PHOTOGRAPHIC MATERIALS CONTAINING PYRAZOLO - [1,5α] - BENZIMIDAZOLE COLOR COUPLERS

Karl-Heinz Menzel, Leverkusen, and Rolf Pütter, Dusseldorf, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 7, 1964, Ser. No. 343,196

Claims priority, application Germany, Feb. 14, 1963, A 42,331

14 Claims. (Cl. 96—56.5)

2. In a process for the production of color photographic images by developing an exposed silver halide emulsion layer with a color forming developer solution in the presence of a pyrazolo-[1,5-α]-benzimidazole color coupler, the improvement according to which a pyrazolo-[1,5-α]-benzimidazole is used which is substituted in the 2-position by a monovalent organic radical selected from the group consisting of alkyl having up to 20 carbon atoms, phenyl, carboxyl, esterified carboxyl, carbonamide and alkyl substituted carbonamide, in the 3-position by a substituent selected from the group consisting of a halogen atom and a sulfonic acid group and in the 7-position by an electron attracting group selected from the group consisting of halogen, alkoxy, carboxyl, esterified carboxyl wherein the alcohol has from 1 to 18 carbon atoms, carbonamide and alkyl substituted carbonamide.

3,369,898
STABILIZED 1-PHENYL-3-PYRAZOLIDONE PHOTOGRAPHIC DEVELOPER SYSTEM

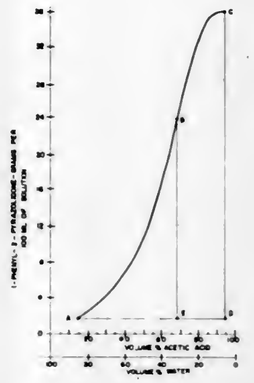
Andrew A. Baldoni and Shuji Kimura, Crystal Lake, Ill., assignors to Morton International, Inc., Chicago, Ill., a corporation of Delaware

Continuation-in-part of application Ser. No. 306,905, Sept. 5, 1963. This application Feb. 3, 1967, Ser. No. 615,040

7 Claims. (Cl. 96—66.1)

A process for developing photographic silver halide emulsions which comprises providing a stabilized developing system comprising:

(a) providing a component package comprising a solution of a 1-phenyl-3-pyrazolidone developing agent, said solution consisting essentially of an aqueous acetic acid solution of a 1-phenyl-3-pyrazolidone developing agent, said solution being characterized in being stable during storage for more than one year at ambient temperatures,



(b) providing another component package solution comprising a developer composition containing alkaline components and developer components free from a 1-phenyl-3-pyrazolidone developing agent,

(c) storing said component package solutions in separate unmixed condition,

(d) admixing said developing agent component solution to form a developing solution for silver halide emulsion at the time of use,

(e) and developing a silver halide emulsion in said admixture.

3,369,899
PHOTOGRAPHIC MATERIALS CONTAINING AROYLACETANILIDE TYPE COLOR COUPLERS

Arthur Henri De Cat, Mortsel-Antwerp, Marcel Hendrik Verbrugghe, Wilrijk-Antwerp, and Raymond Albert Roosen, Mortsel-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a company of Belgium

No Drawing. Filed July 8, 1964, Ser. No. 381,230

Claims priority, application Belgium, July 9, 1963, 42,767, Patent 634,665

7 Claims. (Cl. 96—74)

5. Photographic multilayer color material comprising three silver halide emulsion layers which are differently optically sensitized wherein a member selected from the group consisting of the blue-sensitive silver halide emulsion layer and a non-light-sensitive water-permeable colloid layer adjacent thereto incorporates, in non-migratory state, a color coupler for yellow of the aroylacetanilide type wherein the aroyl part of the aroylacetanilide molecule comprises at least one sulfonic acid group, the anilide part of the aroylacetanilide molecule contains only substituents selected from the group consisting of hydrogen and a hydrophobic group, and the aroylacetanilide molecule contains a group for inhibiting migration in a member of the group consisting of the aroyl part and anilide part of the molecule.

3,369,900
MICROSCOPIC CAPSULES AND METHOD OF MAKING THE SAME

Lloyd D. Taylor, Everett, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed Mar. 25, 1963, Ser. No. 267,838

2 Claims. (Cl. 96—76)

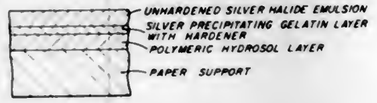
1. A process of preparing microscopic capsules which comprises, in combination, the steps of providing an aqueous solution of an acid-coagulable, negative hydrophilic colloid containing photosensitive silver halide, adjusting the pH and temperature of said aqueous solution to the cloud point thereof whereby to provide a coacervate consisting essentially of said colloid containing said photosensitive silver halide, adding a water-immiscible medium to said aqueous solution to thereby provide a dispersion of droplets comprising said water-immiscible medium whereby said coacervate deposits around individual droplets of said water-immiscible medium individually encapsulating said droplets, and gelling the encapsulated coacervate by cooling.

3,369,901
COATING METHOD FOR WASH-OFF SOLVENT TRANSFER

David B. Fogg and Albert C. Smith, Jr., Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Jan. 16, 1964, Ser. No. 339,070

12 Claims. (Cl. 96—76)



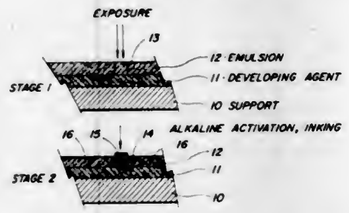
1. A method of preparing a product useful in wash-off solvent transfer systems which comprises simultaneously applying to a paper support a polymeric hydrosol which coalesces on loss of water to form a water-resistant layer, a nucleating material and a hardener free gelatin-silver halide photographic emulsion containing a material which will facilitate its removal by the wash-off solvent in which each of the compositions are fed as layers into a bead in superposed relation and onto the surface of the paper in the order given, the photographic emulsion composition being characterized by a lower surface tension than the compositions employed for the underlayers.

3,369,902
LITHOGRAPHIC PLATES SENSITIZED WITH OXACARBOCYANINE AND BENZIMIDAZOLE CARBOCYANINE DYES

Thomas Irving Abbott, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed May 28, 1965, Ser. No. 459,784

19 Claims. (Cl. 96—76)



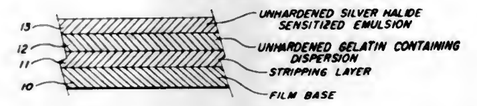
Spectrally sensitized photographic elements, useful in processes adapted to the production of lithographic printing plates, having materially increased speed relative to the use of cyanine, styryl or merocyanine dyes therein are obtained by the use of oxacarbocyanine dyes or benzimidazole carbocyanine dyes.

3,369,903
LIGHT SENSITIVE ELEMENT FOR PREPARING ETCHING RESIST FOR GRAVURE PURPOSES

Robert C. Harvey, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Dec. 21, 1964, Ser. No. 420,020

20 Claims. (Cl. 96—83)



1. A gravure resist film comprising a dimensionally stable, temporary support containing thereon: (1) a stripping layer, (2) an unhardened colloid layer containing an oil dispersion and (3) a substantially unhardened colloid light sensitive silver halide photographic emulsion, in that order.

16. A process of forming a gravure printing plate comprising developing an exposed light sensitive element comprising a dimensionally stable, temporary support containing thereon: (1) a stripping layer, (2) an unhardened colloid layer containing an oil dispersion and (3) a substantially unhardened gelatin light sensitive silver halide photographic emulsion, in that order, in the presence of a tanning type silver halide developer, to obtain a silver image, fixing the emulsion and contacting the said element against a metallic surface, with the emulsion side against the surface, to adhere the emulsion to the surface, stripping the temporary support from the stripping layer, removing the stripping layer, the unhardened colloid layer and the unhardened areas of the emulsion layer and etching.

3,369,904
PHOTOGRAPHIC SENSITIZING DYES

Jan W. H. Faber, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 30, 1964, Ser. No. 422,424

6 Claims. (Cl. 96—102)

Dye compounds useful as sensitizing dyes for photographic silver halide emulsions are prepared by reacting an aromatic polyamine with a 2,4-dinitrophenylpyridinium salt.

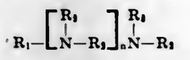
3,369,905
PHOTOGRAPHIC SILVER HALIDE EMULSIONS CONTAINING POLYAMINE SENSITIZING AGENTS

Jean E. Jones and Charles V. Wilson, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 19, 1963, Ser. No. 266,192

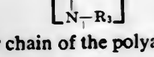
11 Claims. (Cl. 96—107)

1. A colloid-silver halide photographic emulsion containing at least one linear polyamine sensitizing agent having the formula:



wherein each of R_1 and R_5 represents a member selected from the group consisting of hydrogen, alkyl containing 1–4 carbon atoms, hydroxyalkyl, aryl, aralkyl, alkyl substituted aryl and alkoxy substituted aryl; R_2 represents a member selected from the group consisting of alkyl containing 1–4 carbon atoms, hydroxyalkyl, aryl, aralkyl,

alkyl substituted aryl and alkoxy substituted aryl; each R_3 is an alkylene chain having from 2–3 carbon atoms in the chain with each of said carbon atoms having attached thereto members selected from the group consisting of hydrogen, alkyl containing 1–4 carbon atoms, aryl of 6–10 carbon atoms and aralkyl, the alkyl group in each said aralkyl being of 1–2 carbon atoms; *n* is a positive whole integer from 1–3 and the radical



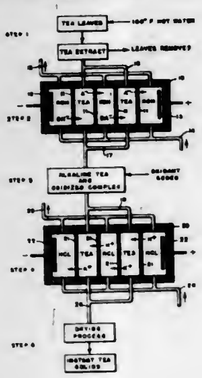
is a unit in the linear chain of the polyamine.

3,369,906

ELECTRODIALYTIC TREATMENT OF TEA

William Kwo-Wei Chen, Stamford, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey

Continuation of application Ser. No. 334,711, Dec. 31, 1963. This application Aug. 3, 1967, Ser. No. 658,293
3 Claims. (Cl. 99—77)



Electrodialytic treatment of tea without salt formation.

3,369,907

PREPARATION OF YEAST-RAISED BAKED PRODUCTS EMPLOYING A BLEND OF A MONOGLYCERIDE AND A LOWER MONOCARBOXYLIC ACID ESTER OF A POLYHYDRIC ALCOHOL

William H. Knightly, Wilmington, Del., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 24, 1964, Ser. No. 385,030
5 Claims. (Cl. 99—91)

A softener and mold inhibitor for yeast-raised baked products comprising a blend of a low iodine value monoglyceride and a lower monocarboxylic acid ester of a polyhydric alcohol is incorporated into the ingredients of the sponge or dough of the product prior to baking.

3,369,908

PROCESS FOR PRODUCING TORTILLA FLOUR

Roberto M. Gonzalez, 5 de Mayo 32 Norte, Mazatlan, Sinaloa, Mexico, and Manuel J. Rubio, 192 Benham Ave., Bridgeport, Conn. 06605

Filed Apr. 2, 1965, Ser. No. 445,198
8 Claims. (Cl. 99—93)

Process of making tortilla flour wherein whole grain corn is steeped in heated water containing calcium oxide for a time sufficient to render the hull greasy without removing it, removed from said water, introduced into a stream of pressurized, hot, non-combustible gas and progressed in a return loop to: impinge corn particles against each other, grind and partially dry the resulting flour, separating said gas and flour and finally drying said flour to a moisture content of about 12%.

3,369,909

METHOD FOR MAKING FLUID OLEAGINOUS SUSPENSION

William Frederick Schroeder and Joseph Roy Wynne, Memphis, Tenn., assignors to National Dairy Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 18, 1964, Ser. No. 368,329
5 Claims. (Cl. 99—118)

A method for the manufacture of a stable, two phase, fluid oleaginous suspension including heating a mixture of an edible liquid oil and between about 8 percent and about 13 percent, by weight of the suspension, of a triglyceride hard fat containing at least about 85 percent C_{18} and longer fatty acid radicals having an I.V. of less than about 8 to an elevated temperature sufficient to melt the hard fat and destroy crystal nuclei, cooling the mixture to a temperature within the beta crystalline range for the suspension and maintaining the temperature of the mixture within the beta crystalline range until substantially all of the hard fat has crystallized in the beta phase.

3,369,910

FREEZE-THAW STABLE FOOD PRODUCTS

Alexander J. Ganz, Wilmington, and George C. Harris, Normandy Manor, Del., assignors to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Mar. 24, 1965, Ser. No. 442,496
8 Claims. (Cl. 99—139)

1. A fruit pie filling which is stable after freezing and thawing comprising fruit and noncross-linked hydroxypropyl starch.

3,369,911

SAUSAGE CASING

Job Wilhelm von Witzleben, Walsrode-Bomlitz, Germany, assignor to Wolff & Co. A.G., Walsrode-Bomlitz, Germany

No Drawing. Filed May 18, 1964, Ser. No. 368,338
Claims priority, application Germany, May 22, 1963, W 34,550
1 Claim. (Cl. 99—176)

1. An improved casing for sausage, said casing consisting essentially of a shrinkable fibrous tubular outer layer having an inner surface, said outer layer being made of a material selected from the group consisting of cellulose hydrate, long-fibred paper coated with cellulose hydrate, longfibred paper impregnated with cellulose hydrate, hydroxy-ethyl cellulose, long-fibred paper coated with hydroxy-ethyl cellulose, long-fibred paper impregnated with hydroxy-ethyl cellulose, methyl-cellulose, long-fibred paper coated with methyl-cellulose, long-fibred paper impregnated with methyl-cellulose, carboxy methyl cellulose, long-fibred paper coated with carboxy methyl cellulose, long-fibred paper impregnated with carboxy methyl cellulose, albumen fibers, gelatine soaked paper, gelatine soaked woven fabric, paper impregnated with plastic, and woven fabric impregnated with plastics, and a seamless substantially water and air impervious inner layer bonded to said inner surface for intimate contact with the outer surface of said sausage, said inner layer being made of a material selected from the group consisting of vinylidine polymerisates, polyolefines, and nitro-cellulose lacquers whereby said inner layer protects sausage in the casing from drying and said outer layer shrinks upon drying to provide a sausage with a plump attractive shape.

3,369,912

SELF-PROPELLING FOOD MIXTURE

Samuel M. Livengood, Ossining, and Robert G. Werner, Syosset, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 20, 1967, Ser. No. 624,149
2 Claims. (Cl. 99—189)

1-chloroheptafluoropropane is employed as a propellant for a self-propelling food mixture confined under pressure in an aerosol-dispensing container. The mixture consists of an aerosol-dispensable, foamable, edible food formulation and the propellant.

3,369,913

SELF-PROPELLING FOOD MIXTURE

Samuel M. Livengood, Ossining, and Robert J. Scott, New City, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 20, 1967, Ser. No. 624,134
2 Claims. (Cl. 99—189)

1,1,1,2,2-pentafluoropropane is employed as a propellant for a self-propelling food mixture confined under pressure in an aerosol-dispensing container. The mixture consists of an aerosol-dispensable, foamable, edible food formulation and the propellant.

3,369,914

METHOD OF CHEMICALLY POLISHING IRON, ZINC AND ALLOYS THEREOF

Dodolphe Lacal, Calvados, France, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 12, 1964, Ser. No. 410,378
Claims priority, application France, Nov. 12, 1963, 953,317; Apr. 13, 1964, 970,684
4 Claims. (Cl. 106—3)

Polish iron, zinc and alloys of these metals by use of aqueous solution of hydrogen fluoride and hydrogen peroxide. This abstract is not intended to be a description of the invention defined by the claims.

3,369,915

GYPSUM PRODUCT AND METHOD OF MAKING SAME

John M. Lee, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 1, 1964, Ser. No. 400,931
4 Claims. (Cl. 106—111)

Pulverulent gypsum, water, and an anionic surfactant are admixed to produce an improved wet, moldable gypsum paste having a lower water to gypsum ratio than has heretofore been useable and which sets to a high compressive strength mortar which is especially adaptable for use in the manufacture of sandwich-type plaster board or wall board.

3,369,916

CELLULOSE ESTER TEXTILE MATERIALS

Paul J. Corbiere and Vincent Rochina, Lyon, France, and Rene Stuchlik, Villeurbanne, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Continuation-in-part of application Ser. No. 416,418, Dec. 4, 1964. This application June 20, 1966, Ser. No. 558,563
Claims priority, application France, Dec. 12, 1963, 956,971
1 Claim. (Cl. 106—181)

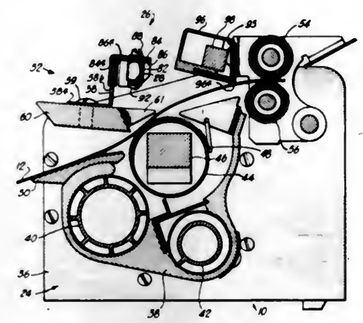
Cellulose acetates, both secondary and triacetates, are rendered more resistant to delustring by incorporating in textile articles made from them 0.1 to 5% (on the weight of the cellulose acetate) of orthophthalic, isophthalic, terephthalic, trimesic or adipic acid. The articles can be made by dry spinning solutions of the cellulose acetate containing the additive.

3,369,917

MAGNETIC BRUSH DEVELOPMENT OF ELECTROSTATIC IMAGES UTILIZING A HIGH VOLTAGE CORONA

Daniel B. Granzow, 1260 S. Chestnut St., Arlington Heights, Ill. 60005, and John L. Tregay, 1144 Isabella Ave., Wilmette, Ill. 60091

Filed Sept. 10, 1963, Ser. No. 307,887
12 Claims. (Cl. 117—17.5)



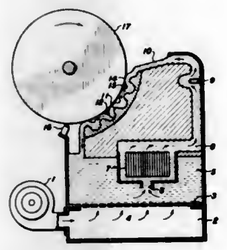
1. A method of developing the image bearing area on one surface of a copy sheet containing an electrostatic charge wi.hout developing nonimage areas on the same surface of the sheet having no more than a small amount of undesired charge, which method comprises the steps of applying a magnetic brush formed by a mixture of magnetic particles and developer powder to the image and nonimage areas on the one surface of the copy sheet to permit the retention of the developer powder by the charge in the image areas, and concurrently applying a voltage in the range from four thousand to six thousand volts to electrode means to apply a corona discharge to the opposite surface of the copy sheet to produce a direct current flow through the copy sheet of such proportions as to carry off the undesired charge in the nonimage areas without affecting the abi.ity of the charge in the image areas to retain the applied developer powder.

3,369,918

DEVELOPMENT OF LATENT ELECTROSTATIC IMAGES WITH CRESTED WAVES OF LIQUID DEVELOPER

James E. Young, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

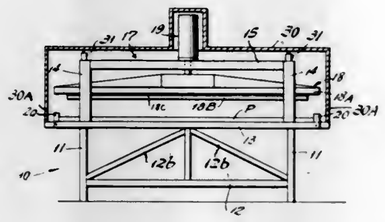
Original application Oct. 28, 1964, Ser. No. 407,095. Divided and this application July 13, 1966, Ser. No. 578,911
2 Claims. (Cl. 117—37)



2. A method for development of latent electrostatic images by contact with flowing liquid developer containing suspended particulate material comprising forming the

surface of said flowing developer into time-independent waves, providing continuous agitation to said flowing developer to maintain uniform suspension of the particulate matter contained therein, and moving a latent electrostatic image bearing surface across said developer surface so that said image-bearing surface intercepts said developer surface only at the crests of said waves.

3,369,919
METHOD AND APPARATUS FOR BEAUTIFYING WOOD PANELS
John Inglis, 4177 Park Ave., Fairfield, Conn. 06430
Filed Oct. 15, 1964, Ser. No. 404,038
9 Claims. (Cl. 117—46)



This invention is directed to a method and apparatus for sculpturing a design in the surface of a wood panel or the like. This is attained by utilization of an electric resistor die comprising a plurality of individual die components formed of a highly electrical resistant material which are formed or shaped into a predetermined design to be sculptured into the surface of the panel. The adjacent resistor die components are spaced one from another so as to prevent shorting and each is individually energized from a suitable source of electrical energy.

The arrangement is such that the die so formed is moved into contact with the panel to be sculptured under predetermined pressures so that when energized the die effects a charring of the predetermined design directly into the surface of the panel and the pressure applied thereon functions to facilitate structural failure of the charred portions of the panel. To prohibit open burning of the panel during a sculpturing operation an enclosure or hood is provided to enclose that portion of the panel to be sculptured from the atmosphere and the oxygen content within the enclosed area being reduced. The depth of the sculptured design is further controlled by providing suitable gauge stops to limit the depth to which the design is charged into the panel.

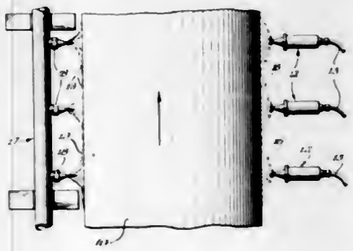
3,369,920
PROCESS FOR PRODUCING COATINGS ON CARBON AND GRAPHITE FILAMENTS
Romeo G. Bourdeau, Brookline, and Frank E. Papalegis, Woburn, Mass., assignors, by mesne assignments, to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Nov. 24, 1964, Ser. No. 413,608
18 Claims. (Cl. 117—46)

1. A process for depositing pyrolytic coatings on carbon and graphite filaments, which comprises depositing said coatings at a temperature between about 1300° C. and 2100° C. and at a pressure of less than 100 mm. of mercury, using about 10 to 400 parts by volume of a diluent gas to 1 part by volume of a source gas, said source gas comprising at least one material selected from the group consisting of hydrocarbons and halides of tantalum, zirconium, niobium, hafnium, titanium, tungsten, silicon, and boron.

3,369,921
METHOD AND COMPOSITION FOR TREATING WOOD TO REDUCE STAINING
Robert E. Stutz, Memphis, Tenn., and Alfred Dale Chapman, Palo Alto, Calif., assignors to Chapman Chemical Company, Memphis, Tenn., a corporation of Tennessee
No Drawing. Filed Oct. 4, 1962, Ser. No. 228,274
9 Claims. (Cl. 117—47)

7. A method of treating unseasoned lumber, which comprises sawing the lumber into pieces of desired size and, immediately after sawing the lumber, bringing the sawn pieces into contact with a composition consisting essentially of 1 to 30 parts by weight of ethylenediaminetetraacetic acid, 1 to 30 parts by weight of thiourea enzyme inhibitor, and 0.01 to 1 part by weight of organic mercurial fungicide, in 700 to 800 parts by weight of water adjusted to an acid pH.

3,369,922
METHOD FOR APPLYING HEAT REACTIVE COATINGS
Joseph G. Svrchek, 330 N. Park Road, La Grange Park, Ill. 60525
Continuation-in-part of application Ser. No. 255,441, Feb. 1, 1963. This application Aug. 9, 1966, Ser. No. 571,202
6 Claims. (Cl. 117—47)



Method of coating pipe comprising continuously rotating a preheated pipe about its axis while spraying a heat sensitive resinous coating composition on the pipe's surface to coat the pipe, and heating the thus coated pipe at a temperature which will cure and immobilize the coating by rotating the coated surface through a heating zone, the coating applied per revolution or pass having a thickness not exceeding about 0.43 mil, continuing the sequence of spraying and heating until the surface is coated to a thickness of at least about 4.5 mils, and thereafter cooling to cause the coating to become hardened, all as described hereinafter.

3,369,923
METHOD OF PRODUCING HEAVY COATINGS BY CONTINUOUS GALVANIZING
John Neil Laidman, Coopersburg, Pa., assignor, by mesne assignments, to Bethlehem Steel Corporation, a corporation of Delaware
No Drawing. Filed Dec. 14, 1964, Ser. No. 418,316
6 Claims. (Cl. 117—51)

1. A method of producing heavy galvanized coatings on ferrous strip stock in a continuous process comprising:
(a) providing a rough surface upon the strip,
(b) passing the strip at a temperature between 350° F. and 820° F. continuously into a molten galvanizing bath held at a temperature of not greater than 840° F.,
(c) passing the strip through the molten bath at a rate of not less than 100 feet per minute,
(d) passing the strip in an upward direction from the molten bath between exit rolls,

(e) said rolls being partially submerged to a depth over the roll axes in the coating bath,
(f) said rolls being sufficiently close to the coated strip to smooth the coating without exerting a wiping action thereon,
(g) operating the exit rolls in the same direction as the strip at a peripheral speed at least 10% greater than the speed of the strip, and
(h) quenching the strip by upwardly directed gas blasts located above the surface of the bath.

3,369,924
GAS PRESSURE IMPREGNATION OF POROUS BEARING WITH MOLTEN TETRAFLUOROETHYLENE POLYMER
Ray Brown Duggins, Chadds Ford, Pa., and Harold Leonard Jackson, Hockessin, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 27, 1964, Ser. No. 370,701
5 Claims. (Cl. 117—65.2)

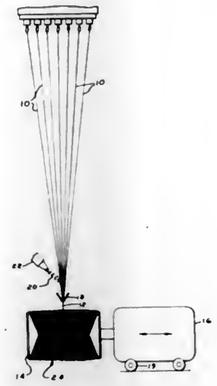
Process for producing bearings containing tetrafluoroethylene which comprises intimately contacting a rigid porous material such as steel, iron or brass with molten tetrafluoroethylene, followed by increasing the gas pressure by at least 200 mm. Hg, and cooling the resulting material.

3,369,925
METHOD OF MANUFACTURING LEATHER SUBSTITUTES AND A PRODUCT OF THE SAME
Hideo Matsushita, Itami, Kazuo Fukada, Takarazuka, and Mamoru Nitta, Toyonaka, Japan, assignors to The Toyo Rubber Industry Co., Ltd.
No Drawing. Filed Mar. 19, 1965, Ser. No. 441,323
Claims priority, application Japan, Mar. 21, 1964, 39/15,536
17 Claims. (Cl. 117—63)

1. A method of manufacturing leather substitutes, which comprises preparing a colloidal coating mixture by admixing a 5 to 50 percent solution of an elastomer selected from the group consisting of polyurethane-urea, polyurea and polyurethane, the solvent for the polymer being miscible with an alcohol and water and being nonsolvent for polyamide, with a 5 to 25 percent alcoholic solution of a polyamide in the dry weight ratio of 1:1/20 to 1, coating the obtained colloidal admixture onto a fibrous substrate, and subsequently treating the coated substrate by immersing in water to form a product having a microporous coating.

3,369,926
METHOD OF APPLYING GLASS-RESIN COUPLING COMPOSITIONS TO GLASS STRANDS
William J. Eakins, Wilbraham, Mass., assignor to De Bell & Richardson, Inc., Hazardville, Conn., a corporation of Connecticut
Filed Sept. 25, 1963, Ser. No. 311,496
8 Claims. (Cl. 117—67)

1. Method of treating glass fiber strands for impregnation and coating with resin in making glass-resin composite structures of improved physical strength which comprises
(1) applying a treating solution to the glass filaments which form the strands as the filaments are being formed,
(a) said treating solution consisting essentially of water and a coupling agent selected from the group consisting of alkyl alkoxy silanes, chlorosilanes and organo chromic chlorides,
(2) winding the strands, and spinning said roll-wound glass strands to remove surplus treating solution, onto a roll,
(3) again applying said treating solution to said strands,
(4) unwinding said strands from said roll while the strands are still moist,



(5) heating said strands, and
(6) rewinding said strands onto a roll to form a glass strand package.

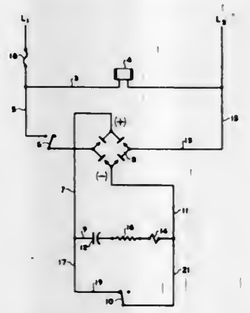
3,369,927
EXPANDABLE STYRENE POLYMERS BY TREATMENT WITH OZONE
William H. Voris, Mars, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Nov. 26, 1965, Ser. No. 509,872
4 Claims. (Cl. 117—100)

A method for improving the properties of expandable styrene polymer particles and styrene polymer foams by treating the surface of the particles of the foam with ozone. The ozone treatment of the expandable particles prevents loss of blowing agent and prevents lumping during the pre-expansion of the particles without affecting the fusion of the particles on molding. Foam structures prepared from particles which have been treated with ozone prior to molding and foam structures which have their surfaces treated with ozone have sufficient solvent resistance that they can be coated with paints and resins having organic solvent vehicles which normally would attack and pit the foam surface.

3,369,928
METHOD AND APPARATUS FOR USE WITH METAL TREATING SOLUTIONS
Michael S. Arlow, Livonia, Mich., assignor to The Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
Filed May 5, 1966, Ser. No. 547,985
10 Claims. (Cl. 117—120)

1. An electrical control system useful in controlling the flow of liquid priming and flushing media to chemical pumping apparatus which comprises a primary circuit comprising a source of direct current, an electrically actuated valve means connected in series with the direct current source, said valve means being activated from its normally closed position to an open position by the passage therethrough of current, an electrical valve and storage means disposed between the current source and the electrically activated valve means and being in series therewith, said valve and storage means being charged by the passage therethrough of current from the current source until the potential thereof becomes substantially equal to the potential of the current passing therethrough,

whereupon the flow of current therethrough to the valve means is interrupted and the valve returns to its normally closed position, a secondary circuit comprising a relay member which is open when the current is passed from the direct current source and closed when current flow from the current source ceases, said secondary circuit being in series with the electrically activated valve means and the electrical valve and storage means and positioned so that upon cessation of current flow from the direct current source, current passes from the charged



electrical valve and storage means through the secondary circuit to the electrically activated valve means, thus opening the valve means and maintaining it open until the potential of the charged valve and storage means is reduced sufficiently as to be ineffective to cause current flow through the circuit, whereupon current flow ceases and the valve returns to its normal closed position, and relay control means for activating the relay member in the secondary circuit to an open position when direct current flows from the current source and to a closed position when the direct current flow ceases.

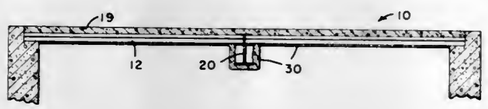
3,369,929

PLASTER ON METAL APPLICATION

Donald J. Petersen, North Tonawanda, N.Y., assignor to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 17,526, Mar. 25, 1960. This application Sept. 21, 1962, Ser. No. 226,481

4 Claims. (Cl. 117—127)



1. A settable gypsum plaster composition capable, upon admixture with water, of tenaciously adhering to a substantially imperforate and untreated metal substrate, following spray application thereto, and able to impart greatly improved fire resistance thereto, consisting essentially of 100 pounds of calcined gypsum, from about 40 to about 64 pounds of an inorganic expanded low density aggregate, from about 25 to about 50 pounds of an inorganic, fibrous material, and sufficient foaming agent to provide an increase in the wet volume, following air entrainment, of about 50% to 100%, said calcined gypsum being at least about 45% of said composition.

4. A fire-retardant, set gypsum plaster composition-coated metal structural member comprising a self-bonded coating of the set resultant product of the composition of claim 1, bonded to the surface of an untreated metal structural member.

3,369,930

METAL PROCESSING COMPOSITIONS AND METHOD

Wesley J. Wojtowicz, Detroit, Mich., assignor to The H. A. Montgomery Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Dec. 6, 1963, Ser. No. 328,507

18 Claims. (Cl. 117—134)

As a metal working lubricant, a mixture of lubricating oil of 1,500–10,000 S.U.S. at 100° F. and a water-soluble organic amine soap of low titer fatty acid, blended in proportions of 34–75 parts of oil to 66–25 parts of soap by weight. A film of the lubricant composition of the invention, at a temperature of 50–400° F., is applied to metal stock with or without removal of previously applied "mill oil." Application may be effected by roll-coating, spraying, dipping, doctoring, or other means, roll-coating being preferred. After dissipation of any residual heat in the coating by exposure to ambient temperatures, the coated metal sheet is subjected to metal-working operations, such as deep-drawing, to form a fabricated article. Welding and painting of the deformed workpiece are performed without removing residual lubricant film; or the lubricant film may be removed by using conventional alkali or acid phosphate cleaners or vapor degreasers to expose polished surfaces of the metal.

3,369,931

N,N'-BIS(ACYLOXYMETHYL)URONS AS FINISHES FOR CELLULOSIC TEXTILE MATERIALS, A TEXTILE TREATED THEREWITH, AND A PROCESS FOR MANUFACTURING SAID URONS

Michael Thomas Beachem, Somerset, and John Christian Oppelt, Manville, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No. Drawing. Filed Aug. 14, 1964, Ser. No. 389,775

13 Claims. (Cl. 117—139.4)

N,N'-bis(acyloxymethyl)urons, which are novel compounds and which when used in the treatment of cellulosic textile materials, impart an unexpectedly high degree of wrinkle recovery, with a concurrent low degree of loss in tensile strength, the treated textile and a process for producing said urons.

3,369,932

COATING WITH MIXTURES OF WAX AND ETHYLENE COPOLYMER EMULSIONS

Webster M. Sawyer, Jr., Orinda, and Warren C. Simpson, Berkeley, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 16, 1964, Ser. No. 383,221

4 Claims. (Cl. 117—161)

Wax-polymer films are applied to substrates by (1) mixing aqueous emulsions of wax and ethylene —C_{3-8} copolymer, (2) applying the mixed emulsions to the substrate, (3) drying to form a wax-polymer film, (4) heating the film to above the wax melting point and (5) cooling the film. Useful substrates are paper and carton boards especially for use in wrapping and containing dairy products and other food products.

3,369,933

REDUCTION OF METALLIC SALTS BY AMINE OXIDE PYROLYSIS

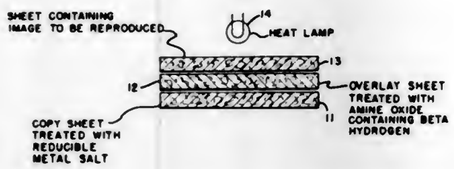
Garson P. Shulman, Baltimore, Md., and Edward B. Dunning, Minneapolis, Minn., assignors, by mesne assignments, to Ashland Oil and Refining Company, a corporation of Kentucky

Filed Jan. 17, 1964, Ser. No. 338,299

24 Claims. (Cl. 117—212)

23. A process for the production of printed electrical circuits on a base medium comprising forming on a base

medium an intimate admixture of a reducible metallic salt and a tertiary amine oxide, placing a pattern conforming to the desired electrical circuit between said base



medium and a heat source, and heating said admixture to a temperature in the range of about 70° C. to 250° C., and removing non-reduced metallic salt and amine oxide from said base medium.

3,369,934

METHOD FOR REMOVING VANADIUM DEPOSITS FROM THE FIRE SIDE OF HEAT TRANSFER SURFACES

Albert J. Pollard, Rosecroft Park, Md., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Feb. 27, 1964, Ser. No. 347,958

6 Claims. (Cl. 134—3)

Purple-black layers of $Na_2O—V_2O_4—5V_2O_5$ bonded to the fire side of heat transfer surfaces of boilers are loosened with hot aqueous oxalic acid, which may contain an oxidation catalyst, and then physically dislodged.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

3,369,935

USING LACTAMIC SULFATE TO CLEAN AND REMOVE DEPOSITS

Robert Ben Booth, Stamford, and Richard Parke Welcher, Old Greenwich, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Mar. 6, 1964, Ser. No. 350,086

5 Claims. (Cl. 134—3)

Process for cleaning and removing deposits and formations on various substrates and surfaces by the use of lactamic sulfate.

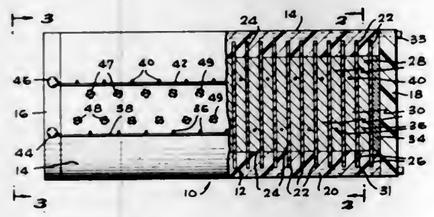
3,369,936

MULTIPLE PLATE BATTERY

David W. Noll, Anaheim, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

Filed Mar. 10, 1966, Ser. No. 533,336

9 Claims. (Cl. 136—80)



1. A multiplate battery consisting of a housing, a plurality of substantially rigid porous separators positioned in spaced substantially parallel relation in said housing, a plurality of spaced slots formed substantially entirely around the interior wall of said housing, the entire periphery of said separators being received in said slots, forming enclosed electrode compartments between said separators, and a plurality of positive electrodes and a plurality of negative electrodes positioned in alternate relation to each other, with adjacent positive and negative electrodes separated by one of said separators, said electrodes being held in position in said electrode compartments between adjacent separators.

3,369,937

MULTIPLE PLATE BATTERY CONSTRUCTION

Albert Himy, Tustin, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

Filed Mar. 10, 1966, Ser. No. 533,170

9 Claims. (Cl. 136—80)

1. A multiplate battery construction comprising a case, a frame received in said case, said frame consisting of a bottom and two side portions and being open at one end, a plurality of spaced substantially parallel grooves formed in the interior wall of said bottom and side portions of said frame, a plurality of substantially rigid porous separators positioned in spaced substantially parallel relation with their peripheral portions received in said grooves, and a plurality of positive electrodes and a plurality of negative electrodes positioned in alternate relation of each other, with adjacent positive and negative electrodes separated by one of said separators, said electrodes being retained in position between adjacent separators.

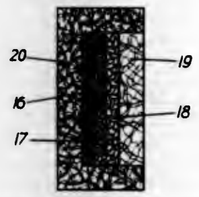
3,369,938

CATALYTIC ELECTRODES AND FUEL CELLS THEREWITH

Hanns H. Kroeger, Gainesville, Fla., and Klaus Dehmelt, Steinbach, Taunus, Germany, assignors to Varta Aktiengesellschaft, Frankfurt am Main, Germany, a corporation of Germany

Continuation-in-part of application Ser. No. 149,309, Nov. 1, 1961. This application Jan. 3, 1966, Ser. No. 518,475

4 Claims. (Cl. 136—86)



1. A mechanically stable, shaped electrode body for low temperature fuel cells comprising:

(a) a porous envelope of sintered catalytically inactive metal enveloping a porous, non-sinterable catalyst core,

(b) said envelope having side walls, a first end wall and a second end wall, said side and end walls together enclosing a recess in which said catalyst core is disposed,

(c) said first end wall and said side walls having a smaller average pore diameter than said second end wall and of any of the catalyst in said catalyst core,

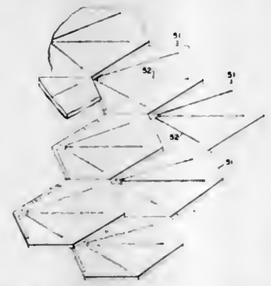
(d) said catalyst core consisting of a multiplicity of at least three layers of catalyst, each layer lying in a plane substantially parallel to the end walls,

(e) the first of said layers being disposed adjacent said first end wall and having an average pore diameter significantly larger than that of said end wall,

(f) the second of said layers being disposed adjacent said first layer and having an average pore diameter significantly larger than that of said first layer,

(g) the third of said layers being disposed adjacent said second layer and having an average pore diameter significantly larger than that of said second layer,
(h) the last of said multiplicity of layers having one surface adjacent the last preceding layer and the other surface adjacent said second end wall and having a pore diameter significantly larger than that of any preceding layer, and smaller than that of said second end wall, and
(i) the pore diameters of said first end wall and of said multiplicity of layers forming a gradation of sizes from small to large beginning with said first end wall, with the pore diameter of the second end wall greater than that of the first end wall and any layer of catalyst.

3,369,939
PHOTOVOLTAIC GENERATOR
Jon H. Myer, Newport Beach, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 23, 1962, Ser. No. 232,515
9 Claims. (Cl. 136—89)



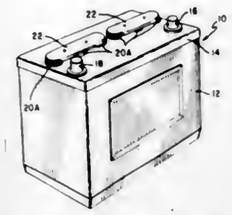
1. A solar cell comprising:
(a) an illuminable semiconductor element having a top surface portion of a first conductivity type, said top surface having two adjacent edges forming a corner;
(b) a reverse surface portion of opposite conductivity type, forming with said top surface portion a p-n junction;
(c) a low resistivity electrically conducting electrode strip directly bonded to said two adjacent edges of said top surface, said strip extending along the length of said edges from said corner at least one-half the length of said adjacent sides, thereby defining a V-shape congruent with said corner; and
(d) an electrically conductive area on the reverse surface adjacent a different corner thereof.

ERRATUM

For Class 136—100 see:
Patent No. 3,370,298

3,369,940
MULTIPLE VENT PLUGS FOR BATTERIES
Robert C. Slautterback, Toledo, Ohio, assignor to Eltra Corporation, Toledo, Ohio
Continuation-in-part of application Ser. No. 415,599, Dec. 3, 1964. This application Mar. 15, 1967, Ser. No. 623,411
3 Claims. (Cl. 136—177)

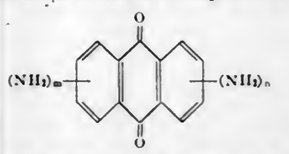
A removable multiple venting and filling device for a battery, having a closed chamber in gas communication with each of the battery cells, the base of the chamber having depending flanges which fit within and frictionally engage the vent openings of the cells to position the device on the battery. A unitary hinged cover with vent apertures is attached to the base to permit access to the cells for inspection and filling. The cover is provided with pairs of concentric depending baffles which, when the cover is in closed position, extend into each of the battery vent openings to prevent splashing of the



battery electrolyte in the cells to the battery exterior but which permit egress of the gas formed in the cells. The pairs of baffles form, with the depending flanges below them, restricted passages at an angle to each other to prevent electrolyte from splashing out the vent apertures in the cover.

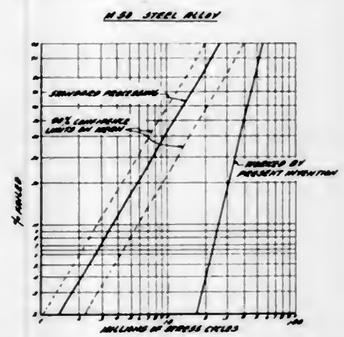
3,369,941
THERMOELECTRIC DEVICE
Bernard S. Wildi, Dayton, Ohio, assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Original application June 7, 1960, Ser. No. 34,430, now Patent No. 3,259,628, dated July 5, 1966. Divided and this application Apr. 19, 1965, Ser. No. 458,504
9 Claims. (Cl. 136—236)

Thermoelectric devices for cooling or generating direct current power comprising a thermoelectric component of the non-sublimable residue from the alkali-free material recovered from alkali fusion of a compound of the formula



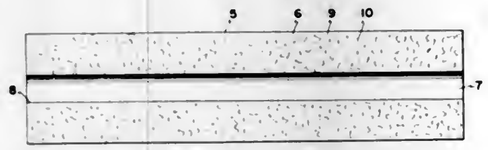
e.g. indanthrone, where *m* is 0, 1 or 2, *n* is 1 or 2, and electrical connections to said component.

3,369,942
BEARING AND METHOD OF MAKING
Eric N. Bamberger, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Feb. 24, 1964, Ser. No. 346,778
8 Claims. (Cl. 148—11.5)



1. In a method of preparing for bearing applications a steel selected from the group consisting of martensitic and semiaustenitic steels of the secondary hardening type capable of being hardened to 58 Rockwell C or above, the steps of:
plastically deforming the steel in an amount represented by the work developed in a reduction in cross-sectional area of at least 70% while the steel is in a metastable austenitic condition,
air cooling the steel and then producing a bearing component from said steel.

3,369,943
GELLED SOLID ROCKET PROPELLANT REINFORCED WITH UNORIENTED MICROFIBERS
John P. Longwell, Scotch Plains, and Herman Bieber, Kenilworth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Dec. 28, 1959, Ser. No. 862,415
7 Claims. (Cl. 149—18)



1. A rocket propellant having a tensile strength above 50 p.s.i. which comprises a felted network of unoriented fibers having a diameter of about 0.1 to 100 microns imbedded in a thickened liquid oxidizing agent which is about 60 to 90 wt. percent of the propellant and is selected from the group consisting of tetranitromethane and a polydifluoramino organic compound containing an NF_2 group linked to each carbon atom, mixed with about 10 to 30 wt. percent of finely-divided solid fuel from the group consisting of beryllium, boron, aluminum and magnesium, said liquid oxidizing agent being thickened into a gel by a thickening agent which is 1 to 5 wt. percent of the propellant, said imbedded fibers having a tensile strength of above strength of above 50 p.s.i. and being present in a proportion of about 1 to 30 wt. percent including said fuel in the form of fibers, but including less than 5 wt. percent of low fuel-value fibers.

3,369,944
THICKENED AQUEOUS DETONATOR COMPOSITION CONTAINING A BRISANT EXPLOSIVE
Adolf Berthmann, Leverkusen, and Paul Lingens, Cologne-Marienburg, Germany, and Clemens Franze, deceased, late of Leverkusen, Germany, by Anneliese Franze, heiress, Leverkusen, Germany, assignors to Dynamit Nobel Aktiengesellschaft Patentabteilung, Troisdorf, Bezirk Cologne, Germany, a corporation of Germany
No Drawing. Filed June 8, 1964, Ser. No. 374,229
Claims priority, application Germany, June 12, 1963, D 41,752
8 Claims. (Cl. 149—39)

3. A detonator composition of reduced hazard during manufacture and of substantially full sensitivity to detonation at the time of use, the composition consisting of:
61 wt. percent pentolite (50/50), grain size <0.1 mm.,
8.7 wt. percent aluminum,
30.3 wt. percent thickened solution of:
10.5 parts $Ca(NO_3)_2$,
12.0 parts NH_4NO_3,
7.6 parts H_2O,
0.2 part guar flour.

4. A detonator composition of reduced hazard during manufacture and of substantially full sensitivity to detonation at the time of use, the composition consisting of:
76.5 wt. percent of a mixture of 60 parts hexogen and 40 parts TNT (grain size <1 mm.),
23.5 wt. percent of a thickened solution of:
8.1 parts $Ca(NO_3)_2$,
9.3 parts NH_4NO_3,
5.9 parts H_2O,
0.2 part guar flour.

7. A detonator composition of reduced hazard during manufacture and of substantially full sensitivity to detonation at the time of use, the composition consisting of:
74.3 wt. percent of cyclotrimethylenetrinitroamine,
8.9 wt. percent $Ca(NO_3)_2$,
10.2 wt. percent NH_4NO_3,
6.4 wt. percent water,
0.2 wt. percent guar flour.

3,369,945
EXPLOSIVE COMPOSITION CONTAINING AN INORGANIC OXIDIZER SALT, A SOLUBLE LIGNOSULPHONATE, AND MUTUAL SOLVENT THEREFOR
Joseph Francis McLean Craig, Beloeil, Quebec, and Errol Linton Falconer, St. Hilaire, Quebec, Canada, assignors to Canadian Industries Limited, Montreal, Quebec, Canada, a corporation of Canada
No Drawing. Filed Oct. 14, 1966, Ser. No. 586,676
Claims priority, application Great Britain, Nov. 1, 1965, 46,133/65
8 Claims. (Cl. 149—39)

In slurry-type explosive compositions comprising oxygen-supplying salts, a fluid carrier and a sensitizer or fuel, optimum detonation and propagation has heretofore been possible only through the use of relatively large quantities of sensitizing materials and fuels. The present invention provides an explosive slurry composition of improved sensitivity, especially in small diameter charges, by incorporating in the composition a quantity of a soluble lignosulphonate which permits a reduction in the fuel and/or sensitizer content.

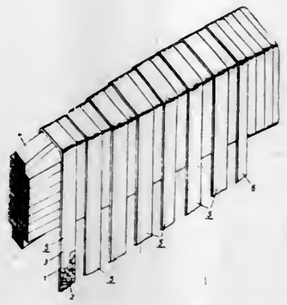
3,369,946
PROCESS FOR POLYMERIZING ACRYLIC MONOMERS WITH STRONTIUM PERCHLORATE FOR PYROTECHNICS AND PROPELLANTS
Bernard E. Douda, Bloomfield, Ind., assignor to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed June 22, 1964, Ser. No. 377,140
4 Claims. (Cl. 149—83)

A process for preparing a polymer from a monomer selected from the class consisting of acrylic acid, methacrylic acid and esters of acrylic acid and methacrylic acid comprising dissolving water moistened strontium perchlorate in said monomer and then catalyzing the solution of moistened strontium perchlorate and monomer.

3,369,947
METHOD OF TREATING ARTICLES WITH POLYMERIZATION OR POLYADDITION REACTIONABLE SYSTEMS
Willi Mertens, Hartmut Meyer, and Jürgen Berger, Berlin, Germany, assignors to Siemens Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Apr. 7, 1964, Ser. No. 357,986
Claims priority, application Germany, Apr. 11, 1963, S 84,698
5 Claims. (Cl. 156—51)

Described is a method of treating articles of manufacture with polymerization- or polyaddition-reactionable systems of substances. The method comprises adding to

the article an accelerator for the reaction and enveloping the article in an envelope permeable to said reactionable substance system when the latter is liquid. Thereafter, the enveloped article is immersed in a bath of said liquid substance system until, due to the accelerator, the viscosity



of the substance penetrated into the envelope is sufficient to prevent the substance from draining out of the envelope. The enveloped article is then removed from the bath, and the hardening of the substance completed outside of the bath.

3,369,948
METHOD OF PRODUCING A PILE FABRIC
Bernard George Ostmann, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 12, 1964, Ser. No. 410,484
1 Claim. (Cl. 156—72)



1. A method for producing a textile article which comprises:

blending 50–95% by weight structural fibers with 5–50% by weight binder fibers, both structural and binder fibers being crimped staple-length fibers composed of linear polyesters, the polyester making up the binder fibers being normally solid and having a melting point below that of the polyester making up the structural fibers;

carding the blend of fibers to substantially parallelize the fibers and ensure uniform dispersion of the binder fibers and structural fibers;

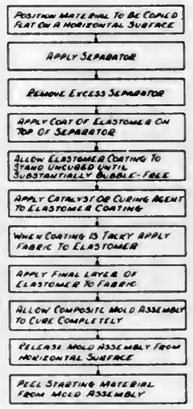
stacking the carded blend to form a multi-ply assembly with the fibers all generally aligned in the same direction;

heating the assembly at a temperature between the melting point of the binder fibers and the melting point of the structural fibers to thereby cause the polyester making up the binder fibers to retract into droplet form and bond the structural fibers to one another at their cross-over points throughout the assembly;

cutting the assembly at an angle transverse to the parallelized fibers to provide a porous, flexible, self-supporting sheet having faces composed essentially of fiber ends; and

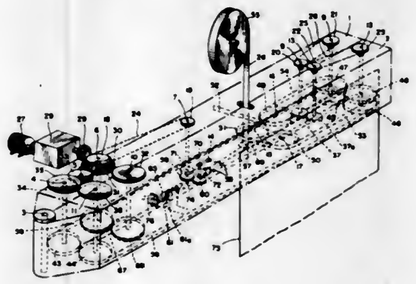
laminating a face of the sheet with a backing.

3,369,949
METHOD OF MAKING A FLEXIBLE MOLD
Norman Forrest, 21 New York Ave., White Plains, N.Y. 10606
Continuation-in-part of application Ser. No. 195,869, May 18, 1962. This application Aug. 8, 1966, Ser. No. 570,950
16 Claims. (Cl. 156—232)



A flexible mold is made from a textured surface material by positioning the material flat and applying a separator to the textured surface with a controlled amount of the separator being applied to such surface. Next a layer of liquid elastomeric substance is applied to the textured surface and substantially all of any entrapped air is enabled to escape from such liquid layer. Next a curing agent for the elastomeric layer is applied thereto and the material is permitted to cure at least partially. The mold can be completed by applying a backing material to the elastomeric layer and the resulting flexible mold assembly is cured and ultimately separated from the material being copied.

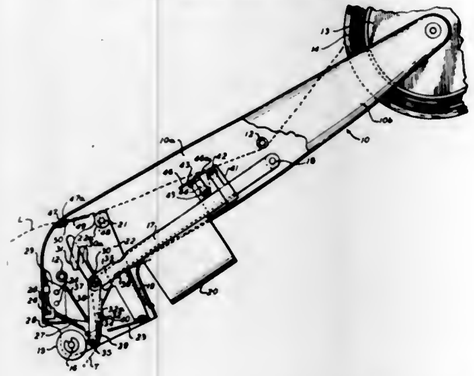
3,369,950
HEAT SEALING PLASTIC BAGS
Horst Rosewicz, Friedrich Fecher, and Jakob Schoenmann, Ludwigshafen (Rhine), and Gernot Manhart, Limburgerhof, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
Filed Mar. 26, 1965, Ser. No. 443,015
Claims priority, application Germany, Mar 28, 1964, B 76,109
1 Claim. (Cl. 156—464)



1. Apparatus for heat-sealing plastic bags with a closure strip comprising a stationary rear frame member, and a movable front frame member, a hinge between said two frame members to connect said movable frame member

to said stationary frame member, interengaging means on said frame members to prevent relative movement thereof, four vertical shafts in said stationary frame member and three vertical shafts in said movable frame member, four of said seven shafts being mounted at the outer ends and three in the middle of said frame members, horizontally rotating metal discs carried on the outer shafts, said metal discs guiding two endless long steel bands, further horizontally rotating metal discs carried by the inner shafts and by further shafts, the last mentioned metal discs guiding a pair of short steel conveyer bands, means for driving said steel bands in horizontal planes with a vertical space between said long steel bands and said short steel bands, said long steel bands gripping and pressing together the bag on both sides below the upper edge of said bag, said short steel bands gripping and pressing together said bag above said upper edge of the bag, cutting means above said pair of long conveyer bands, a profiled metal sheet in the form of an inverted V above the abutting upper edges of said pair of long conveyer bands, two oppositely arranged wheels mounted in said frames, one of said wheels being rigidly mounted in said frame and the other being movable relatively thereto, driving means for said wheels, and two electrically heated heating wedges arranged horizontally opposite to each other for heating said upper edge of said bag, said heating wedges being rotatably mounted on horizontal axles and adapted to be swung downwardly by counter-weights and moved upwardly by electromagnets.

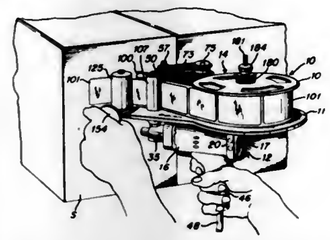
3,369,951
DOUBLE-FACED ADHESIVE TAPE APPLICATORS
George H. Fritzinger, 18 Oakridge Road, West Orange, N.J. 07052
Filed July 6, 1964, Ser. No. 380,510
5 Claims. (Cl. 156—523)



This application relates to devices for dispensing and applying pressure-sensitive double-faced tape without the interliner, and particularly it relates to hand operable devices which are adapted for direct application of any selected length of such tape.

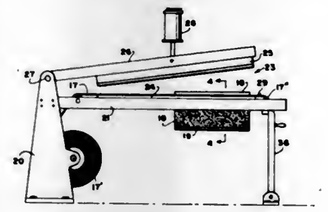
3,369,952
LABEL DISPENSER
Nelson M. Rieger, Dayton, Ohio, assignor to Presto Adhesive Paper Company, Incorporated, Miamisburg, Ohio, a corporation of Ohio
Filed Dec. 24, 1964, Ser. No. 420,951
9 Claims. (Cl. 156—577)

1. A portable label dispenser for applying labels having a pressure sensitive adhesive on one side thereof and being stored adjacent one another on a tape which is coiled into a roll, comprising a mounting member, means for securing the roll of tape on said mounting member, a separator plate secured to said mounting member and having an edge perpendicular to the path of movement of the tape, take-up means on said mounting member for moving the tape sharply around said edge with the labels on the outside of the tape to cause the labels to be removed therefrom, an applicator roller mounted on said mounting member parallel and closely spaced from said edge, said roller being adapted to roll smoothly over the surface to which the label is to be applied and to apply



pressure to the label as it is fed between said applicator roller and the surface, power operated means for operating said take-up means to move the tape around said edge to separate the labels from the tape and feed the labels to a position where said applicator roll applies the labels to the surface, and hand grip means on said mounting member adjacent said applicator roller for use in placing said roller in position to apply a label to the surface.

3,369,953
MEANS FOR SEALING THE SLIT OF A LENGTHWISE-SLIT CARDBOARD TUBE
Alfred Fener, 422 Beach 146th St., Neponsit, N.Y. 10031
Filed Feb. 12, 1965, Ser. No. 432,143
2 Claims. (Cl. 156—583)

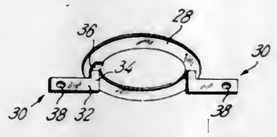


A pair of spaced parallel electrically-actuated heating wires on a sealing bar carried on and along a fixed horizontal cantilever beam, cooperate with a pressure bar which is movable towards and away from the sealing bar, to heat seal a thermoplastic tape to the interior surface of a lengthwise-slit tube placed on said beam as a sleeve thereon. Said tape coming off a supply roll near the fixed end of the beam, is fed through said tube and lies on the sealing bar, along and across said slit, with its lead end releasably held at the free end of said beam; the beam length being greater than the longest tube to be worked on.

3,369,954
HEAT SEALING MACHINE AND SEALING MEMBER THEREFOR
Alfred Fener, 2037 Utica Ave., Brooklyn, N.Y. 11234
Filed Nov. 12, 1964, Ser. No. 410,585
10 Claims. (Cl. 156—583)

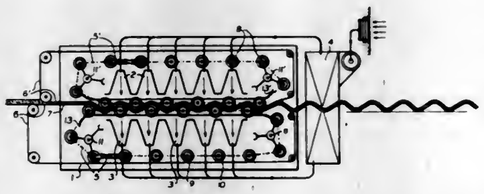
In a sealing member for heat sealing machines, a heater element in the form of a sheet washer, a pair of feed-

ers having one of their ends attached to the bottom face of said heater element at diametrically opposite transverse regions thereof, and a conductor attached to each of the other ends of said feeders for supplying impulses of



heating current through said feeders to said heater element. The specific resistivities of the said washer, feeders and conductors, respectively, are so selected as to obtain uniform distribution of heat over the sealing face of the washer.

3,369,955
APPARATUS FOR FORMING CORRUGATED SHEETS
Bernard Rudloff, Rosenweirhof, Marckholsheim, Bas-Rhin, France
Filed Mar. 16, 1964, Ser. No. 351,935
Claims priority, application France, Dec. 17, 1963, 7,931
8 Claims. (Cl. 156—588)



1. An apparatus for the manufacture of panels of fibers and polymerized materials comprising

two endless conveyor belts disposed in vertical spaced and parallel relationship,

means for providing an unpolymerized sheet of fibers and resin between said two conveyor belts in sandwich relationship,

said two endless conveyor belts being perforated and permitting air to pass therethrough,

two chain assemblies for synchronously moving each of said two endless conveyor belts, respectively, thereby moving said sheet therewith,

means for providing and distributing heated air to a plurality of positions along one of said two endless conveyor belts adjacent said sheet and for removing said heated air from a plurality of corresponding positions along the other of said two endless conveyor belts adjacent said sheet, said heated air thereby passing through said conveyor belts and said sheet therebetween and effecting the polymerizing of said sheet,

each of said two chain assemblies comprises,

a plurality of axles,

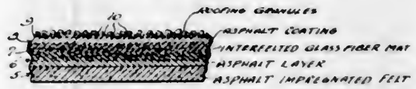
an endless chain means connecting said plurality of axles in spaced parallel relationship relative to one another and relative to said each of said two endless conveyor belts,

a plurality of rollers disposed on each axle in spaced relationship from each other,

driving means for moving said endless chain means and said axles, and

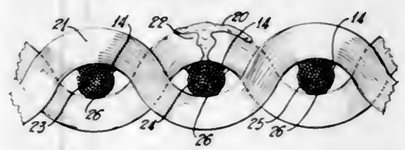
an adjustable pair of guide rail means disposed parallel to and in spaced and adjustable relationship to said each of said two endless conveyor belts adjacent said sheet for guiding said plurality of axles and said rollers thereon against said each of said two endless conveyor belts adjacent said sheet.

3,369,956
FIRE-RESISTANT BUILDING COVERING COMPOSITION
Clyde C. Schuetz, Prospect Heights, and Richard Ericson, Park Ridge, Ill., assignors to United States Gypsum Company, Chicago, Ill., a corporation of Illinois
Continuation-in-part of applications Ser. No. 575,475, Apr. 2, 1956, and Ser. No. 356,772, May 22, 1953. This application Nov. 8, 1962, Ser. No. 237,437
1 Claim. (Cl. 161—93)



1. A prepared roofing of improved fire resistance comprising a roofing base, a prepared-roofing coating asphalt layer disposed on said base, a preformed open integral mat of glass fibers of substantially uniform diameter embedded in said coating asphalt layer; said fibers comprising at least about 1 percent by weight of said coating asphalt layer; mineral roofing granules embedded in the upper surface of said prepared roofing so as to provide a substantially continuous roofing covering; said granules comprising about 18 to 45 percent by weight of said roofing and having a particle size of between about .01 to .13 inch; the coating asphalt being present in quantity sufficient to completely envelop said glass mat and have each of said roofing granules adhered thereto.

3,369,957
METHOD FOR RENDERING FABRICS RESISTANT TO WRINKLING AND WEAVE SLIPPAGE AND ARTICLE PRODUCED THEREBY
Remus F. Caroselli, Cumberland, and James J. Dillon, Providence, R.I., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Apr. 10, 1964, Ser. No. 358,804
17 Claims. (Cl. 161—93)

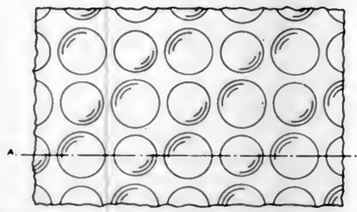


A glass fiber fabric resistant to weave slippage and wrinkling is produced by heating the fabric to remove its size composition and to obtain a weave set, applying to the fabric surface a continuous protective coating, and curing the coating. A binder is controllably applied to the fabric in such a manner that a substantial number of crossover points formed by warp and fill yarns are bonded without clogging the foramina of the fabric.

3,369,958
ROOFING MATERIALS
Harry Fleeman, 48 Leeds Road, Kippax, Leeds, York County, England
Filed Aug. 17, 1964, Ser. No. 390,774
Claims priority, application Great Britain, Sept. 24, 1963, 37,422/63
4 Claims. (Cl. 161—112)

1. A sheet covering comprising a base consisting of a lamination of a thermo-plastic plastic sheet between sheets

of paper bonded together and embossed under heat, and then coated on one side with bitumen, tar or rubber which



unites with the bonded sheet to make a ductile covering with an embossed base that is not affected by heat or water.

3,369,959
LAMINATE OF POLYVINYL FLUORIDE
Paul Randolph Noyes, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 25, 1963, Ser. No. 318,896
7 Claims. (Cl. 161—189)



3. A laminated structure comprising: an oriented, opaque, two-side surface receptive polyvinylfluoride film; a water-resistant, resilient, flexible backing material and an adhesive intermediate said film and said backing material comprising a polyalkyl acrylate, at least 10% of an isocyanate curing agent and at least 2% carbon black.

3,369,960
DECORATIVE LAMINATES OF IMPROVED WEATHER RESISTANCE
John Andrew Sedlak, Stamford, and James Sterling Noland, Greenwich, Conn., assignors to Formica Corporation, Cincinnati, Ohio, a corporation of Delaware
No Drawing. Filed Jan. 21, 1965, Ser. No. 427,101
12 Claims. (Cl. 161—189)

1. A unitary, heat- and pressure-consolidated decorative laminated article which comprises a superimposed assembly of:

(1) a rigidity-imparting base member,

(2) a print sheet member directly bonded to said base member comprising a fibrous sheet impregnated with a substantially completely cured aminotriazine-aldehyde resin, and

(3) a substantially non-porous film, of from about 0.5 to about 30 mils in thickness, of a polymer of a lower alkyl ester of 2-(fluoromethyl)acrylic acid with not more than about 30% by weight, based on the total weight of said polymer, of other ethylenically unsaturated monomers copolymerizable therewith, directly bonded to said print sheet member.

3,369,961
RADIATION-RESISTANT METAL SEALING GLASS
Robert H. Dalton, Corning, and Francis W. Martin, Painted Post, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Jan. 30, 1964, Ser. No. 341,456
5 Claims. (Cl. 161—196)

A radiation-resistant metal sealing glass having a coefficient of expansion of about 48 to 58×10^{-7}/° C. consisting essentially of silica, lead oxide and alkali metal oxides together with optionally small amounts of boric oxide, zinc oxide, alumina and barium oxide.

3,369,962
DECORATED OVERLAY FOR MOLDED ARTICLES
Walter L. Hochner, Wilmington, Del., Winthrop S. Lawrence, Lincoln University, Pa., and George T. Brown, Kiamensi Gardens, Wilmington, Del., assignors to Kaumagraph Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 9, 1963, Ser. No. 329,067
7 Claims. (Cl. 161—258)



1. An overlay for forming decoated molded thermosetting resin articles and laminates having a resin rich surface, said overlay comprising a fibrous sheet impregnated with a thermosetting resin containing basic nitrogen groups capable of reacting with an acid, one surface of said sheet being coated with a coating composition comprising

(a) a thermosetting resin containing basic nitrogen groups and

(b) an organic polycarboxylic acid said acid having reacted with at least the thermosetting resin impregnated in said sheet at the coated surface, the surface of such sheet not coated with the composition being substantially non-reacted with said acid.

3,369,963
CONTROLLING AND ERADICATING FUNGI WITH O - (3 - AMINO - CHLOROBENZOYL) BENZOIC ACIDS
Earl P. Williams, Pen Argyl, Pa., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 14, 1963, Ser. No. 316,164
1 Claim. (Cl. 167—30)

A method is provided for controlling and eradicating fungi which attack chlorophyllaceous plants by applying to the loci of said plants a fungicidal amount, i.e., from 0.01% to 5% by weight of liquid or solid carrier, of o-(3-amino-chlorobenzoyl) benzoic acid or the zinc salt thereof.

3,369,964
PRESERVATION OF WOOD
Geoffrey H. Beames, Orlando, Fla., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Mar. 25, 1965, Ser. No. 442,811
7 Claims. (Cl. 167—30)

1. The method which comprises exposing to natural sea water wood rendered resistant against attack by marine borers by treatment with an organic solvent containing dissolved therein as active ingredient an effective amount of a material selected from the group consisting of decachlorooctahydro - 1,3,4 - metheno - 2H - cyclobuta(cd)pentalen - 2 - one and mixtures of decachlorooctahydro - 1,3,4 - metheno - 2H - cyclobuta(cd)pentalen-2-one and pentachlorophenol.

3,369,965
PRESERVATION OF WOOD
Everett E. Gilbert, Morristown, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Mar. 4, 1965, Ser. No. 437,292
12 Claims. (Cl. 167—31)

1. A composition for inhibiting attack of wood by soil-inhabiting termites and preventing rot comprising as active

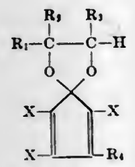
ingredient a mixture of (1) decachlorooctahydro-1,3,4-metheno-2H-cyclobuta(cd)pentalen-2-one and (2) a material selected from the group consisting of pentachlorophenol and creosote, the weight ratio of (1):(2) ranging from 2:1 to 1:5, said active ingredient being dissolved in an inert organic solvent therefor.

3,369,966
METHODS OF KILLING NEMATODES WITH 6,9-DIOXA-1-SPIRO[4,4]NONENES

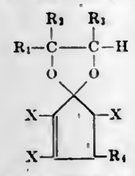
Wen-Hsuan Chang, Gibsonia, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 234,846, Nov. 1, 1962. This application Apr. 10, 1967, Ser. No. 629,374
2 Claims. (Cl. 167—33)

This application relates to the use of compounds corresponding to the following formulas as insecticides and nematocides:

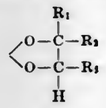


FORMULA A

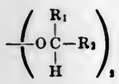


FORMULA B

In the above formulas, X represents chlorine or bromine and R_1, R_2 and R_3 are each selected from the class consisting of hydrogen and alkyl, cycloalkyl, phenyl, alkoxyalkyl, phenyloxyalkyl and hydroalkyl radicals usually having up to 20 carbon atoms and preferably 1 to 10 carbon atoms. R_4 is either the structure:



or the structure:



where R_1, R_2 and R_3 are as above.

In the foregoing Formula B, it is to be noted that the substituents designated as R_1, R_2 and R_3 occur more than once in each formula, In these instances, each R_1 group may refer to a different radical selected from the group set forth, and each R_2 and each R_3 may similarly be different. Such compounds are obtained, for example, when produced by a method in which successive reactions with an alcohol are employed and a different alcohol is used in each step. Compounds of this type are included within the scope of the various embodiments of the invention disclosed and claimed herein.

3,369,967
COMPOSITIONS FOR TREATING OBESITY AND METHODS OF USE

Nguyen Dat Xuong, Antony, and Roland-Yves Mauvernay, Riom, France, assignors to Société Anonyme dite Laboratoire d'Analyses et de Recherches Biologiques Mauvernay-Centre European de Recherches Mauvernay-(C.E.R.M.), Riom, France

No Drawing. Filed Nov. 20, 1963, Ser. No. 325,150
Claims priority, application Great Britain, Nov. 21, 1962, 44,030/62
5 Claims. (Cl. 167—55)

1. A therapeutic composition for use in treating obesity consisting essentially of a dose effective for treating obesity of the p-chloro-phenoxyacetate of amphetamine in an inert carrier.

3,369,968
COMPOSITION AND METHOD OF ABSORBING GAS IN THE INTESTINE

Walton J. Smith, 410 E. 57th St., New York, N.Y. 10022

No Drawing. Filed Dec. 3, 1963, Ser. No. 327,842
4 Claims. (Cl. 167—55)

1. An enteric coated dosage unit containing as an essential ingredient a medicament selected from the group consisting of magnesium hydroxide and magnesium oxide in an amount sufficient to provide relief from discomfort due to excessive carbon dioxide in the human intestinal tract, said enteric coating being an enteric coating which will release the medicament in the intestinal tract when the intestinal fluid is substantially free from hydrochloric acid.

3,369,969
COLIBACILLI CONTAINING MEDICAMENT AND A METHOD OF PREPARING SAME

Lucien Nouvel, 91 Avenue des Ternes, Paris 17, France

No Drawing. Filed Feb. 24, 1964, Ser. No. 347,016
Claims priority, application France, Mar. 1, 1963, 926,515
7 Claims. (Cl. 167—55)

4. A composition suitable for lyophilisation of living non-pathogenic colibacilli comprising said bacilli, at least two pH buffering substances, and an animal mucin.

3,369,970
DYEING HUMAN HAIR

Terence P. McLaughlin, Twickenham and John B. Wilkinson, Hampton, England, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Continuation-in-part of application Ser. No. 486,222, Sept. 9, 1965. This application Nov. 10, 1966, Ser. No. 593,581
Claims priority, application Great Britain, Aug. 20, 1959, 28,459/59
3 Claims. (Cl. 167—88)

This specification is concerned with a hair dye composition which is a substantially anhydrous viscous mixture of a powdered basic dye and a water-immiscible oil.

3,369,971
APPARATUS FOR CONTROLLING A NUCLEAR REACTOR PLANT

Jakob Kägi, Wiesendangen, Zurich, Switzerland, assignor to Sulzer Brothers, Limited, Winterthur, Switzerland, a corporation of Switzerland

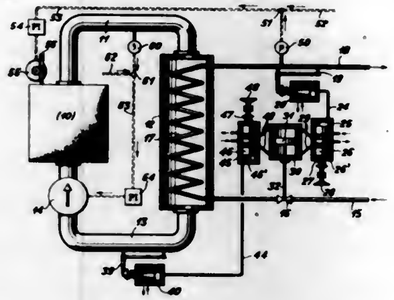
Filed Oct. 28, 1964, Ser. No. 407,004
Claims priority, application Switzerland, Oct. 30, 1963, 13,290/63
4 Claims. (Cl. 176—60)

1. In a nuclear reactor plant having a nuclear reactor, a forced flow vapor generator including tubular heat-absorbing elements conducting an operating medium, and means for circulating a coolant through said nuclear reactor for receiving heat therefrom and through said vapor generator for transferring heat received in said reactor to

the operating medium conducted by said tubular heat-absorbing elements for heating, evaporating, and superheating the operating medium;

valve means for controlling the supply of operating medium to said tubular heat-absorbing elements,

a device operatively connected to said valve means for actuating said valve means to vary the supply of operating medium to said elements,



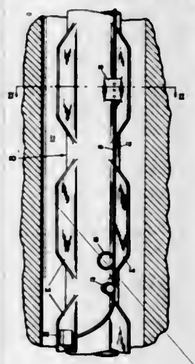
a first temperature-sensitive means connected to a portion of said tubular elements outside said vapor generator for sensing the temperature of superheated operating medium leaving said vapor generator, said first temperature-sensitive means being operatively connected to said device for actuating said valve means in response to a temperature less than a first predetermined temperature to decrease the supply of operating medium,

and, a second temperature-sensitive means connected to said coolant circulating means for sensing the temperature of coolant leaving said vapor generator, said second temperature-sensitive means being operatively connected to said device for actuating said valve means in response to a temperature above a second predetermined temperature to increase the supply of operating medium.

3,369,972
NUCLEAR REACTOR FUEL ELEMENT WITH ATTACHED THERMOCOUPLE

Stanley Charles Seymour, Whetstone, England, assignor to The English Electric Company Limited, London, England, a British company

Filed Jan. 18, 1966, Ser. No. 521,268
Claims priority, application Great Britain, Jan. 22, 1965, 2,878/65
5 Claims. (Cl. 176—68)

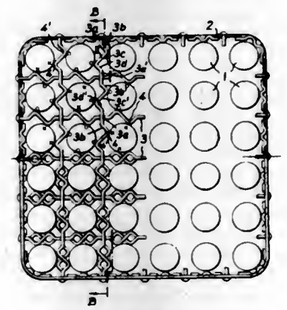


1. A nuclear reactor fuel element assembly comprising a fuel element, a thermocouple hot junction attached thereto, a cable attached to said hot junction and leading along the fuel element towards a point remote therefrom, cable straightening means on said fuel element, a free loop being formed in said cable between said straightening means and said hot junction, and securing means on the fuel element adjacent the cable between a middle point of said loop and said hot junction, the cable being secured to said securing means and passing through said straightening means, so that on application of tension to said cable the loop breaks at said middle point to form a hooked broken end on the portion of the cable passing through the straightening means and so that on withdrawal of said portion of the cable the straightening means straightens said hooked end.

3,369,973
SUPPORT GRID STRUCTURE FOR A NUCLEAR FUEL ASSEMBLY

Otfried Voigt, Buchschlag, and Jochen Höchel, Frankfurt am Main, Germany, assignors to Licentia Patentverwaltungs-GmbH, Frankfurt am Main, Germany

Filed Dec. 3, 1965, Ser. No. 511,458
Claims priority, application Germany, Dec. 7, 1964, L 49,471
10 Claims. (Cl. 176—78)



1. A fuel rod holding and positioning unit for holding a plurality of fuel rods in proper spaced relation in a reactor core, comprising, in combination:

(a) a substantially flat frame; and

(b) a plurality of resilient wires arranged to form a matrix for receiving the fuel rods and each having its ends connected to said frame, each of said wires having a zigzag shape which causes said wire to present a plurality of contacting points extending transversely to a line joining the ends of said wire and to a reference plane extending parallel to the median plane of said frame, each of said points presented by each said wire being arranged to bear against a respective one of the fuel rods to be held.

3,369,974
PRODUCTION OF LYCOPENE

Leon Ninet and Jacques Albert Renaut, Paris, and Robert Charles Francois Tissier, Maisons Alfort, France, assignors to Rhone-Poulenc S.A., Paris, France, a corporation of France

No Drawing. Filed May 10, 1965, Ser. No. 454,654
Claims priority, application France, May 14, 1964, 974,548
4 Claims. (Cl. 195—28)

Improved yields are obtained in the production of lycopene by the fermentation of the + and — forms of *Blakeslea trispora* if the fermentation is effected in the presence of a heterocyclic compound selected from the class consisting of imidazole, mono- and di (lower alkyl) imidazole, pyridine, mono-, di- and tri (lower alkyl) pyridines, (lower alkanoyl) amino-imidazole, morpholine, piperidine, creatinine, compounds in which two such

heterocyclic nuclei are linked by a single bond, and compounds in which two such heterocyclic nuclei are linked by a carbonyl group.

3,369,975

METHOD FOR THE FERMENTATIVE SYNTHESIS OF 5'-URIDYLIC ACID

Kiyoshi Nakayama, Sagamihara-shi, and Haruo Tanaka, Tokyo, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Continuation-in-part of application Ser. No. 434,112, Feb. 19, 1965. This application Nov. 29, 1966, Ser. No. 597,549

Claims priority, application Japan, Feb. 24, 1964, 39/9,266

5 Claims. (Cl. 195—28)

5'-uridylic acid is produced by fermentation of a nutrient medium containing fermentable carbon and nitrogen sources, orotic acid or a derivative (salts of orotic acid or orotidine), phosphate from about 0.5% to about 2.5% by weight, magnesium sulfate from about 1% to about 2% by weight, and an inorganic salt (e.g. calcium chloride).

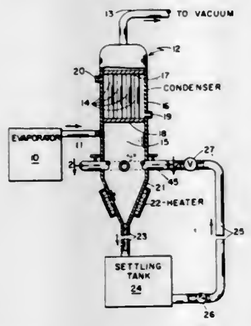
3,369,976

APPARATUS FOR CONDENSING A GASEOUS MIXTURE OF MONOMER AND OLIGOMERS OF POLYMERIC MATERIALS

John P. Temple, Leominster, Mass., Sidney J. Baum, Encino, Calif., and David K. Eads, Levittown, Pa., assignors to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware

Application Mar. 26, 1965, Ser. No. 446,466 which is a continuation of application Ser. No. 58,750, Sept. 29, 1960. Divided and this application May 26, 1966, Ser. No. 612,058

1 Claim. (Cl. 202—236)



1. Apparatus for condensing a gaseous mixture of cyclic amide monomer and oligomers thereof; including a condensing chamber; said chamber including a plurality of condensing tubes at the upper end thereof; a vacuum pipe above said condensing tubes; means for applying a vacuum to the condenser via said vacuum pipe; said chamber including a cylindrical middle portion; said middle portion having a mixture inlet in the side thereof, located below but adjacent the condensing tubes, and a plurality of spaced monomer inlets located below said mixture inlet; said monomer inlets entering the cylindrical portion tangentially to the walls of the cylindrical portion and being located on the same level with respect to one another, said apparatus further including a conical bottom portion terminating in a downwardly extending drain pipe; means for heating said conical portion to vaporize a portion of the monomer in the condensed mixture falling thereon; a settling tank connected to the bottom of the drain tube; a recycling tube connecting the settling tank and the monomer inlets; pump means to pump monomer from the settling tank through the monomer inlets into the condensing chamber, whereby the mixture being fed through the mixture inlet is intermingled with the vaporized monomer so as to raise the monomer to oligomer raito in the condenser to a point where liquid monomer is present in an amount sufficient to dissolve or suspend the oligomers in monomer so as to carry them down out of the condenser before they can solidify.

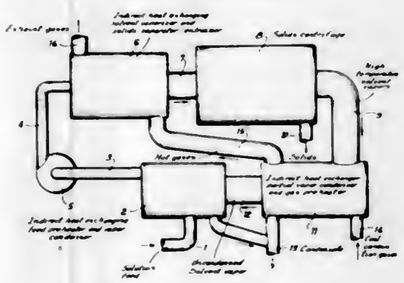
3,369,977

METHOD AND MEANS FOR DESALINIZATION

Emile Bechard, 153 Blvd. Brune, Paris 14e, France

Continuation-in-part of application Ser. No. 121,958, July 5, 1961. This application Mar. 22, 1967, Ser. No. 625,228

11 Claims. (Cl. 203—11)



This invention is addressed to a method and means for the removal of dissolved solids in a liquid system and more particularly to the removal of solid salt particles from salt water solutions to effect the recovery of salt with the principal aim being addressed towards the preparation of fresh water. It concerns the treatment of the salt water in a turbo-generator wherein heat is transferred to the solution while the latter is subjected to centrifugal force while being advanced in confined radial paths axially along the generator whereby such centrifugal force coupled with the exponential increase in velocity by reason of the conversion of liquid to vapor operates to carry the formed solids through the generator to produce a product formed of vapor having the dissolved solids entrained therein as fine particles for subsequent separation by centrifugal force to leave the vapors free of solids for subsequent condensation to produce fresh water.

3,369,978

ELECTRODEPOSITION OF MOLYBDENUM

Charlie Wyche, Washington, D.C., and Frank X. McCawley, Cheverly, and David Schlain, Greenbelt, Md., assignors to the United States of America as represented by the Secretary of the Interior

No Drawing. Filed Oct. 1, 1964, Ser. No. 400,963

10 Claims. (Cl. 204—64)

Electrodepositing elemental molybdenum from a fused bath composed of a mixture of (1) borates of alkali metals or alkaline earth metals, (2) molybdates of alkali metals or alkaline earth metals, and (3) molybdenum oxide.

3,369,979

PROCESS FOR THE PRODUCTION OF THIOL-CARBOXYLIC ACID-ALLENE ADDUCTS

Alexis A. Oswald, Mountainside, Karl Griesbaum, Elizabeth, and Daniel Noyes Hall, Linden, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 18, 1964, Ser. No. 368,347

10 Claims. (Cl. 204—162)

8. A process for preparing trimethylene bis-thiolacetate which comprises reacting thiolacetic acid with allene at a temperature in the range of −100 to 150° C. in the presence of a free-radical catalyst, the molar ratio of thiolacetic acid to allene being in the range of 1:1 to 5:1.

10. The process according to claim 8 wherein the free radical catalyst is ultraviolet light.

3,369,980

PRODUCTION OF GASEOUS UNSATURATED HYDROCARBONS

Preston L. Gant, Peter J. Manno, and Kang Yang, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Aug. 15, 1963, Ser. No. 302,479

4 Claims. (Cl. 204—162)

1. A process for the treatment of a normally gaseous straight-chain paraffinic hydrocarbon of 2 to 4 carbon atoms per molecule which comprises irradiating the hydrocarbon with high-energy ionizing radiation in the presence of a mass of glass wool to produce an unsaturated normally gaseous hydrocarbon.

3,369,981

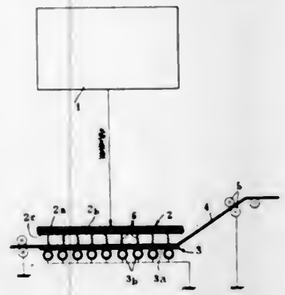
METHOD OF TREATING TEXTILE MATERIALS OF ANIMAL ORIGIN, NOTABLY WOOL

Robert Levaux, 21 Blvd. de Belgique, Monaco

Continuation-in-part of application Ser. No. 295,918, July 18, 1963. This application July 19, 1967, Ser. No. 654,474

Claims priority, application France, Aug. 16, 1962, 907,021, Patent 1,338,929; Apr. 22, 1963, 932,231, Patent 1,338,929

5 Claims. (Cl. 204—165)



Textile materials of animal origin, in the form of fibres, yarns or fabric are passed through a shower of sparks, in free atmosphere, between electrodes to which high voltage, high frequency current is applied with a sufficiently low current intensity to assure a sufficiently low temperature to avoid any deterioration of the treated textile material. The treatment improves the general physical properties of the material including its spinning characteristics, washability and dyeability.

3,369,982

METHOD OF IMPROVING THE ADHESIVE PROPERTIES OF POLYOLEFIN FILM BY PASSING A DIFFUSE ELECTRICAL DISCHARGE OVER THE FILM'S SURFACE

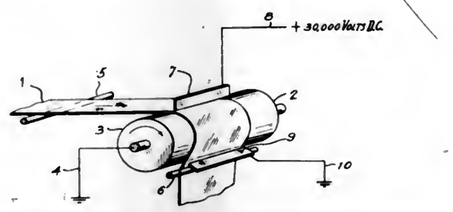
Herbert Holden Wood, St. Hilaire, Quebec, Canada, assignor to Canadian Industries Limited, Montreal, Quebec, Canada, a corporation of Canada

Filed Nov. 4, 1964, Ser. No. 408,940

Claims priority, application Great Britain, Nov. 12, 1963, 44,619/63

7 Claims. (Cl. 204—168)

The adhesive properties of one surface of a sheet of polyolefin film are improved by treating with a direct current diffuse electrical discharge passed along the surface of the moving film as the reverse side of the film moves over the insulated surface of a grounded electrically conducting support. The treatment renders the surface receptive to printing inks and thus improves its printability.



3,369,983

ELECTRODEPOSITION PROCESS USING PARTIALLY ESTERIFIED OIL-ACID ADDUCTS

Donald P. Hart, Allison Park, and Joseph E. Plasynski, Arnold, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed May 24, 1963, Ser. No. 282,880

8 Claims. (Cl. 204—181)

1. In a method of coating a metal substrate which comprises passing an electric current between an electrically conductive metal anode and an electrically conductive cathode in contact with an aqueous bath comprising a partially esterified and partially neutralized product of a fatty acid ester and an acidic compound, the additional step of adding to said bath a composition comprising a vehicle which comprises a reaction product of an ester selected from the class consisting of drying oil fatty acid esters and semi-drying oil fatty acid esters with at least one acidic compound selected from the group consisting of anhydrides of alpha, beta-ethylenically unsaturated dicarboxylic acids, alpha, beta-ethylenically unsaturated dicarboxylic acids which form anhydrides, said reaction product having up to about half of the acidic carboxyl groups esterified by reaction with a water-soluble monohydric alcohol and up to about 20 percent of the unesterified acidic carboxyl groups neutralized.

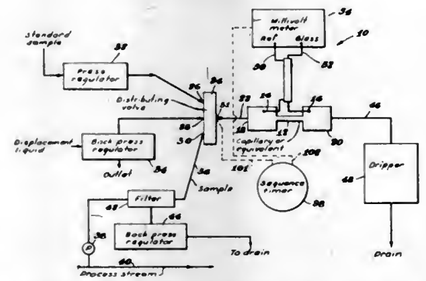
3,369,984

CONTROL APPARATUS

Walter F. Gerdes, Lake Jackson, and Hogan A. Randle, Angleton, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Continuation-in-part of application Ser. No. 315,532, Oct. 11, 1963. This application Mar. 4, 1966, Ser. No. 540,127

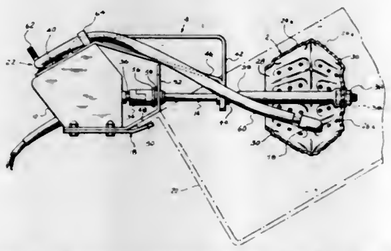
13 Claims. (Cl. 204—195)



1. Apparatus for determining the charge condition which is present in flowable material comprising liquid and particles, comprising a flow path including a capillary having electrically insulating walls and an input and output, means for measuring small electrical potentials, a pair of spaced apart electrodes, said electrodes

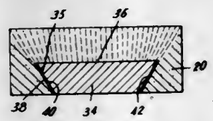
being disposed in said flow path and adapted to contact flowable material traveling along said path and said capillary being between said electrodes, timing means coupled to the input of said flow path for sequentially flowing said material and then a displacement liquid along said flow path, and means for coupling said means for measuring small electrical potentials to said electrodes.

3,369,985
ROTARY CONTAINER APPARATUS
Albert E. Aubin, 36 Randolph Drive, Glastonbury, Conn. 06033
Filed Dec. 9, 1964, Ser. No. 416,982
6 Claims. (Cl. 204—213)



A portable rotary container apparatus for the surface treatment of small articles has a drive motor and a container operably connected by an elongated drive shaft. A mounting bracket secured to the motor provides means for releasably retaining the apparatus on the lip of a tank and carries a bearing for stabilizing the elongated drive shaft. Further support for the shaft is provided by an elongated handle also attached to the motor and carrying another shaft bearing.

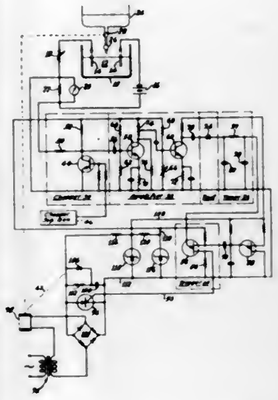
3,369,986
CATHODE CONNECTION FOR A REDUCTION CELL
Jostein J. Vadla, Grand Island, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Filed Oct. 23, 1963, Ser. No. 318,321
6 Claims. (Cl. 204—243)



A connection for a reduction cell of the type used in the electrolytic production of aluminum characterized by the use of a collector bar having a greater width than height in cross section. The use of such a specifically shaped collector bar causes a reduction in the electrical resistance for the overall connection. A plurality of collector bars spaced apart at the central portion of the reduction cell provide additional efficient operation.

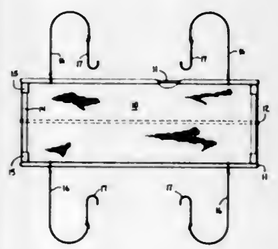
3,369,987
APPARATUS FOR PERIODICALLY SUPPLYING MAKE-UP MATERIAL TO AN ELECTROCHEMICAL BATH
Charles Davidoff, 118 Rolling Hill Road, Manhasset, N.Y. 11030, and Sheldon Bitko, 122 Hoyt St., Stamford, Conn. 06905
Filed June 5, 1964, Ser. No. 372,911
7 Claims. (Cl. 204—275)

1. Apparatus for periodically supplying make-up material to the bath of electrochemical equipment, where such equipment includes electrodes and electrode-current supply means, said apparatus including a feeding device effective when operated to deliver a predetermined amount of make-up material to the bath, an integrating network including a capacitor for storing a charge representing the integral with time of a voltage applied to the input



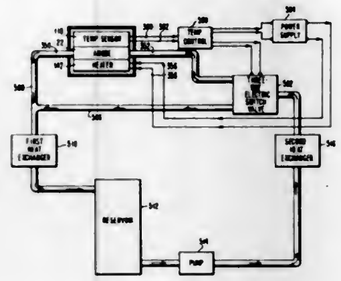
terminals of the network, means for applying to the input terminals of said integrating network a voltage representing the electrode current so that the capacitor stores a charge approximately representing the product of said electrode current and time, and means responsive to said network when the stored charge attains a predetermined level for operating said feeding device.

3,369,988
DEBRIS COLLECTING SCREEN FOR ELECTROPLATING TANKS
Jeffry L. Williams, Wabash, Ind., assignor to Plating Products, Inc., Kokomo, Ind., a corporation of Indiana
Filed June 30, 1965, Ser. No. 468,251
8 Claims. (Cl. 204—279)



1. In an electroplating cell, a debris collecting screen comprising a fabric member having a fluid pervious mesh and a configuration corresponding to the bottom of a tank, stiff reinforcing rods fixed to the longitudinal edges of said member and extending substantially the entire length thereof, flexible reinforcing members fixed to ends of said member and extending substantially the full width of said fabric member, and means attached to said rods for suspending said fabric member adjacent the bottom of said tank, said flexible members having sufficient stiffness to maintain said fabric member parallel to said tank bottom.

3,369,989
CATHODE SPUTTERING APPARATUS INCLUDING PRECISION TEMPERATURE CONTROL OF SUBSTRATE
Eric Kay, Campbell, and Arthur P. Poenisch, San Jose, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 22, 1964, Ser. No. 384,356
5 Claims. (Cl. 204—298)



1. In a sputtering device for depositing thin films of highly uniform characteristics, said sputtering device including a vacuum chamber, a cathode electrode having a discharge surface to be impact evaporated, a substrate, an anode electrode, said electrodes being arranged within said chamber, means to evacuate said chamber and impose within said chamber a suitable pressure of ionizable gas, and means to establish a suitable anode-cathode potential difference to thereby invoke an abnormal glow discharge whereby said discharge surface is impact evaporated and deposited on said substrate, an apparatus for controlling the temperature of the film during deposition thereof, comprising:

substrate mounting means for mounting said substrate within said chamber, and thermally interconnected with said substrate;

a temperature sensing element for sensing the temperature of said substrate and providing an electrical characteristic which is dependent upon said temperature;

means for heating said substrate mounting means;

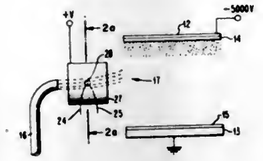
means for convection cooling the interior of said substrate mounting means; and

means connected to the output of said temperature sensing means for operating, each for a selected time period, said heating means and said cooling means in response to said characteristic of said temperature sensing means, whereby said film is maintained precisely uniform at a prescribed temperature.

3,369,990
CATHODIC SPUTTERING APPARATUS INCLUDING THERMIONIC MEANS FOR INCREASING SPUTTERING EFFICIENCY
Robert L. Hallen, Colonie, and Robert M. Valletta, East Fishkill, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 31, 1964, Ser. No. 422,667
5 Claims. (Cl. 204—298)

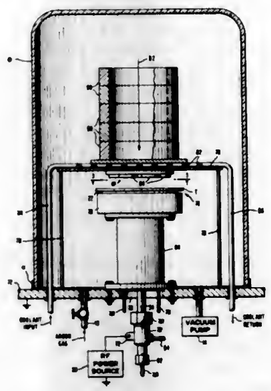
1. In an apparatus for the deposition of thin films on a substrate in a space having a reduced pressure upon the establishment of a glow discharge in a region between a sputtering cathode and sputtering anode resulting from ionic bombardment of a layer of material placed on the cathode, the improvement comprising:

an ionizing means positioned adjacent said region and including a thermionic cathode, an electron collector positioned adjacent said thermionic cathode, and positively biased with respect thereto to establish an electron stream between said thermionic cathode and said collector, a gas supply conduit in said space having an orifice directed toward said region to continuously supply an ionizable gas generally transversely through said stream,



said ionizing means positioned with the electron stream outside said region and traversing the flow of gas from said orifice of said gas supply conduit thereby causing the ionization of said gas.

3,369,991
APPARATUS FOR CATHODE SPUTTERING INCLUDING A SHIELDED RF ELECTRODE
Pieter D. Davidse and Leon I. Maissel, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 28, 1965, Ser. No. 428,733
9 Claims. (Cl. 204—298)



1. An apparatus for coating articles with insulating material supttered from a dielectric target, comprising:

a low-pressure gas ionization chamber adapted to contain the dielectric target and the articles to be coated,

means for applying a high-frequency alternating-current excitation to the interior of said chamber for ionizing the enclosed gas and maintaining a glow discharge therein, said excitation means including

a high-frequency electrode on which the dielectric target is adapted to be positioned for undergoing bombardment by gas ions during periods when the exposed surface of the target is at a negative potential with respect to such ions, said electrode having a portion of its surface exposed to the gas in said chamber,

and an anti-sputtering shield for said electrode constituted and arranged so that the distance separating

said shield from the exposed surface of said electrode is not substantially less than one-quarter inch and not substantially greater than the thickness of the Crooks dark space in the glow discharge maintained by said excitation means.

4. An apparatus for coating articles with insulating material sputtered from a dielectric target, comprising:

a low-pressure gas ionization chamber adapted to contain the dielectric target and the articles to be coated,

means for applying a radio-frequency excitation to the interior of said chamber for ionizing the gas and maintaining a glow discharge therein, said excitation means including

a tunable radio-frequency power source, and

a radio-frequency electrode on which the dielectric target is adapted to be positioned for undergoing bombardment by gas ions during those periods when the exposed surface of the target is at a negative potential with respect to such ions,

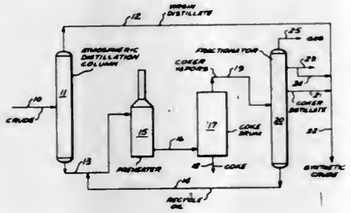
and a magnetic field-producing device for applying a magnetic field to the ionized gas in said chamber for stabilizing the radio-frequency glow discharge therein and to facilitate the tuning of said radio-frequency power source.

3,369,992

LOW POUR POINT SYNTHETIC CRUDE OIL

Alfred M. Henke, Springdale, Joel D. McKinney, Indiana Township, Allegheny County, and William C. Offutt, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Mar. 18, 1966, Ser. No. 535,346
11 Claims. (Cl. 208—14)



A wholly distillate low pour point synthetic crude oil produced from the virgin distillate and reduced crude from a high wax, high pour crude by mixing the virgin distillate with that fraction obtained by coking the reduced crude with a heavy recycle stream and fractionating the coker overhead volatile product into the heavy recycle stream and a coker distillate fraction for combination with the virgin distillate to produce the low pour point synthetic crude. The pour point of the synthetic crude is further reduced by the addition of minute amounts of pour point depressants.

3,369,993

ADMIXTURES OF ACID ACTIVATED CLAY AND ADSORBENTS IN THE DECOLORIZATION OF WAXES

Ivor W. Mills, Glenolden, Pa., and Wildon T. Harvey, New Castle, Del., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Aug. 31, 1965, Ser. No. 483,992
18 Claims. (Cl. 208—26)

Colored petroleum wax (e.g., ASTM color greater than 4) is decolorized by diluting the wax with a non-polar solvent and contacting the resulting solution with an adsorbent admixture comprising at least one acid-activated adsorbent clay and a second adsorbent selected from the class consisting of naturally-occurring bleaching clays, adsorbent carbon, bauxite, and mixtures thereof. Decolorized wax can be produced having an ASTM color of less than 1.0 and/or having an ultraviolet absorbency of less than 0.15 measured at 280 millimicrons when extracted and tested by the Howard-Haenni-Joe Method. Novel three and four component admixtures (in parts by weight) that are of utility in the subject process are as follows:

(1) An admixture of from 20 to 84 parts of acid-activated adsorbent clay with from 15–79 parts of naturally-occurring bleaching clay and from 1–65 parts of adsorbent carbon;

(2) An admixture of from 20 to 85 parts of acid-activated adsorbent clay with from 10–75 parts of naturally-occurring bleaching clay and from 5 to 70 parts of bauxite;

(3) An admixture of from 20 to 89 parts of acid-activated adsorbent clay with from 10–79 parts of bauxite and from 1–70 parts of adsorbent carbon;

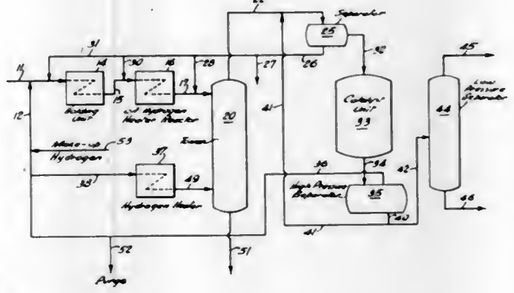
(4) From 20 to 86 parts of acid-activated adsorbent clay with 10–76 parts of naturally-occurring bleaching clay, 3–69 parts of bauxite and 1–67 parts of adsorbent carbon.

3,369,994

HYDROCONVERSION OF HYDROCARBONS

William L. Slater, La Habra, and Warren G. Schlinger, Pasadena, Calif., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 29, 1965, Ser. No. 517,248
10 Claims. (Cl. 208—58)



1. In a process for the hydroconversion of a heavy hydrocarbon oil feed stock having a Conradson carbon residue of at least 1% by weight and selected from the group consisting of crude, reduced crude, residua, shale, tar sand and coal tar oils and mixtures thereof in which process an intimate mixture of hydrocarbon charge stock and hydrogen is passed through a tubular reaction zone under conditions of turbulent flow, the improved method of conserving hydrogen which comprises forming an intimate mixture of hydrogen and said hydrocarbon oil feed stock at a pressure between about 500 and 5000 p.s.i.g and a temperature at which said feed stock is liquid but not greater than 790° F. in an amount at least 1000 and less than 5,000 s.c.f.b. hydrogen per barrel of feed stock, passing said intimate mixture through a tubular reaction zone under conditions of turbulent flow at a temperature at which said feed stock is liquid but not greater than 790° F. for a period of time of at least 4 seconds, then maintaining said intimate mixture under conditions of turbulent flow at reaction conditions of temperature and pressure for a period of time of between 5 seconds and 2 hours, said period of time at reaction conditions being accompanied by the consumption of hydrogen.

3,369,995

HYDROCATALYTIC CRACKING OF NITROGEN CONTAINING WAX DISTILLATES TO PRODUCE MIDDLE OILS

Kenneth Tupman, Feltham, and Donald Richard Irving, Nunhead, London, England, assignors to The British Petroleum Company Limited, London, England, a corporation of England

Filed July 13, 1965, Ser. No. 471,530
Claims priority, application Great Britain, Aug. 27, 1964, 35,131/64
1 Claim. (Cl. 208—111)

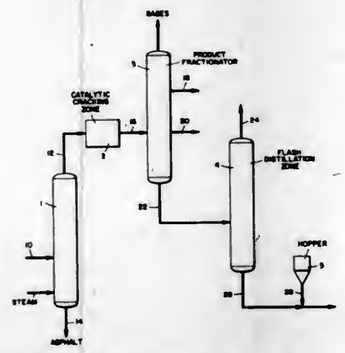
1. A hydrocatalytic process for the production of middle distillates having a minimum gasoline content in a single stage operation from a high nitrogen content wax distillate feedstock which comprises, contacting the wax distillate feedstock having a nitrogen content from 350 to 2,000 p.p.m. in a hydrocracking zone with a catalyst consisting essentially of from 5 to 40% wt. of molybdenum, expressed as the oxide MoO_3, 1 to 15% wt. of the iron group metals, expressed as the divalent oxide and a support of alumina combined with 10 to 25% wt. by weight of total catalyst of an oxide selected from the group consisting of silica and boria, at an initial operating temperature of from 720 to 780° F., a total pressure of from 1,200 to 3,000 p.s.i.g., a total space velocity of 0.4 to 1.0 v./v./hr. and a gas rate of 4,000 to 15,000 s.c.f. of hydrogen/B, the temperature, pressure, space velocity and gas rate being correlated so as to initially obtain a conversion per pass of 45 to 70% vol. of total feed, gradually increasing the temperature during the reaction in the range 720 to 860° F. to maintain the conversion per pass at 45 to 70% vol. of the total feed, maintaining the amount of fresh feed in the total feed substantially equal to the conversion per pass, separating the resulting product into lighter than middle distillate fraction, middle distillate fraction and a wax distillate fraction, and recycling the wax distillate fraction back to the hydrocracking zone to constitute a part of the total feed to the hydrocracking zone.

3,369,996

PETROLEUM BINDER OIL FROM CATALYTIC CRACKING

Glen Porter Hamner, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed May 20, 1965, Ser. No. 457,318
7 Claims. (Cl. 208—120)



1. A process for the preparation of binder oils from a feed consisting essentially of a distillate gas oil fraction having a boiling range of about 650° to 1150° F., which consists essentially of, catalytically cracking said feed in a one-pass catalytic cracking zone, said catalytically cracking zone containing an alumino-silicate zeolite having an average pore diameter of about 6 to 15 A and catalytically cracking said feed at a temperature of about 650° to 1150° F., a pressure of from 0 to 500 p.s.i.g., catalyst to gas oil ratio of about 1:1 to 40:1 and at a flow rate of 1 to 14 w./hr./w., distilling the catalytically cracked resulting product to separate lighter fractions from a bottoms fraction boiling above about 850° F. passing said bottoms fraction to a distillation zone and therein stripping said bottoms of substantially all of the volatile products boiling over about 900° F. to produce a binder oil product.

3,369,997

START-UP METHOD FOR AN LPG-REFORMING PROCESS

John C. Hayes, Palatine, and Roy T. Mitsche, Island Lake, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed July 13, 1966, Ser. No. 564,720
10 Claims. (Cl. 208—139)

Start-up procdure for a naphtha reforming process utilizing a Pt-alumina-crystalline aluminosilicate catalyst, which includes the steps of (1) pressuring the conversion zone with extrinsic hydrogen to an initial level of 75–150 p.s.i.g., (2) heating the conversion zone to a temperature of 775°–825° F., (3) introducing charge stock to the conversion zone, and (4) raising the temperature of the conversion zone at the rate of 5–30° F./hr. to a temperature of 925°–1000° F., whereby the process pressure increases autogenously from said initial level to a final operating level of 400–700 p.s.i.g.

3,369,998

PRODUCTION OF HIGH QUALITY JET FUELS BY TWO-STAGE HYDROGENATION

Paul G. Bercik, Glenshaw, Pa., and Leslie D. Moore, Lisle, Ill., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Apr. 30, 1965, Ser. No. 452,394
5 Claims. (Cl. 208—210)

1. The method of manufacturing a jet fuel which comprises contacting a straight-run kerosene with hydrogen in the presence of a hydrogenation catalyst formed from at least one member selected from the group consisting of nickel, cobalt, molybdenum and tungsten and oxides and sulfides thereof, on an inert porous carrier, at a temperature of 650 to 750° F., at a pressure of 500 to 1500 p.s.i.g. with a liquid hourly space velocity of 1.0 to 6.0 and a hydrogen circulation rate of 1,500 to 10,000 standard cubic feet per barrel of kerosene, contacting the resultant product with hydrogen in the presence of a catalyst which comprises a metal selected from the group consisting of nickel, cobalt, tungsten, molybdenum and the noble metals, said catalyst being supported on a porous refractory support selected from the group consisting of alumina and kieselguhr, at a temperature of 450 to 700° F. at a pressure of 500 to 1500 p.s.i.g., a liquid hourly space velocity of 1.0 to 10.0 and a hydrogen circulation rate of 2,000 to 10,000 standard cubic feet per barrel of said product of the first stage, the combination of conditions being selected to produce a superior jet fuel having a luminometer number of at least 75.

3,369,999

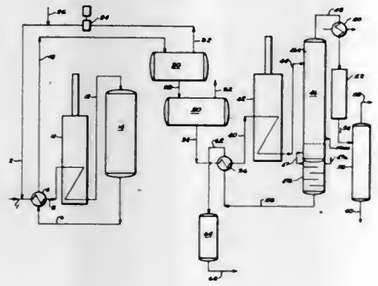
CLAY FINISHING OF CATALYTICALLY HYDROFINISHED LUBRICATING OILS

Robert E. Donaldson, Penn Hills Township, Allegheny County, and Alfred C. Goerss, O'Hara Township, Allegheny County, Pa., and John R. Strausser, Baytown, Tex., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Dec. 8, 1964, Ser. No. 416,817
10 Claims. (Cl. 208—264)

1. A process for producing lubricating oil stocks of improved stability, comprising contacting a lubricating

oil distillate stock with hydrogen, in the presence of a catalyst comprising a hydrogenating component selected from the group consisting of sulfides and oxides of (a) a combination of about 2 to 25 percent by weight molybdenum and at least two iron group metals where the iron group metals are present in such amounts that the ratio of each iron group metal to molybdenum is less than about 0.4, and (b) a combination of about 5 to 40 percent by weight of nickel and tungsten where the atomic



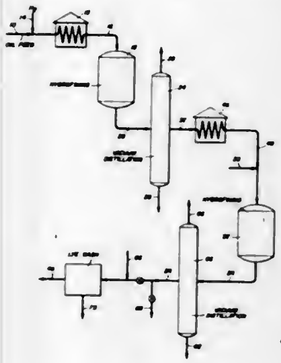
ratio of tungsten to nickel is about 1:0.1 to 5, said hydrogenating component being composited with an alumina support, said contacting being carried out at an average catalyst temperature of about 575° to 750° F., at a space velocity of about 0.5 to 4 liquid volumes of oil per volume of catalyst per hour, and at a pressure of about 500 to 3000 p.s.i.g., the combination of conditions being so selected as to effect appreciable hydrogen consumption but no substantial cracking, and clay treating the hydrogenated oil.

3,370,000
PURIFICATION OF COAL TAR FRACTION WITH HCl
Gerald Gilbert, San Francisco, Calif., and Charles Perlaky, Pittsburgh, Pa., assignors to United States Steel Corporation, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 180,307, Mar. 16, 1962. This application Apr. 1, 1965, Ser. No. 444,855
1 Claim. (Cl. 208—254)

Indole and indole-like impurities in coal-tar fractions boiling between about 230° and 280° C., which inhibit liquid-phase catalytic oxidation of the methylnaphthalenes in such fractions to naphthalene carboxylic acids, are removed by treating these fractions at between about −20° and 60° C. with hydrogen chloride, chlorine or hydrochloric acid having a concentration between about 30% and 37% by weight HCl. This is followed by distillation or an organic-aqueous phase separation. The inhibitors, converted to polymers are dissolved in the aqueous phase or remain as still bottoms.

3,370,001
PROCESS FOR MANUFACTURE OF AROMATIC SOLVENTS
Laurence F. King, Mooretown, Ontario, Canada, assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed July 23, 1965, Ser. No. 474,312
7 Claims. (Cl. 208—264)

1. A process for improving the color stability of aromatic solvents which comprises catalytically hydrofining a hydrocarbon oil boiling between about 150° F. and 600° F. containing at least about 80% by volume of aromatic hydrocarbons, said hydrofining being carried out without conversion of said aromatic hydrocarbons to naphthenes, vacuum distilling the hydrofined oil to recover an aromatic heart-cut fraction boiling between about 200° F. and 500° F., contacting said aromatic heart-cut fraction and hydrogen with a supported sulfided nickel catalyst at a temperature ranging between about 250° F. and 500° F., said contacting being carried out



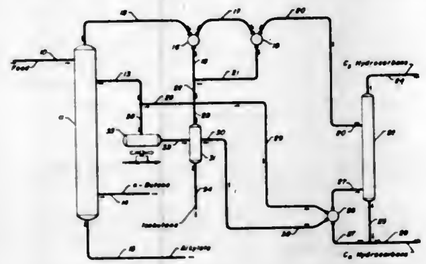
without conversion of said heart-cut fraction to naphthenes, vacuum distilling the treated heart-cut fraction to recover an aromatic solvent and lye washing said aromatic solvent to obtain an aromatic solvent characterized by improved color stability and an aromatic hydrocarbon content of at least about 80% by volume.

3,370,002
RECOVERY OF ORGANIC MATERIAL BY ADSORPTION AND DESORPTION FROM AN ADSORBENT
John E. Cottle, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Apr. 14, 1966, Ser. No. 542,451
9 Claims. (Cl. 208—310)

An adsorbed fluid organic material is desorbed from a bed of adsorbent loaded therewith by passing thru the bed a fluid eluent containing previously desorbed organic material to form an eluate, recycling said eluent to said bed to desorb most of said material, passing fresh eluent thru said bed to desorb additional material, prepare the bed for another adsorption step and recover an eluent containing desorbed material, storing said eluent containing desorbed material, again loading the bed with said organic material from a mixture thereof with another organic material, repeating the foregoing desorption steps, and recovering the organic material from the eluate formed by recycling the eluent. The separation of n-paraffins from branched or cyclic paraffins in a mixed feed of these hydrocarbons is a practical illustration of the invention.

3,370,003
METHOD FOR SEPARATING LIGHT HYDROCARBON COMPONENTS
William B. Borst, Jr., Mount Prospect, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Dec. 27, 1966, Ser. No. 604,983
6 Claims. (Cl. 208—351)

Method for separating a feed mixture comprising C_3 hydrocarbons, isobutane, and alkylate utilizing fractionation means wherein the overhead fraction from a first distillation column is partially condensed prior to introduction into a second distillation column and wherein a vapor side-cut fraction removed from the first distillation column is used as the heat source in the reboiler means associated with the second distillation column. The invention is applicable specifically to the separation of the hydrocarbon effluent from a C_4 catalytic alkylation reaction zone.



The desired product comprises alkylate suitable for use as a gasoline blending stock.

3,370,004
DRILLING FLUID COMPOSITION
Jack Herman Park, Houston, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 31, 1964, Ser. No. 356,027
19 Claims. (Cl. 252—8.5)

1. A drilling fluid dispersant composition comprising 60 to 90% by weight of a dialdehyde starch produced by periodate oxidation of starch to at least 50% and 40 to 10% by weight of an inorganic chromate selected from the group consisting of a water soluble alkali metal-, ammonium-, calcium- and magnesium-chromate, -polychromate and mixtures thereof.

7. An aqueous drilling fluid containing clay solids dispersed in the aqueous phase by a dispersant composition comprising 60 to 90% by weight of a dialdehyde starch produced by periodate oxidation of starch to at least 50% and 40 to 10% by weight of an inorganic chromate selected from the group consisting of a water soluble alkali metal-, ammonium-, calcium- and magnesium-chromate, -polychromate and mixtures thereof, said dispersant composition being present in the drilling fluid in an amount sufficient to disperse the clayey solids therein.

3,370,005
PROCESS FOR THE PREPARATION OF LUBRICATING AGENTS FOR LEATHERS AND FURS
Werner Stein, Erkrath-Unterbach, and Jürgen Plapper, Dusseldorf, Germany, assignors to Böhme Fettchemie G.m.b.H., Dusseldorf, Germany, a corporation of Germany
No Drawing. Filed June 30, 1964, Ser. No. 379,360
Claims priority, application Germany, July 5, 1963, B 72,557
6 Claims. (Cl. 252—8.57)

1. A process for the preparation of water emulsifiable lubricating agents for leathers and furs which comprises the steps of partially chlorinating an unsaturated material selected from the group consisting of olefins of 12 to 30 carbon atoms and higher fatty materials selected from the group consisting of naturally occurring unsaturated fats, oils and waxes with chlorine, whereby the iodine number of said unsaturated material is reduced by from 20% to 70%, and the partially chlorinated unsaturated material contains from about 3% to about 15% of chlorine, based on the starting material, sulfatizing the resulting partially chlorinated unsaturated material by the action, of 10% to 35%, based on the material to be sulfatized, of a sulfatizing agent selected from the group consisting of sulfuric acid, chlorosulfuric acid, oleum and sulfur trioxide at a temperature below about 40° C., neutralizing the sulfatized material with ammonia and recovering said water emulsifiable lubricating agent.

3,370,006
BEARINGS
Charles Campbell, Thames Ditton, England, assignor to Morganite Research and Development Limited, London, England, a corporation of England
No Drawing. Filed Nov. 2, 1964, Ser. No. 408,366
Claims priority, application Great Britain, Nov. 6, 1963, 43,832/63
6 Claims. (Cl. 252—12)

5. A wear-resistant element comprising a composition flame-sprayed onto a substrate, said composition consisting essentially of (1) at least one oxide selected from the group consisting of nickel oxide and cobalt oxide in an amount of at least 30% by weight of the composition, (2) at least one metal selected from the group consisting of nickel and cobalt in an amount ranging from a trace up to 65% by weight of the composition, and (3) a material selected from the group consisting of lead monoxide, and fluorides, phosphates and borates of Group II*a* metals in an amount of from 5 to 25% by weight of the composition.

3,370,007
EXTREME-PRESSURE GREASE COMPOSITIONS
Gerard P. Caruso, New Orleans, La., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 8, 1964, Ser. No. 395,024
14 Claims. (Cl. 252—21)

1. A grease composition consisting essentially of a major proportion of lubricating oil gelled to grease consistency by means of an oleophilic clay product which has been rendered oleophilic by treatment of a montmorillonite clay with an organic ammonia base, and, based on the total weight of the grease composition, (a) 0.25–5.0% of a carboxylic acid ester corresponding to the formula

$$R_1\overset{O}{\overset{\|}{C}}-OR_2$$

wherein R_1 is a n-alkyl radical having from 16 to 18 carbon atoms and R_2 is a n-alkyl radical having from 1 to 6 carbon atoms, and (b) at least 0.25% each of at least one primary extreme-pressure additive selected from the group consisting of metal carbonates having a Moh hardness of 1–5 and a thermal decomposition temperature of no less than 250° C., amorphous antimony sulfide and molybdenum disulfide.

9. The composition of claim 1 which contains, in addition, 0.1–0.75% of a lead naphthenate.

3,370,008
METHYLOL REACTION PRODUCTS
Herbert S. Skovronek, Morris Plains, N.J., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Original application Mar. 25, 1963, Ser. No. 267,792, now Patent 3,301,923, dated Jan. 31, 1967. Divided and this application June 8, 1966, Ser. No. 566,442
3 Claims. (Cl. 252—46.6)

1. A lubricating oil containing a methylol thiophosphonate in amounts sufficient to impart detergent dispersant properties thereto, said methylol thiophosphonate having the formula:

$$R-\overset{X}{\overset{\|}{P}}(\overset{OH}{\overset{|}{\ }})-O-CH_2-\overset{CH_2OH}{\overset{|}{C}}-R'\ (\overset{CH_2OH}{\overset{|}{\ }})$$

where R is an aliphatic polyolefin radical having an average molecular weight between 250 and 50,000, R′ is selected from the group consisting of a saturated aliphatic hydrocarbon of from 1 to 10 carbons and hydrogen, and X is a chalcogen selected from the group consisting of sulfur and a mixture of sulfur and oxygen.

3,370,009

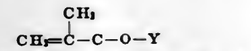
HYDROCARBON LUBRICATING OIL OF IMPROVED VISCOSITY INDEX CONTAINING METHACRYLATE GRAFT COPOLYMERS

Abraham Morduchowitz, Spring Valley, and John T. Nolan, Jr., Wappingers Falls, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

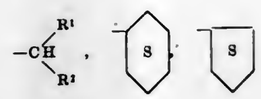
No Drawing. Filed Dec. 23, 1965, Ser. No. 516,114

4 Claims. (Cl. 252—56)

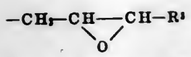
1. A lubricating composition comprising a major portion of a hydrocarbon lubricating oil and a minor portion sufficient to improve the viscosity index of said oil of a graft copolymer prepared by oxidizing a homopolymer of a first ester monomer to the corresponding hydroperoxide, said first monomer having the general formula:



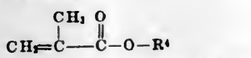
wherein Y is a member selected from the group consisting of



and



wherein R^1 and R^2 are the same or different C_1–C_{16} alkyl groups and R^3 is hydrogen or a C_1–C_{15} alkyl group and reacting said hydroperoxide with a second ester monomer having the general formula:



wherein R^4 is a C_3–C_{18} alkyl group and wherein the sum of the carbon atoms in Y and R^4 is not less than 13 nor more than 26.

3,370,010

MINERAL LUBRICATING OIL CONTAINING POLYMER HAVING ANTI-WEAR PROPERTIES

Henry V. Isaacson, Oak Forest, Ill., Stephen M. Kovach, Highland, Ind., and David W. Young, Homewood, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 3, 1966, Ser. No. 547,144

7 Claims. (Cl. 252—59)

Anti-wear properties of mineral lubricating oil are enhanced by addition of minor amount of hydrogenated alpha-methylstyrene polymer having a molecular weight of about 550 to 5000, said polymer having been sufficiently hydrogenated to reduce its aromatic unsaturation content by at least about 70%; copolymers with styrene and/or dienes may be used, but it is preferred that the alpha-methylstyrene comprise at least about 60 wt. percent of the polymer.

3,370,011

LITHIUM MAGNESIUM FERRITE MEMORY CORE MATERIAL

Hiroshi Kitagawa, Kokubunji-machi, Toshio Inoue, Setagaya-ku, Tokyo-to, Susumu Kurokawa, Kodaira-shi, and Shinkichi Horigome, Kokubunji-machi, Tokyo-to, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan

Filed July 29, 1964, Ser. No. 385,987

Claims priority, application Japan, Aug. 2, 1963, 38/40,305

8 Claims. (Cl. 252—62.61)

A memory core material having rectangular hysteresis of small driving current characteristics which operates in a wide operating temperature range. This material consists of lithium ferrite ($Li_{0.5}Fe_{2.5}O_4$) as the base, more than 1 mol percent but less than 10 mol percent of magnesium oxide (MgO), and from trace to 10 mol percent of zinc oxide (ZnO), the total mol percent being 100. These components are mixed, shaped and fired to obtain the memory core material of such desirable characteristics.

3,370,012

DIELECTRIC COMPOSITION OF A MIXTURE OF DIARYL SULFONES

William David Robinson, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 2, 1965, Ser. No. 460,856

1 Claim. (Cl. 252—63.7)

A diaryl sulfone composition prepared from a mixture of 45–65% by weight ethylbenezene, 55–35% by weight xylene in the presence of a sulfonation reagent. The compositions have an unexpectedly low pour point.

3,370,013

PRESSURE PACKAGED REFRIGERANT LEAK DETECTOR AND METHOD OF PACKAGING SAME

Wallace G. Labac, Dallas, Tex., assignor to Jet-Air Products Company, Dallas, Tex., a corporation of Texas

Filed July 14, 1964, Ser. No. 382,465

8 Claims. (Cl. 252—68)

A leak detecting solution. The solution is packaged under pressure to provide a means to introduce the solution into a refrigerating system. The solution is composed of refrigerant, oil and dye, which constituents remain soluble and stable at temperatures encountered in such a refrigerating system.

3,370,014

SKIN CLEANSING COMPOSITIONS

Irving Reich, Princeton, and Hans Breuer, Somerville, N.J., assignors to Carter-Wallace, Inc., a corporation of Maryland

No Drawing. Continuation of application Ser. No. 291,277, June 28, 1963. This application Oct. 20, 1965, Ser. No. 499,097

2 Claims. (Cl. 252—90)

A pressurized aerosol package for producing a coherent foam which breaks down on rubbing, containing a liquid soap solution consisting essentially of triethanolamine stearate (3%), refined mineral oil (10–20%) and water, and a liquefied normally-gaseous propellant consisting of dichlorodifluoromethane (85 parts) and monochlorodifluoromethane (15 parts).

3,370,015

PROCESS FOR PREPARING DETERGENT COMPOSITIONS

Daniel Marten van Kampen and Frederick Johan Kerkhoven, Vlaardingen, and Willem van der Star, Rotterdam, Netherlands, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Jan. 30, 1964, Ser. No. 341,419

9 Claims. (Cl. 252—137)

This disclosure is concerned with forming a strong, fast-dissolving detergent tablet. In this disclosure, a hydrated condensed phosphate is added to a detergent prior to compression into a tablet.

3,370,016

PREPARATION OF DENSE THORIA AND SULFATE CONTAINING THORIA FROM AN AQUEOUS THORIUM NITRATE SOLUTION

Gifford G. Briggs, Cincinnati, Ohio, assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Feb. 24, 1967, Ser. No. 619,131

9 Claims. (Cl. 252—301.1)

A precipitation process for forming thoria from an aqueous solution of thorium nitrate characterized by the addition of ammonium hydroxide while simultaneously bubbling or sparging with carbon dioxide, or by the equivalent operation of adding ammonium carbonate or bicarbonate to the solution. A precipitate will form which can be recovered from the mother liquor and which can be converted to a thoria powder having particles approaching the theoretical density of thoria and a spectrum of particle sizes which include an appreciable percentage which lie in the millimeter size range.

3,370,017

MICROCRYSTALLINE CORUNDUM POWDER, SOLS THEREOF, AND PROCESSES FOR PREPARING BOTH

Horacio E. Bergna and Ralph K. Iler, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 30, 1963, Ser. No. 298,580

10 Claims. (Cl. 252—309)

Crystalline alpha alumina containing less than 1 percent of hydrofluoric acid-soluble material, and having a specific surface area of greater than 10 square meters per gram, a cold pressed density of at least 2.0 grams per cubic centimeter at 10 tons per square inch, and having an X-ray crystallite size of less than 160 millimicrons, is prepared by grinding corundum, separating the fraction finer than 160 millimicrons in particle size, contacting this fraction with hydrofluoric acid, separating the acid-insoluble alumina, replacing adsorbed fluorine ions by contacting the alumina with a weak base, and recovering the alumina.

3,370,018

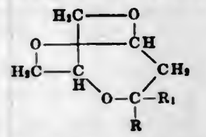
BICYCLIC FLUOROACETALS

Robert Arnold Braun, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 26, 1964, Ser. No. 406,564

7 Claims. (Cl. 260—2)

Bicyclic fluoroacetals having the structure



where R and R_1 are perfluoro- or perchloro-perfluoroalkyl radicals of 1 through 5 carbon atoms, and polymers made by exposing these fluoroacetals to Lewis acids.

3,370,019

PROCESS OF PREPARING RESIN FROM A DIEPOXIDE

Walter H. Schuller and Ray V. Lawrence, Lake City, Fla., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application Apr. 2, 1964, Ser. No. 356,987. Divided and this application Dec. 4, 1964, Ser. No. 426,459

1 Claim. (Cl. 260—2)

This invention relates to the formation of resinous products obtained by resinifying the mixed diepoxides resulting from the thermal rearrangement of the mixed transannular peroxides of photosensitized oxidized pine gum with borontrifluoride ehterate. These mixed diepoxides contain carboxylic acid groups. The resulting resinous products are hard, glossy, and useful in surface coatings.

3,370,020

PROCESS FOR THE PRODUCTION OF PHOSPHONITRILIC POLYMERS AND POLYMERS PRODUCED THEREBY

Harry Rex Allcock, Darien, and Robert Louis Kugel, South Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 29, 1964, Ser. No. 400,222

6 Claims. (Cl. 260—2)

This invention relates to a novel process for the production of phosphonitrilic polymer mixtures. More particularly, this invention relates to a novel process for the production of phosphonitrilic polymer mixtures which comprises forming a polymer mixture from a phosphonitrilic trimer or tetramer, reacting the resultant polymer mixture with an alkali metal or alkaline earth metal compound to form a phosphonitrilic ester mixture, and then fractionally precipitating the resultant polymeric ester mixture so as to precipitate the high polymer mixture therefrom. Still more particularly, this invention relates to novel phosphonitrilic polymer mixtures which are thermally stable, water-resistant and which will not undergo hydrolysis when contacted with water at high temperatures.

3,370,021

SULFONIC ACID CATION EXCHANGERS CONTAINING AMINE GROUPS

David Harry Kohn and Abraham Schwarz, Haifa, Israel, and Kurt S. Spiegler, Glastonbury, Conn., assignors to Technion Research and Development Foundation Limited, Haifa, Israel, a corporation of Israel

No Drawing. Filed Nov. 7, 1963, Ser. No. 322,024

2 Claims. (Cl. 260—2.2)

1. Resinous cation exchange substances taken from the class consisting of polystyrene and copolymers of styrene with divinylbenzene, said substances containing a plurality of sulfonic radicals, said substances containing a plurality of amino groups, and being substantially free from water.

3,370,022

EXPANDABLE POLYMERS

Alvin R. Ingram, Murrysville, and Alvin J. Zupanc, Irwin, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Dec. 3, 1965, Ser. No. 511,319

6 Claims. (Cl. 260—2.5)

1. A method of preparing expandable thermoplastic polymer particles which will not lump upon pre-expansion comprising polymerizing a vinyl aromatic monomer, either alone or in admixture with other polymerizable monomers copolymerizable therewith, in an aqueous suspension in the presence of a catalytic amount of a free radical initiator and a suspending agent until between about 50 and 95 percent conversion of the vinyl monomer to polymer has occurred, then adding at least about 0.05 percent by weight of an unsaturated polyester resin based on the weight of said monomer, completing said polymerization, and rendering the polymer particles expandable by incorporating therein from 3–20 percent by weight of a blowing agent.

3,370,023

CURABLE COMPOSITION COMPRISING RUBBER AND THE CO-CONDENSATION PRODUCT OF AN AROMATIC HYDROCARBON-ALDEHYDE RESIN AND A TERPENE PHENOL

Ching Yun Huang, Mizoo-shi, and Kazuo Ueno, Ibaragi-shi, Japan, assignors to Japan Gas-Chemical Company, Inc., Tokyo, Japan, a corporation of Japan

No Drawing. Filed July 17, 1964, Ser. No. 383,500
Claims priority, application Japan, July 18, 1963, 38/38,788
8 Claims. (Cl. 260—3)

A curable composition comprising (1) at least one member selected from the group consisting of natural and synthetic rubbers, such as natural rubber, reclaimed rubber and diolefin polymers, (2) a cocondensation resin obtained by heating an aromatic hydrocarbon aldehyde resin together with at least one tetrafunctional terpene phenol, such as 1,8-di(4-hydroxyphenyl)-p-menthene; a mixture thereof with a bifunctional terpene phenol, such as 8-hydroxyphenyl-p-menthene-1, 2-hydroxyphenyl-p-methene-3 and the like; or a mixture of said terpene phenol with a phenol having two or more functionalities, such as phenol, cresole, xylenol, 2,2-(4,4'-dihydroxyphenol)-propane, p-tert, -butyl phenol or the like, and (3) hexamethylene tetramine. When said curable composition is vulcanized in the presence of hexamethylene tetramine at room temperature or at an elevated temperature, a set resin is formed producing an excellent reinforcing effect in the rubber.

3,370,024

MULTICOLOR COATING COMPOSITION AND METHOD OF MAKING AND PACKAGING SAME

Stephen C. Grasko, Los Angeles, and Stephen S. Kane, Burbank, Calif., assignors to Zolatone Process, Inc., Los Angeles, Calif., a corporation of California

Continuation of application Ser. No. 836,590, Aug. 28, 1959. This application Feb. 16, 1966, Ser. No. 540,112
8 Claims. (Cl. 260—3.5)

A multicolor coating composition in which a plurality of minute bodies of different colors defined by a first aqueous film-forming vehicle are suspended in a second non-aqueous colorless transparent film-forming vehicle prior to application on a desired surface to form a protective layer thereon, with said bodies after being applied to said surface being visible in their true colors through said second vehicle.

3,370,025

ETHANOLIC LACQUERS BASED ON CELLULOSE BUTYRATE

Martin Salo and Loring W. Blanchard, Jr., Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 237,305, Nov. 13, 1962. This application Mar. 24, 1967, Ser. No. 625,612
6 Claims. (Cl. 260—15)

Cellulose butyrates having excellent solubility in ethyl alcohol have been discovered. These cellulose butyrates must have certain butyryl and hydroxyl contents in order to achieve the necessary solubility in ethyl alcohol. Lacquers containing ethyl alcohol as the major solvent can then be made using these specially soluble butyrates.

3,370,026

METHOD OF PRODUCING PHOTOCHROMIC CASTINGS

Lawrence Joseph Patella, Huntington, and Sydney Arthur Giddings, New Canaan, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 24, 1964, Ser. No. 399,101
13 Claims. (Cl. 260—17)

A novel process for the production of photochromic compositions of matter which comprises polymerizing, in the presence of a catalyst, at least one polymerizable monomer and a transition metal compound having the formula

(I) $$MX_mO_n(OR)_p$$

wherein M is a transition metal, X is a halide, R is an alkyl radical having from 1–12 carbon atoms, inclusive, an aryl radical having from 6–10 carbon atoms, inclusive, or a



radical, R^1 is an alkyl radical having from 1–12 carbon atoms, inclusive, or an aryl radical having from 6–10 carbon atoms, inclusive m and p are whole, positive integers of from 0–6, inclusive, and n is a whole, positive integer of from 0–2, inclusive, the total of $2n+m+p$ being equal to the valence of the metal M, at least one of m and p being an integer of at least 1 is disclosed.

3,370,027

POLYMERIC COMPOSITIONS PREPARED FROM A HYDROCARBON FRACTION COMPOSED SUBSTANTIALLY OF DIMERS AND CODIMERS OF CONJUGATED DIENES

Joseph Z. Matt, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Continuation-in-part of application Ser. No. 361,228, Apr. 20, 1964, which is a continuation-in-part of application Ser. No. 150,873, Nov. 8, 1961. This application Mar. 21, 1967, Ser. No. 624,722
10 Claims. (Cl. 260—22)

A process for the production of an improved water-soluble polymeric composition by (1) reacting a hydrocarbon fraction of dimers and codimers of conjugated dienes with from about 42 to about 60% by weight of the total reactants of a monounsaturated carboxylic acid anhydride, (2) reacting the product of (1) with a glycol until the reaction product is formed having an acid number of from about 20 to about 100, and (3) reacting said reaction product with a basic material; and the composition thus produced. The composition can also contain a glyceride or a fatty acid by adding the same to the product of (1) and reacting the resulting mixture with the glycol as described above.

3,370,028

EMULSION POLYMERIZATION OF VINYL CHLORIDE USING A FATTY ACID SOAP AND A SULFUR-CONTAINING EMULSIFYING AGENT

Raymond C. De Wald, Amity Township, Pa., assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 325,506, Nov. 21, 1963. This application June 10, 1966, Ser. No. 556,560
16 Claims. (Cl. 260—23)

1. An aqueous latex comprising:
(a) a continuous aqueous phase;
(b) as a dispersed phase, at least 40 percent by weight based on total latex of a vinyl chloride resin selected from the group consisting of a homopolymer of vinyl chloride and copolymer thereof with up to 20 percent of ethylenically unsaturated compounds copolymerizable therewith, and
(c) from about 0.5 to about 2.0 percent by weight of a surfactant consisting essentially of a mixture of
(1) an effective amount up to 0.5 percent by weight of a salt selected from the group consisting of the alkali metal, ammonium, and water-soluble amine salts of alkyl sulfates, alkyl aryl sulfonates and mixtures thereof, the alkyl groups of said salts containing from 8 to 18 carbon atoms, and

(2) an effective amount of a salt selected from the group consisting of the alkali metal, ammonium, and water-soluble amine salts of fatty acids containing from 8 to 18 carbon atoms, the amount of said fatty acid salt exceeding the amount of salt (1) when the total surfactant is less than about 0.75 percent by weight,

the quantities of said surfactant and the components thereof being based on the weight of resin (b) with the amount of salt (2) calculated as the weight of fatty acid from which salt (2) is derived.

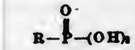
3,370,029

FLAME-RETARDANT COMPOSITIONS FOR PLASTICS

Joseph Frederick Cannelongo, Piscataway, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Mar. 14, 1966, Ser. No. 533,796
10 Claims. (Cl. 260—28.5)

1. A flame-retardant composition composed of a combination of (1) a chlorinated hydrocarbon containing from about 40–80% of combined chlorine and having a boiling point of at least 200° C. and (2) a phosphonic acid having the formula



wherein R is selected from the group consisting of aryl (C_6–C_{10}), alkyl (C_1–C_8), aralkyl (C_7–C_{11}), and carboxy and halo substituted alkyl (C_1–C_4) radicals.

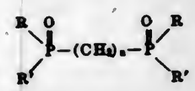
3,370,030

FLAME-RETARDANT COMPOSITIONS FOR PLASTICS

Joseph Frederick Cannelongo, Piscataway, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Mar. 14, 1966, Ser. No. 533,797
8 Claims. (Cl. 260—28.5)

1. A flame-retardant composition composed of a combination of (1) a chlorinated hydrocarbon containing from about 40–80% of combined chlorine and having a boiling point of at least 200° C. and (2) a diphosphine oxide having the formula



wherein R and R^1 are, individually, selected from the group consisting of hydrogen, aryl (C_6–C_{10}), alkyl (C_1–C_8), aralkyl (C_7–C_{11}), cyanoalkyl (C_2–C_4), carboxyalkyl (C_2–C_4), or carbamoylalkyl (C_2–C_4) radicals and n is a whole positive integer of from 1–4, inclusive, no more than one of R and R^1 being hydrogen.

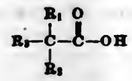
3,370,031

PROCESS FOR PREPARING VINYL CHLORIDE-VINYL ESTER COPOLYMER LATICES

Einte P. Groenmors and Geert C. Vegter, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 9, 1964, Ser. No. 350,528
Claims priority, application Netherlands, Mar. 11, 1963, 290,024
9 Claims. (Cl. 260—29.6)

1. A process for preparing mechanically stable, freeze-tolerant latices which comprises copolymerizing in aqueous emulsion (1) 100 parts by weight of vinyl chloride with (2) from 50 to 900 parts by weight of vinyl esters of alpha-branched saturated, aliphatic monocarboxylic acids containing from 9 to 19 carbon atoms and prepared by reacting olefins with carbon monoxide and water in the presence of liquid acid catalysts and having the general formula:



wherein R_1 and R_2 are alkyl radicals and R_3 is selected from the group consisting of hydrogen and alkyl radicals in the presence of (A) from 0.5 to 5 parts by weight per 100 parts by weight of (1) and (2) of a compound selected from the group consisting of alpha-beta-unsaturated carboxylic acids, partial carboxylic esters containing two carbon atoms linked by a double bond, at least one of which is directly attached to a carboxylic group, and the salts and anhydrides of said carboxylic acids and partial carboxylic esters, and (B) surfactants consisting essentially of surface-active agents containing one anionic group per molecule and of nonionic surface-active agents.

3,370,032

VINYL CHLORIDE POLYMER COMPOSITION PLASTICIZED WITH MIXED BENZOIC/ALKANOIC ACID ESTERS

George H. Potter, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 6, 1963, Ser. No. 307,017
5 Claims. (Cl. 260—31.6)

1. A plasticized composition which comprises a homogeneous admixture of (*a*) a vinyl chloride polymer selected from the group consisting of vinyl chloride homopolymer and copolymers of vinyl chloride and an ethylenically unsaturated monomer that is copolymerizable therewith, said vinyl chloride polymer having an inherent viscosity in the range of from 0.2 to 1.6, and (*b*) a plasticizing amount of a mixed benzoic/alkanoic ester of 2-hydroxymethyl-2-methylpropyl 2-hydroxymethyl-2-methylpropionate, the alkanoic moieties having from 6 to 18 carbon atoms and the benzoic and alkanoic moieties being present in a benzoic:alkanoic molar ratio in the range of from 17:30 to 30:70.

3,370,033

PROCESS FOR THE PRODUCTION OF BUTADIENE POLYMERS MODIFIED BY AN ISOCYANATE SULFENE CHLORIDE

Josef Witte, Cologne, Stammheim, Nikolaus Schön and Gottfried Pampus, Leverkusen, Hans Holtschmidt, Leverkusen, Steinbuechel, and Helmut Freytag, Cologne, Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Apr. 29, 1965, Ser. No. 452,001
Claims priority, application Germany, May 12, 1964, F 42,852
7 Claims. (Cl. 260—33.6)

3. A method for the preparation of modified butadiene polymers which comprises reacting (1) a butadiene polymer containing at least 70% of butadiene, obtained by solution polymerisation in the presence of organometallic catalysts and blended with 20 to 120 parts by weight per 100 parts by weight, of butadiene polymer, of a member selected from the group consisting of a paraffinic, naphthenic and aromatic extender oil, with (2) 0.1–0.5 part by weight, per 100 parts by weight of polymer, of an aromatic isocyanato sulphene chloride.

3,370,034
POLYMER COMPOSITIONS CONTAINING BENZOTHIOXOLE STABILIZING MATERIALS

Silvio L. Giolito, Whitestone, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 25, 1966, Ser. No. 596,743
10 Claims. (Cl. 260—45.8)

The present invention is directed to polyolefin polymer compositions containing a stabilizing quantity of hydroxy substituted 2-keto or 2-imino benzothioxole materials as stabilizer therefor. The preferred stabilizing compounds are 4-hydroxy-2-keto benzothioxole and 4-hydroxy-2-imino benzothioxole used in an amount of from above 0.01% to about 5.0% by weight based on the weight of the polymer.

3,370,035
STABILIZATION OF POLYALKYLENE OXIDE

Junji Ogura, Minoo, Japan, and Yataka Matsui, Ashiya, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Original application June 23, 1961, Ser. No. 119,051. Divided and this application July 23, 1964, Ser. No. 402,373
Claims priority, application Japan, July 11, 1960, 35/31,478
5 Claims. (Cl. 260—45.75)

Polyalkylene oxide (polyethylene oxide, polypropylene oxide, etc.) is stabilized against deterioration by heat or during storage by the uniform incorporation therein of a sulfur-containing compound (e.g. ethylene thiourea (2-mercapto-imidazoline), zinc dibutyldithiocarbamate, nickel dibutyldithiocarbamate, zinc ethylphenyldithiocarbamate, etc.), as a stabilizer.

3,370,036
STABILIZATION OF POLYMERS WITH UV STABILIZERS AND ANTIOXIDANTS

Robert J. Martinovich, Bartlesville, Okla, assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed July 2, 1962, Ser. No. 207,017
2 Claims. (Cl. 260—45.85)

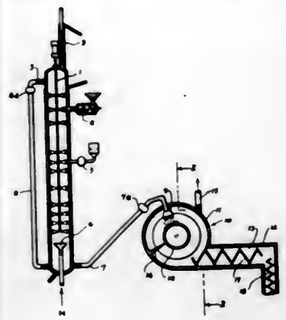
1. A solid polymer of an aliphatic 1-mono-olefin, having a maximum of 8 carbon atoms and no branching nearer the double bond than the 4-position stabilized with a stabilizer combination consisting essentially of 4,4'-thio-bis-(3-methyl-6-t-butyl phenol) and para-tertiary-butyl phenyl salicylate, the former additive being present in an amount in the range of 0.05 to 0.1 percent by weight, and the latter additive being present in an amount 0.25 to 0.5 percent by weight, of the polymer stabilized therewith.

3,370,037
PROCESS FOR THE CONTINUOUS MANUFACTURE OF COPOLYETHERESTERS

Johann Giesen, Haldenstein, Grisons, and Wolfgang Griehl and Hans Lückert, Chur, Grisons, Switzerland, assignors to Inventa A.G. für Forschung und Patentvertung, Zurich, Switzerland

Filed Feb. 4, 1964, Ser. No. 342,350
Claims priority, application Switzerland, Feb. 6, 1963, 1,451/63
7 Claims. (Cl. 260—47)

A process for the manufacture of copolyetheresters from terephthalic acid, aromatic oxycarboxylic acids and glycols. Terephthalic acid is reacted with an oligomer mixture, preformed from terephthalic acid, glycols and aromatic oxycarboxylic acids while splitting off water, forming a mixture of oligomeric products containing carboxyl groups in terminal position, followed by reconverting the latter to oligomer mixtures with glycols with glycol esters of the oxycarboxylic acids or their ethers, and polycondensation of a portion thereof.



3,370,038
NOVEL EPOXIDE RESINS PREPARED FROM α,α',α''-TRIS(HYDROXYPHENYL)-1,3,5 - TRIISOPROPYLBENZENE AND 1,4 - BIS(p - HYDROXYCUMYL) BENZENE

Oliver A. Barton, Florham Park, and Ralph M. Hetterly, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 18, 1965, Ser. No. 480,777
6 Claims. (Cl. 260—47)

This specification discloses novel terpolymeric epoxides prepared by reacting α,α',α''-tris(hydroxyphenyl)-1,3,5-triisopropylbenzene, 1,4-bis(p-hydroxycumyl)benzene and epichlorohydrin in the presence of an alkali. When cured, the epoxides of the invention have surprisingly high heat distortion temperatures.

3,370,039
PROCESS FOR PREPARATION OF HIGH-MOLECULAR-WEIGHT POLYARYLOXYSILANES

James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of William R. Dunnavant, Columbus, Ohio

No Drawing. Filed Feb. 17, 1967, Ser. No. 617,775
8 Claims. (Cl. 260—47)

A process for increasing the molecular weight of polyaryloxysilane polymers and upgrading their properties so that they can be fabricated into useful articles. Polyaryloxysilanes prepared by the reaction of a dianilinosilane and an organic diol, for example, dianilinodiphenylsilane and p,p'-biphenol, are mixed with a small amount of the dianilinosilane monomer and the mixture is heated under vacuum or inert gas sweep for at least thirty minutes at 200 to 300° C. This treatment converts the polymer from a brittle, low-molecular-weight form to a non-brittle, high-molecular-weight material suitable for further processing.

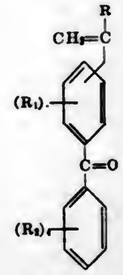
3,370,040
KETYL OF A VINYLIDENE KETONE, A DIFFERENT UNSATURATED MONOMER, AND A CROSS-LINKING AGENT TERPOLYMER

Massimo Baer, Longmeadow, Mass., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Nov. 14, 1963, Ser. No. 323,574
10 Claims. (Cl. 260—63)

1. A ketyl of a metal selected from the class consisting of alkali metals and alkaline earth metals with an insoluble, cross-linked interpolymer comprising in chemical combination (a) from about 30 to 99% by

weight of a vinylidene ketone corresponding to the general formula



(b) from about 1 to 20% by weight of a cross-linking agent containing multiple ethylenic unsaturation, and (c) from zero to about 70% by weight of an interpolymerizable ethylenic monomer other than (a) or (b); wherein in the above structural formula R is selected from the class consisting of hydrogen and methyl, each R_1 is independently selected from the class consisting of hydrogen and lower alkyls and each R_2 is independently selected from the class consisting of hydrogen and lower alkyls.

3,370,041
POLYMERIZATION PROCESS EMPLOYING TRANSITION METAL COMPOUNDS AS CATALYSTS

Walter A. Kornicker, Raleigh, N.C., Erhard P. Benzing, Kirkwood, Mo., and Eli Perry, Raleigh, N.C., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Feb. 25, 1963, Ser. No. 260,830. Divided and this application June 17, 1966, Ser. No. 574,844
12 Claims. (Cl. 260—67)

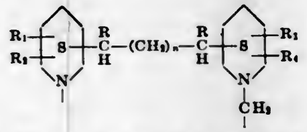
The invention is a polymerization process using a new catalyst of the formula $(R^1R^2N)_a(R^3O)_b(BH_4)_cMX_d$ where M is a transition metal or transition metal oxide of Groups IV–*a*, V–*a*, VII–*a* or VIII of the Mendeleeff periodic classification.

3,370,042
POLY-METHYLENEPIPERIDINO POLYMERS

William H. Rieger and John H. Chapman, Indianapolis, Ind., assignors to Reilly Tar & Chemical Corporation, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed May 24, 1965, Ser. No. 458,454
9 Claims. (Cl. 260—67.5)

Poly - methylenepiperidino polymers are disclosed. These polymers are prepared by the interaction of a dipiperidyl alkane and formaldehyde. They are characterized by having recurring in their molecular make-up the moiety



wherein R, R_1, R_2, R_3, and R_4 represent hydrogen or lower alkyl and *n* represents an integer from 0 to 4.

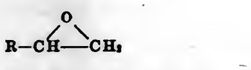
3,370,043
METHOD FOR PREPARING UNSATURATED POLYESTERS

John G. Milligan, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

No Drawing. Filed Mar. 2, 1964, Ser. No. 348,803
4 Claims. (Cl. 260—75)

1. A method for preparing an active unsaturated polyester resin which comprises:

(A) reacting maleic anhydride with an aliphatic dihydric alcohol at a temperature of from about 190° to about 250° C., and
(B) further reacting the product so formed with a dibasic organic carboxylic acid anhydride and a terminal oxirane compound formula:



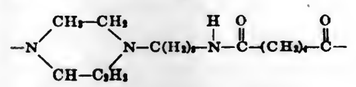
wherein R is selected from the group consisting of hydrogen, a C_1–C_{18} alkyl group, an aryl group, a C_1–C_4 haloalkyl group and mixtures thereof under substantially anhydrous conditions at a temperature of from about 80° to about 150° C. in the presence of a catalyst selected from the group consisting of alkali metal hydroxides, halides and carbonates, tertiary amines, quaternary ammonium hydroxides and salts, quaternary phosphonium compounds and sulfonium salts wherein the molar ratio of the dihydric alcohol and oxirane compound combined to the dibasic acid anhydride is at least about 1:1.

3,370,044
DYEABLE POLYURETHANES AND POLYAMIDES CONTAINING PIPERAZINE-BASED MODIFIERS IN THE POLYMER CHAIN

Ralph Gardner Beaman, Boothwyn, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 459,452, May 27, 1965, which is a continuation-in-part of application Ser. No. 28,545, May 12, 1960. This application Nov. 10, 1966, Ser. No. 593,323
17 Claims. (Cl. 260—77.5)

Linear fiber-forming polycarbonamides and polyurethanes of improved acid dyeability which have improved resistance to heat or light discoloration are provided by the said polymers containing as an integral part of the polymer chain from 0.2 to about 15.0 mole percent of a piperazine-based modifier, e.g.



3,370,045
POLYESTERS AND POLYURETHANE FOAMS FROM DI- AND TRI-(BETA-CARBOXYETHYL) ISOCYANURATES AND PROCESS FOR PREPARING THEM

Alexander Sadle, Petersburg, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 814,671, May 21, 1959. This application Dec. 11, 1963, Ser. No. 329,866
5 Claims. (Cl. 260—75)

1. A resinous polyester of tri-(beta-carboxyethyl)isocyanurate and a polyhydric alcohol.

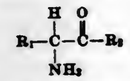
3,370,046
PHOTOGRAPHIC ELEMENTS

Hans Max Wagner and Thomas Peter Reginald Maynard, Harrow, Middlesex, England, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

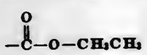
No Drawing. Original application Oct. 24, 1963, Ser. No. 318,515, now Patent No. 3,312,554, dated Apr. 4, 1967. Divided and this application Sept. 6, 1966, Ser. No. 613,975
1 Claim. (Cl. 260—78)

1. The reaction product of an amino acid ester selected

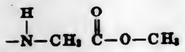
from the group consisting of those represented by the following structural formula:



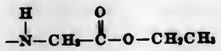
wherein R_1 represents a substituent selected from the group consisting of H; $-CH_3$; $-CH_2CH_3$



$-CH_2-CH_2-S-CH_3$; and R_2 represents a substituent selected from the group consisting of $-OCH_3$; $-OCH_2CH_3$;



and



with a polymer selected from the group consisting of polyacrylic anhydride, polymethacrylic anhydride, copolymers of alkyl vinyl ether, the alkyl groups of which contain from 2–4 carbon atoms, with maleic anhydride and terpolymers of alkyl vinyl ether, the alkyl groups of which contain 2–4 carbon atoms, ethyl acrylate, and maleic anhydride.

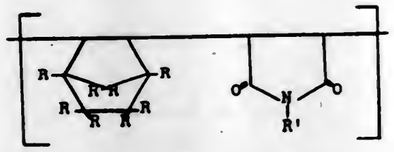
3,370,047

POUR POINT DEPRESSANTS AND LUBRICATING COMPOSITIONS THEREOF

Russell H. Raines, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 3, 1964, Ser. No. 394,327
9 Claims. (Cl. 260—78.5)

1. A bicyclo[2.2.1]hept - 2 - ene/N-hydrocarbylmaleimide polymer of the formula



wherein R represents a member selected from the group consisting of hydrogen, hydrocarbyl having from 1 to 15 carbon atoms, and a $-C_nH_{2n}OOCR''$ radical wherein n has a value of 0 to 10 and R'' is hydrocarbyl having from 1 to about 20 carbon atoms, and R' is a hydrocarbyl radical having from 1 to 30 carbon atoms, said hydrocarbyl radicals being selected from the group consisting of alkyl, aryl, aralkyl, alkaryl and cycloalkyl.

3,370,048

PROCESS FOR THE PREPARATION OF NEW LINEAR CONDENSATION POLYMERS

Delbert D. Reynolds, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 15, 1965, Ser. No. 439,975
14 Claims. (Cl. 260—79.3)

Resinous linear condensation polymers prepared by reacting certain bisalkoxymethylamines with bifunctional compounds such as aliphatic glycols, dithiols, thioalcohols, thioamines, secondary diamines, and the like, and quaternary salts of said polymers.

3,370,049

VULCANIZATION PROCESS

Logan V. Miller, Park Forest, and Laurence E. Stanton, Lisle, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Oct. 19, 1965, Ser. No. 498,106
12 Claims. (Cl. 260—79.5)

1. A process for vulcanizing rubber wherein sulfur and an accelerating amount of a compound having the formula:

$$Q_{x-y}MO_x$$

are incorporated into said rubber followed by heating to effect vulcanization of said rubber, wherein M is an atom of a group listed in the Periodic Table selected from the group consisting of IB, IIIA, IVA, IVB, VIB and VIII, x is an integer of 1–4, y is the valence of said atom, and Q is a radical selected from the group consisting of alkali metal and a quaternary ammonium radical of the structure:



where R is a radical selected from the group consisting of alkyl, alkenyl, alkaryl, aryl, cycloaliphatic and cycloheteryl and the foregoing radicals having substituents thereon.

3,370,050

PREPARATION OF INTERPOLYMERS OF HYDROXYL-CONTAINING MONOMERS IN AN ORGANIC SOLVENT USING HYDROGEN PEROXIDE AS CATALYST

Jerome A. Seiner, Pittsburgh, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed June 10, 1964, Ser. No. 374,164
6 Claims. (Cl. 260—80.81)

1. In the interpolymerization method which comprises interpolymerizing an organic solvent solution of a mixture of monomers consisting essentially of:

(a) at least about two percent by weight of a hydroxyalkyl ester of an ethylenically unsaturated carboxylic acid, said ester containing up to about 12 carbon atoms in the hydroxyalkyl group and said acid containing up to about 6 carbon atoms, and

(b) at least one other ethylenically unsaturated monomer, copolymerizable with said ester and selected from the group consisting of monoolefinic and diolefinic hydrocarbons, halogenated monoolefinic and diolefinic hydrocarbons, unsaturated esters of organic and inorganic acids, esters of unsaturated acids, unsaturated nitriles, and unsaturated acids,

the improvement which comprises carrying out the interpolymerization reaction at a temperature between about 135° F. and about 350° F. in the presence of aqueous hydrogen peroxide containing at least about 0.05 percent by weight, based upon the total monomers, of hydrogen peroxide.

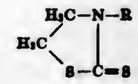
3,370,051

VULCANIZATION OF ELASTOMERIC COMPOSITIONS

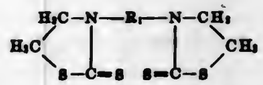
Frank A. V. Sullivan, Westfield, and Arthur C. Lindaw, Bridgewater Township, Somerset County, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of applications Ser. No. 176,435, Feb. 28, 1962, and Ser. No. 282,856, May 24, 1963. This application Jan. 25, 1966, Ser. No. 522,821
7 Claims. (Cl. 260—86.1)

1. A vulcanizable composition comprising an unvulcanized, vulcanizable active chlorine-containing elastomer, and from about 0.1 to about 2.5 weight percent, based on the polymer, of an accelerator of the formula:



or



wherein R is alkyl, hydroxyalkyl or alkoxyalkyl of from 1–6 carbons; cyclohexyl; phenyl, naphthyl, chloro-, alkyl- or alkoxy-substituted phenyl and naphthyl; aralkyl; furfuryl or morpholinoalkyl; and R_1 is alkylene of 1–4 carbons, phenylene or cyclohexylene.

3,370,052

PROCESS FOR THE PRODUCTION OF HIGH MOLECULAR WEIGHT AMORPHOUS COPOLYMERIZATES OF ETHYLENE AND A HIGHER ALPHA-OLEFIN IN INCREASED YIELDS

Rino Mostardini, Milan, Roberto Magri, Saiconaggiore, Parma, Rosario Lanzo, Mantua, and Mario Piazza, Ferrara, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Continuation of application Ser. No. 320,917, Nov. 1, 1963. This application July 13, 1966, Ser. No. 564,746

Claims priority, application Italy, Dec. 11, 1957, 17,706/57, Patent 581,418
17 Claims. (Cl. 260—88.2)

1. In the production of linear, amorphous, vulcanizable copolymers, the improvement which comprises producing the copolymers in high yields and directly in the form of discrete, fine particles by dissolving ethylene in a liquid higher alpha-olefin selected from the group consisting of propylene and butene-1, the amount of the higher alpha-olefin in the solution being from 80 to 99.5 mol percent of the total, at a temperature in the range from +30° C. to −100° C., adding to the liquid mixture, at said temperature,

(1) an alkyl aluminum compound in which the alkyl radicals contain from 2 to 6 carbon atoms, and

(2) a substance selected from the group consisting of hydrocarbon-soluble vanadium compounds and mixtures of hydrocarbon-soluble vanadium compounds with titanium tetrachloride, at least one of (1) and (2) containing halogen,

and (1) and (2) being added in relative amounts to form a catalyst for effectively copolymerizing the monomers; effecting the copolymerization by maintaining the liquid containing the catalyst, which liquid comprises the solution of ethylene in the liquid selected higher alpha-olefin and is essentially free of a solvent for the copolymers formed, at a temperature in the range +30° C. to −100° C., and while maintaining the molar ratio of ethylene to higher alpha-olefin in the reacting liquid phase substantially constant, and recovering the amorphous copolymer in the form of the discrete, fine particles in which it separates from the liquid reacting phase when it is produced under the recited conditions.

3,370,053

POLYMERIZATION OF OLEFINS IN THE PRESENCE OF AN ALKALI METAL ALUMINUM TETRAHYDROCARBON AND A ZIRCONIUM COMPOUND

Arthur William Anderson and William Lawrence Truett, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 787,328, Jan. 19, 1959, which is a continuation-in-part of application Ser. No. 450,268, Aug. 16, 1954. This application Mar. 9, 1965, Ser. No. 438,371
13 Claims. (Cl. 260—93.7)

1. The process of preparing solid polymers from ethylenically unsaturated hydrocarbon monomers which comprises contacting an ethylenically unsaturated hydrocarbon monomer in a liquid hydrocarbon medium at a temperature of from 0° to 300° C. and a pressure of from 1 to 200 atmospheres with a catalyst complex which comprises zirconium at least in part at a valence state of 2, said catalyst complex being the reaction product of a zirconium compound, in which the zirconium was at a valence state of at least 3, with from 0.5 to 10 mols, per mol of zirconium compound of an organometallic reducing agent, selected from the group consisting of alkali metal aluminum tetrahydrocarbons, said zirconium compound being selected from the group consisting of zirconium halides and zirconium alkoxides, and recovering from said liquid hydrocarbon medium a solid polymer of said ethylenically unsaturated hydrocarbon.

3,370,054

ZEIN PREPARED BY STRONG ALKALI HYDROLYSIS OF AQUEOUS ALCOHOLIC ZEIN SOLUTIONS AND SUBSEQUENT ACID PRECIPITATION OF THE ALKALI

Frederic C. Loew, Ridgewood, N.J., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio

No Drawing. Filed Mar. 5, 1965, Ser. No. 437,557
6 Claims. (Cl. 260—123)

Deamidated zein dispersible in solutions having a pH of at least 6.5 is prepared by hydrolyzing zein with strong alkalies, particularly the alkaline earths or lithium hydroxide in aqueous alcohol. The alkali is then removed by precipitation; for instance barium hydroxide is precipitated with sulfuric acid. For many end uses the precipitate does not have to be removed nor does the zein have to be recovered from the reaction mixture.

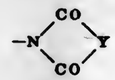
3,370,055

THIAZOLYLAZOPHENYL DYES CONTAINING DICARBOXIMIDO RADICALS

Max A. Weaver and David J. Wallace, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 3, 1964, Ser. No. 394,304
9 Claims. (Cl. 260—158)

Thiazolylazophenyl compounds useful as dyes for hydrophobic textile materials are characterized by the presence of a heterocyclic group attached to the coupler moiety of the compounds and having the formula



wherein Y represents —NH—NH— or a chain of 2 to 3 atoms consisting of carbon and at least one oxygen, sulfur, or nitrogen atom.

3,370,056

PRODUCTION OF POLYOXYALKYLENE ETHERS

Masaru Yotsuzuka, Kobe, and Katsuhisa Kodama, Nishinomiya, and Katsuhiko Ogino, Suita, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Filed Apr. 1, 1964, Ser. No. 356,648
Claims priority, application Japan, Apr. 4, 1963, 38/18,272
6 Claims. (Cl. 260—209)

A process is provided for the production of polyoxyalkylene polymers. The process comprises allowing alkylene oxide to react with an initiator having at least one active hydrogen atom in the presence of a solid catalyst. The catalyst employed consists essentially of an alkaline substance selected from the group consisting of alkali metal hydroxides and alkali metal lower alkoxides supported on a solid carrier which is inert to the alkaline substance.

3,370,057

LEUROSINE

Gordon H. Svoboda, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

Continuation-in-part of applications Ser. No. 43,499, July 18, 1960, and Ser. No. 129,567, Aug. 7, 1961.
This application Apr. 27, 1964, Ser. No. 369,340
1 Claim. (Cl. 260—236)

1. Leurosine, a crystalline, weakly basic, nitrogen-containing compound having a molecular weight of 809 and showing upon analysis the presence of 68.11 percent carbon, 7.30 percent hydrogen, 7.10 percent nitrogen, and 17.34 percent oxygen, the said values establishing the empirical formula $C_{46}H_{58}O_9N_4$; having an N-methyl group content of 1.43 percent, a C-methyl group content of 4.91 percent, and a methoxyl group content of 15.31 percent; showing pK_a' values in water of 5.5 and 7.5; its octahydrate having ultraviolet absorption maxima at 214 and 259 mμ with shoulders at 288 and 296 mμ, and a minimum at 246 mμ, the maxima having molecular extinction coefficients of 575 and 175, respectively; its octahydrate exhibiting in a chloroform solution in the infrared region over the range of about 2 to about 15 microns, characteristic peaks at 2.90, 3.35, 3.40, 3.50, 5.74, 6.18, 6.65, 6.85, 6.97, 7.28, 7.50, 7.73, 8.1, 8.64, 8.72, 8.83, 8.92, 9.02, 9.15, 9.40, 9.59, 10.21, 10.41, 10.56, 10.75, 10.88, 11.10, 11.28 and 12.17 microns; its octahydrate having the following specific rotation in chloroform solution: $[\alpha]_D^{36°}=+72°$ (c.=1); having a decomposition point in the range 200–205° C.; its octahydrate having a specific gravity of 1.262; and its octahydrate crystallizing in the monoclinic system with the following unit cell dimensions: $a_o=26.64$, $b_o=9.28$, $c_o=15.90$, $\beta=97°10'$.

3,370,058

5-ACYL MORPHANTHRIDINE DERIVATIVES

Claude Iwan Judd, Mequon, and Alexander Emanuel Drukker, Milwaukee, Wis., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 27, 1964, Ser. No. 414,424
2 Claims. (Cl. 260—239)

The compounds are 5-acyl-5,6-dihydromorphanthridine derivatives which are useful as both pharmaceutically active compounds and intermediates in the preparation of the 11-(substituted aminoalkylidene)-5,6-dihydromorphanthridines which are disclosed and claimed in U.S. Patent No. 3,153,652. A species disclosed is 5-acetyl-11-(3-dimethylamino)propylidene-5,6-dihydromorphanthridine.

3,370,059

2-DIETHYLAMINOETHYLMERCAPTO AND 2-MORPHOLINOETHYLMERCAPTO - CHLOROPYRIDINES

Wilhelm A. Schuler, Bad Homburg, and Helmut Beschke, Frankfurt am Main, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Continuation-in-part of application Ser. No. 267,335, Mar. 22, 1963. This application Apr. 15, 1965, Ser. No. 448,235
Claims priority, application Germany, Mar. 27, 1962, D 38,499; Jan. 23, 1963, D 40,747
3 Claims. (Cl. 260—247.1)

1. 2-(diethylaminoethylmercapto)-6-chloropyridine.
2. 2-(morpholinoethylmercapto)-6-chloropyridine.

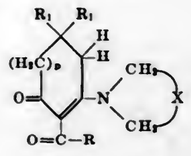
3,370,060

ENAMINOKETONES

Gerhard H. Alt, Creve Coeur, and Angelo J. Speziale, Kirkwood, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Aug. 22, 1962, Ser. No. 218,548
6 Claims. (Cl. 260—247.7)

1. A compound of the structure



wherein X is selected from the class consisting of

—CH_2CH_2—, —CH_2OCH_2— and —$OH_2CH_2CH_2$—

wherein R_1 is selected from the class consisting of hydrogen and lower alkyl; wherein R is selected from the class consisting of lower alkyl, phenyl and phenyl substituted with halogen or nitro; and wherein p is an integer from zero to two.

3. 2-cyclohexoyl-3N-morpholylcyclohex-2-en-1-one.

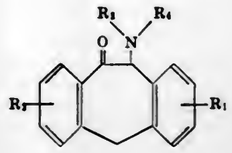
3,370,061

11-AMINO-10,11-DIHYDRO-5H-DIBENZO[a,d] CYCLOHEPTEN-10-ONES

Gerardus J. B. Corts, Haarlem, Netherlands, assignor to N.V. Koninklijke Pharmaceutische Fabrieken v/h Brocades Stheeman en Pharmacie, Amsterdam, Netherlands, a corporation of the Netherlands

No Drawing. Filed May 17, 1965, Ser. No. 456,518
Claims priority, application Great Britain, Sept. 29, 1964, 39,675/64
4 Claims. (Cl. 260—247.7)

1. A compound selected from the group having the formula



wherein R_1 and R_2 are selected from the group consisting of hydrogen, lower alkyl and halide, R_3 and R_4 are selected from the group consisting of hydrogen and lower alkyl and R_3 and R_4 together form a heterocyclic group selected from the group consisting of pyrrolidino, piperidino, morpholino, thiamorpholino, piperazino, 4-lower alkyl-piperazino and 4-phenyl-lower alkyl piperazino and salts thereof.

2. 11 - morpholino - 10,11 - dihydro - 5H-dibenzo[a,d] cycloheptен-10-one.

3,370,062

PROCESS FOR PRODUCING PENTACHLOROPYRIDINE

John Anthony Corran, Runcorn, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Feb. 1, 1965, Ser. No. 429,607
Claims priority, application Great Britain, July 10, 1964, 5,895/64
10 Claims. (Cl. 260—290)

1. A process for the manufacture of pentachloropyridine which comprises passing a mixture of chlorine and a pyridine selected from the group consisting of pyridine itself, methylpyridines and chloropyridines containing fewer than 5 chlorine atoms, in the vapor phase through a bed of porous material selected from the group consisting of silica, alumina and mixtures thereof at a temperature between 400° C. and 550° C., the mole ratio of the chlorine to the said pyridine being more than about 6:1.

3,370,063

SUBSTITUTED DIMETHOXY INDOLES AND METHOD OF MAKING THE SAME

John T. Suh, Mequon, Wis., assignor to McNeil Laboratories, Incorporated, a corporation of Pennsylvania

No Drawing. Filed Oct. 5, 1964, Ser. No. 401,712
1 Claim. (Cl. 260—294)

5,6-dimethoxyindoles with substitution of various groups in the 2 and 3 positions are prepared by condensing 4,5-dimethoxy-2-nitrophenyl acetonitrile with various aldehydes and subsequently reductively cyclizing the resulting β - substituted - α - (4,5-dimethoxy-2-nitrophenyl) acrylonitrile. Various 3-N-acylamidoloweralkyl derivatives of the 3-cyanoindoles may be prepared by hydrogenation in the presence of an acylating agent. These compounds are useful as ultraviolet light absorbers.

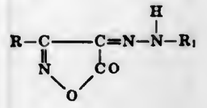
3,370,064

CERTAIN 4-(CHLOROPHENYLHYDRAZONO)-2-ISOXAZOLIN-5-ONES

Michael Joseph Augustine Geoghegan, John Angus William Turner, and Peter Frank Hilary Freeman, Bracknell, England, and Lindsay Anderson Summers, Newcastle, New South Wales, Australia, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Continuation-in-part of application Ser. No. 147,741, Oct. 26, 1961. This application Feb. 16, 1965, Ser. No. 433,162
Claims priority, application Great Britain, Nov. 2, 1960, 37,645/60; July 31, 1961, 27,676/61
7 Claims. (Cl. 260—307)

7. A 2-isoxazolin-5-one which in one tautomeric free base form has the general formula:



where R is selected from the group consisting of alkyl of 1–4 carbon atoms and carboxyalkyl and alkoxycarbonylalkyl wherein the alkyl contains 1–4 carbon atoms, and R_1 is chlorophenyl.

3,370,065

CONVERTING CRUDE POLYHALOCOPPER PHTHALOCYANINES INTO A PIGMENT FORM

Eberhard Nold, Ludwigshafen (Rhine), and Rudolf Polster, Frankenthal, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Sept. 21, 1966, Ser. No. 580,909
Claims priority, application Germany, Sept. 30, 1965, B 83,947; Apr. 9, 1966, B 86,603, B 86,606
4 Claims. (Cl. 260—314.5)

Conversion of crude polyhalocopper phthalocyanines to pigment dyes with 92–100% strength sulfuric acid and an inert organic liquid together with a small amount of nitrosylsulfuric acid, sodium or potassium nitrite, or nitric acid at 20–180° C.

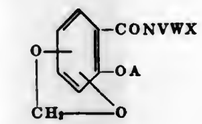
3,370,066

SUBSTITUTED METHYLENEDIOXYBENZAMIDES

Michel Leon Thominet, Paris, France, and Edward Louis Engelhardt, Gwynedd, Pa., assignors to Societe d'Etudes Scientifiques et Industrielles de l'Ile-de-France, Longjumeau, Seine-et-Oise, France, a corporation of France

No Drawing. Filed June 3, 1965, Ser. No. 461,167
Claims priority, application France, June 8, 1964, 977,661, 977,663
5 Claims. (Cl. 260—340.5)

1. A member selected from the class consisting of free bases, non-toxic salts and quaternary ammonium derivatives thereof; said free base having the formula:



in which the methylenedioxy radical is in a position selected from the class consisting of the 3–4, 4–5 and 5–6 positions; A is a member selected from the class consisting of hydrogen, lower alkyl and lower alkenyl; V is a member selected from the class consisting of hydrogen, lower alkyl, phenyl and methyl phenyl; W is lower alkylene; and X is selected from the class consisting of N-di lower alkylamino and 5 and 6 membered heterocyclic nitrogenous nuclei with a nitrogen atom thereof connected to a carbon atom of W, said nuclei consisting of morpholino, piperidino, pyrrolidino, piperazino and imidazolo.

3,370,067

HYDROGENOLYSIS OF BUTYROLACTONE AND γ-VALEROLACTONE TO THE CORRESPONDING CYCLIC ETHERS

Oliver Johnson, Berkeley, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 7, 1967, Ser. No. 629,097
5 Claims. (Cl. 260—346.1)

Tetrahydrofuran and α-methyltetrahydrofuran are produced by the hydrogenolysis of butyrolactone and γ-valerolactone, respectively, in the presence of a transition metal catalyst supported on a solid, acidic, inorganic catalyst carrier.

3,370,068

1 - AMINO - 4 - [m - (DIETHYLAMINOETHYLSULFONYL) - ANILINO] - 2 - ANTHRAQUINONE SULFONIC ACID

Fritz Meininger and Ernst Hoyer, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Aug. 6, 1964, Ser. No. 388,001
Claims priority, application Germany, Aug. 16, 1963, F 40,499
4 Claims. (Cl. 260—374)

1-amino - 4 - (m - diethylaminoethylsulfone) - anilino-anthraquinone-2-sulfonic acid dyestuffs capable of dyeing cellulosic and nitrogenous fibers clear blue shades of excellent fastness to light and good fastness to washing, chlorine, water and rubbing.

3,370,069

2,5-DIACYLAMINO-3,6-DIAMINO-1,4-BENZOQUINONES

Erhardt Winkelmann and Wolf-Helmut Wagner, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed July 25, 1963, Ser. No. 297,680
Claims priority, application Germany, Aug. 1, 1962, F 37,476
4 Claims. (Cl. 260—396)

3,6-diamino-1,4-benzoquinones in which the 2- and 5-positions are occupied by propionylamino-, valeroylamino-, hexahydro-benzoylamino- and crotonylamino-groups, said compounds being active against coccidiosis.

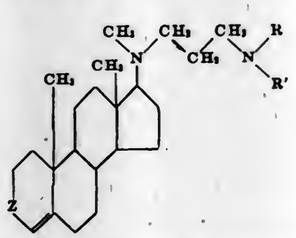
3,370,070

[N-ALKYL-17-(DIALKYLAMINOALKYL)AMINO] ANDROST-4-EN-3-ONES

Paul D. Klimstra, Northbrook, Ill., and Raymond E. Counsell, Ann Arbor, Mich., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed June 16, 1965, Ser. No. 464,553
7 Claims. (Cl. 260—397.3)

1. A compound of the formula



wherein Z is selected from the group consisting of carbonyl, β-hydroxymethylene and β-(lower alkanoyl)oxymethylene radicals, and R and R' are lower alkyl radicals.

3,370,071

3-KETO-13β-ALKYL-17β-ACETYL-GONA-4,9-DIENES AND PROCESS

Arthur A. Patchett, Cranford, and Thomas B. Windholz, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed June 1, 1965, Ser. No. 460,505
3 Claims. (Cl. 260—397.4)

The invention disclosed herein is concerned with novel intermediate compounds useful in preparing novel steroid compounds of the gonane series, novel steroid compounds prepared from the novel intermediate compounds, and novel processes for preparing the intermediate and steroid compounds of the gonane series.

3,370,072

17α-DIHALOMETHYL CORTICOIDS AND PROCESS FOR THEIR PREPARATION

John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Jan. 18, 1966, Ser. No. 521,450
15 Claims. (Cl. 260—397.45)

As novel compounds, 17α-dihalomethyl steroids of the pregnane series containing optional substitution at one or more of positions C-3, C-6, C-6,7, C-9, C-11, C-16, and C-21 of the steroid nucleus and/or unsaturation between carbon atom C-4,5,C-1,2 and/or C-6,7 which compounds are anti-inflammatory and corticoid agents and processes for the preparation of such compounds.

3,370,073

OXIDATION OF OLEFINICALLY UNSATURATED HYDROCARBONS TO CARBONYL COMPOUNDS

William H. Clement, Blairsville, and Charles M. Selwitz, Pitcairn, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed July 11, 1963, Ser. No. 294,253
24 Claims. (Cl. 260—486)

1. A process for the preparation of carbonyl containing compounds which comprises adding an unsaturated hydrocarbon having between 6 and 40 carbon atoms per molecule and wherein the unsaturation in said hydrocarbon resides solely in from 1 to 4 olefinic double bonds, and wherein there is at least one hydrogen atom on each carbon atom of at least one of said olefinic double bonds to a reaction mixture comprising an aqueous solution of a water soluble salt of a metal of the platinum group, an oxidizing agent having an oxidation potential higher than that of said platinum group metal and a solvent which has a dielectric constant at 25° C. of at least 20 and is such that between 0.5 and 5 volumes of dodecene-1 are soluble at a temperature of 25° C. in a mixture of 50 volumes of solvent and 7 volumes of water; the amount of water in said aqueous solution being between 1 and 50 weight percent of said solvent.

22. A process which comprises:

adding an unsaturated monocarboxylic acid having between 6 and 40 carbon atoms and wherein the unsaturation in said hydrocarbon resides solely in a single olefinic double bond, and wherein there is at least one hydrogen atom on each carbon atom of said olefinic double bond and an oxidizing gas containing free molecular oxygen as the only oxidant;

to a reaction mixture comprising water; a water soluble salt of a platinum group metal selected from the group consisting of platinum and palladium halides, sulfates and phosphates; as a redox system, an inorganic salt of a metal having an oxidation potential higher than that of the platinum group metal and capable of being re-oxidized by said oxidizing gas; the molar ratio of the sum of the redox metals to the platinum group metal being between 1:10 and 100:1; and a solvent which has a dielectric constant at 25° C. of at least 20 and is such that between 0.5 and 5 volumes of dodecene-1 are soluble at a temperature of 25° C. in a mixture of 50 volumes of solvent and 7 volumes of water; the amount of water in said reaction mixture being between 2 and 30 weight percent of said solvent;

the rate of addition of said acid being equivalent to the rate at which the acid is reacted;

under reaction conditions including a temperature between 0° and 150° C. such that the reactants are maintained in the liquid phase.

3,370,074

PROCESS FOR THE PREPARATION OF CARBOXYLIC ACID SALTS

Harold L. Dimond, Ross Township, Allegheny County, and Arthur C. Whitaker, Fox Chapel Borough, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Dec. 30, 1963, Ser. No. 334,102
22 Claims. (Cl. 260—413)

1. A process for the preparation of a salt of at least one oxygen-containing organic acid by the oxidative dehydrogenation of at least one oxygen-containing compound reactant selected from the group consisting of unsubstituted aliphatic and unsubstituted monocyclic aralkyl primary alcohols having between 1 and 40 carbon atoms; unsubstituted aliphatic and unsubstituted monocyclic aralkyl aldehydes having between 1 and 40 carbon atoms; unsubstituted aliphatic aldols having between 1 and 40 carbon atoms; unsubstituted aliphatic acetals having between 1 and 40 carbon atoms and at least two hydrogen atoms on at least one of the carbon atoms adjacent to at least one of the ether oxygen atoms; unsubstituted aliphatic monoethers having between 1 and 40 carbon atoms and at least two hydrogen atoms on at least one of the carbon atoms adjacent to the ether oxygen atom; and organic esters having between 1 and 40 carbon atoms wherein the acid and alcohol portions of the ester are aliphatic hydrocarbon radicals. which comprises reacting under oxidative dehydrogenation conditions a mixture consisting essentially of said oxygen-containing compound reactant, a substantially anhydrous alkali metal compound selected from the group consisting of alkali metal oxides and hydroxides, and between 0.5 and 8 mol percent water based on said alkali metal compound.

3,370,075

DIORGANOTIN DI(CARBOXY-ALKYLENE MONO- OR DITHIOL-CARBONATES)

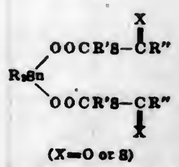
Emery Parker, 290 Avenue of the Americas, New York, N.Y. 10014

No Drawing. Filed Mar. 4, 1964, Ser. No. 349,465
2 Claims. (Cl. 260—429.7)

Organotin sulfur compounds of the composition



and



(X=O or S)

wherein R=alkyl (1–18 C), R'=alkylene (1–18 C), and R'' is alkyl or alkoxy (1–18 C) are new stabilizers for chlorine containing resins.

3,370,076

CARBOXYALKYLMERCAPTOMETHYL SILOXANES

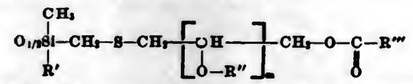
Hans Niederprüm, Monheim, and Walter Simmler, Cologne-Mulheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 23, 1964, Ser. No. 384,770
Claims priority, application Germany, July 24, 1963, F 40,332
2 Claims. (Cl. 260—448.2)

A novel class of carbofunctional organopolysiloxanes is disclosed, the same being suitable for use as levelling agents for polyester lacquers, as lubricants and as additives for water soluble or emulsifiable drilling and cutting oils. The carbofunctional organo-polysiloxanes correspond to the formula

$$R_nSiO_{\frac{4-n}{2}}$$

wherein n has a value greater than 1 but not exceeding 3, at least one of the siloxane units is a mercaptomethylsiloxane unit having the following formula



and each substituent R of all remaining siloxane units is alkyl or aryl, in the said mercaptomethyl-siloxane units R' is CH_3 or $O_{1/2}$, R'' is H or



m is either 0 or 1, and



is acyl which is derived from a mono- or poly-basic saturated or unsaturated aliphatic, cycloaliphatic or aromatic carboxylic acid, or carbonic acid.

3,370,077

POLYOXYALKYLENE DIISOCYANATES

Gordon E. Hartzell, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 12, 1964, Ser. No. 374,830
4 Claims. (Cl. 260—453)

Bis(isocyanatoalkyl) ethers of polyoxyalkylene glycols are prepared by reacting a corresponding dichloride with a metal cyanate or, more conveniently, by reacting a corresponding diamine with phosgene. These normally liquid polyoxyalkylene diisocyanates are intermediates for making polyurethanes and are also crosslinking and bonding agents. Compounds based on polypropylene glycol of at least 400 molecular weight are of particular interest.

3,370,078

PROCESS FOR PREPARING ISOCYANATES

Robert Putnam Bennett, Bridgewater Township, Somerset County, and William Baptist Hardy, Bound Brook, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Dec. 18, 1964, Ser. No. 419,609
2 Claims. (Cl. 260—453)

A process for making an isocyanate which comprises reacting carbon monoxide with an azide of the formula:

$$R—(N_3)_n$$

wherein R is alkyl of 1–20 carbon atoms, alkenyl of 2–20 carbon atoms, aralkyl having up to 12 carbon atoms, aryl having up to 20 carbon atoms and a heterocycle of 5–6 ring members in the heterocyclic ring, and n as a positive integer of less than 3. The reaction is conducted at a temperature between about 130° and 250° C. and at a pressure above 100 p.s.i.

3,370,079

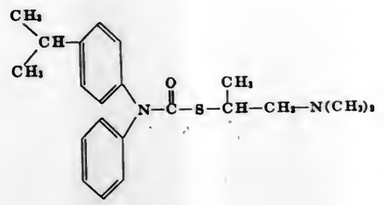
4-ISOPROPYL-DIPHENYL-AMINE-N-CARBOXYLIC ACID β-(DIMETHYLAMINO)PROPYL THIOESTER

Ulrich Hörlein, Wuppertal-Vohwinkel, Ludwig Ese, Cologne-Stammheim, Helmuth Hack, Opladen, and Klaus-Heinz Riese, Solingen-Wald, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 18, 1965, Ser. No. 433,771
Claims priority, application Germany, Feb. 25, 1964, F 42,123
1 Claim. (Cl. 260—455)

1. The compound 4 - isopropyl-diphenylamine-N-car-

boxylic acid β-(dimethylamino) propyl thioester having the formula



and the corresponding acid addition salts thereof.

3,370,080
HYDROPHILIC MONOOLEFIN-CONJUGATED CYCLODIOLEFIN CONDENSATION DETERGENT PRODUCT
Herman S. Bloch, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Oct. 28, 1964, Ser. No. 407,232
5 Claims. (Cl. 260—457)

Mono- or dialkyl-substituted bicycloalkane sulfates, sulfonates or hydroxy polyoxyalkylenes, the alkyl substituent(s) preferably being normal or substantially normal and the total carbon number of said alkyl substituent(s) not exceeding about 18. The compounds are useful as biodegradable detergents.

3,370,081
PROCESS FOR THE MANUFACTURE OF AROMATIC NITRILES
Kurt Sennewald and Wilhelm Vogt, Knapsack, near Cologne, and Alexander Ohorodnik, Liblar, Germany, assignors to Knapsack Aktiengesellschaft, a corporation of Germany
No Drawing. Filed Aug. 10, 1964, Ser. No. 388,689
Claims priority, application Germany, Aug. 17, 1963, K 50,452
7 Claims. (Cl. 260—465)

Production of nitriles by oxidizing methyl benzenes or methyl naphthalenes in the gaseous phase with oxygen in the presence of ammonia with a vanadium/tin oxide catalyst on a carrier containing a phosphorus oxide.

3,370,082
PURIFICATION OF ADIPODINITRILE
Karl Elsfeld, Ludwigshafen (Rhine), Peter Haug, Bad Durkheim, Heinrich Scholz, Ludwigshafen (Rhine), and Anton Wegerich, Limburgerhof, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Aug. 13, 1964, Ser. No. 389,488
Claims priority, application Germany, Aug. 17, 1963, B 73,156
6 Claims. (Cl. 260—465.8)

1. A process for the purification of a crude adipodinitrile consisting predominately of adipodinitrile which comprises cooling said crude adipodinitrile as a liquid in a crystallization zone maintained at a temperature of about −10° C. up to +2.6° C., forming in said crystallization zone a suspension of finely divided solid adipodinitrile in liquid adipodinitrile in which the weight ratio of the solid phase to the liquid phase is about 0.05:1 to 2:1, separating the solid phase from the liquid phase, washing the resulting separated solid adipodinitrile and withdrawing the washed adipodinitrile as a purified product.

3,370,083
CATALYTIC PROCESS FOR THE PREPARATION OF NITRILES
Natale Ferlazzo, Giorgio Caporali, Nicola Giordano, and Paolo Marinozzi, Milan, Italy, assignors, by mesne assignments, to Montecatini Edison S.p.A., a corporation of Italy
No Drawing. Filed Aug. 13, 1963, Ser. No. 301,880
Claims priority, application Italy, Aug. 23, 1962, 26,538/62
7 Claims. (Cl. 260—465.3)

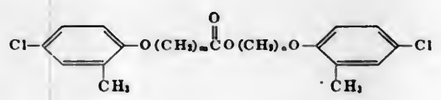
1. A process for preparing an unsaturated nitrile selected from the group of acrylonitrile and methacrylonitrile from an olefin selected from the group consisting of propylene and isobutylene respectively, comprising contacting in the gaseous phase at a temperature in the range of 300° to 600° C. and at a contact time of 0.05–20 seconds, a mixture consisting of said olefin, 0.5 to 2.5 moles of elemental oxygen per mole of olefin, 0.3 to 2 moles of ammonia per mole of olefin and an inert gaseous diluent with a catalytic system consisting of at least one heteropolycompound having the general formula:

$$Te_xCe_{10}Mo_{100}V_{20}O_y$$

where x represents a number in the range from 1 to 180 and y represents a number in the range from 370 to 730.

3,370,084
ESTERS OF 2-METHYL-4-CHLOROPHENOXY ALKANOIC ACIDS
Masayoshi Hatanaka, Takaaki Ohtsuka, and Katsumichi Aoki, Nakoso-shi, Japan, assignors to Kureha Chemical Industry Co., Ltd., a corporation of Japan
No Drawing. Filed Nov. 16, 1964, Ser. No. 411,630
Claims priority, application Japan, Nov. 18, 1963, 38/61,984
4 Claims. (Cl. 260—473)

Weed killing agent of the formula



wherein m and n are integers between 1 and 5.

The following specific weed killing agents of the generic formula are disclosed:

2 - methyl - 4 - chlorophenoxy ethyl-2-methyl-4-chlorophenoxy acetate; 2 - methyl - 4 - chlorophenoxy ethyl-2-methyl-4-chlorophenoxy butyrate; 2-methyl-4-chlorophenoxy butyl-2-methyl-4-chlorophenoxy acetate.

3,370,085
PROCESS FOR THE MANUFACTURE OF DINITROALKYLPHENOL ESTERS
Otto Scherer, Bad Soden, Taunus, Karl Reichner, Frankfurt am Main, and Hans Habicht, Kelkheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
Filed Apr. 9, 1963, Ser. No. 271,630
Claims priority, application Germany, Apr. 11, 1962, F 36,522
13 Claims. (Cl. 260—476)

1. The method for esterifying a 2,6-dinitro- or 4,6-dinitro-alkylphenol or -cycloalkylphenol which comprises passing an inert gas through a mixture of the dinitrophenol and an unsubstituted or chlorosubstituted aliphatic or benzene carboxylic acid halide at a temperature from 75° C. to 145° C.

3,370,086
BISOXYPHENYL COMPOUNDS
Everett E. Gilbert, Morris Township, and Pasquale Lombardo, Hanover Township, Morris County, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Feb. 26, 1965, Ser. No. 435,723
6 Claims. (Cl. 260—479)

This specification discloses 2,2-bis(4'-oxyphenyl)-1,1a, 3,3a,4,5,5,5a,5b,6 - decachlorooctahydro - 1,3,4 - metheno-2H-cyclobuta [cd] pentalene compositions and their preparation. The products are useful as fungicides and as starting materials for the preparation of polycarbonate resins.

3,370,087
OXIDATIVE DEHYDROGENATION PROCESS
Charles Wesley Hargis, Johnson City, and Howard Seth Young, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 550,931, May 18, 1966. This application May 3, 1967, Ser. No. 635,689
12 Claims. (Cl. 260—486)

The selective oxidation of the alpha, beta-carbon atoms of lower alkyl radicals having functionally unsaturated groups, in the presence of sulfides of antimony, arsenic or bismuth to produce the alpha, beta unsaturated derivatives.

3,370,088
SEPARATION OF BENZOPHENONE 2,4'- AND 4,4'-DICARBOXYLIC ACIDS
Henri K. Lese, Oakmont, John H. McCracken, Pitcairn, and Johann G. D. Schulz, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed June 19, 1964, Ser. No. 376,586
8 Claims. (Cl. 260—517)

A process for separating benzophenone 2,4'-dicarboxylic acid from a mixture containing the same and benzophene 4,4'-dicarboxylic acid which involves treating the mixture with a mixture of a lower alkyl alcohol and a di-lower alkyl ketone or a diether.

3,370,089
PHOSPHONITRILE
Bernard Grushkin, Silver Spring, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed July 9, 1964, Ser. No. 381,519
1 Claim. (Cl. 260—551)

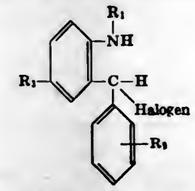
An organic substituted trimeric phosphonitrilic compound in which the substituted alkyl group may contain from 1 to 3 carbon atoms This compound can be polymerized to form high temperature resistant semi-inorganic resins and ceramic type materials.

3,370,090
UREA SYNTHESIS PROCESS
Lucien H. Cook, Port Washington, N.Y., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 30, 1965, Ser. No. 491,675
16 Claims. (Cl. 260—555)

12. A process for urea synthesis with total recycle of unconverted process components which comprises adding a liquid ammonia feed stream at a pressure in the range of 140 to 350 kg./sq. cm. to a gaseous process stream containing ammonia, carbon dioxide and water vapor, reacting the resulting process stream at a temperature in the range of 150° C. to 230° C. and pressure in the range of 140 to 350 kg./sq. cm. while in indirect heat exchange relationship with liquid water, whereby urea is formed in said process stream and said liquid water is vaporized to steam, heating the resulting process stream at a temperature in the range of 150° C. to 200° C. and reduced pressure in the range of 35 to 70 kg./sq. cm. to generate a first off-gas stream, separating said first off-gas stream from the residual liquid process stream, heating the residual liquid process stream at a temperature in the range of 100° C. to 170° C. and reduced pressure in the range of 7 to 28 kg./sq. cm. to generate a second off-gas stream, separating said second off-gas stream from the residual liquid process stream, heating the residual liquid process stream at a temperature in the range of 90° C. to 150° C. and reduced pressure in the range of 1.1 to 7 kg./sq. cm. to generate a third off-gas stream, separating said third off-gas stream from the residual liquid process stream comprising product aqueous urea solution, adding a gaseous carbon dioxide feed stream to said third off-gas stream, adiabatically compressing the resulting mixed gaseous stream to a pressure in the range of 7 to 28 kg./sq. cm., adding said second off-gas to the compressed mixed gaseous stream, adiabatically compressing the resulting combined gaseous stream to a pressure in the range of 35 to 70 kg./sq. cm., adding said first off-gas to the compressed combined gaseous stream, and adiabatically compressing the resulting total gaseous stream to urea synthesis pressure in the range of 140 to 350 kg./sq. cm. to form said gaseous process stream.

3,370,091
2 AMINOBENZHYDRYLHALIDES
Giles Allan Archer, Essex Fells, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed June 15, 1964, Ser. No. 375,292
4 Claims. (Cl. 260—570)

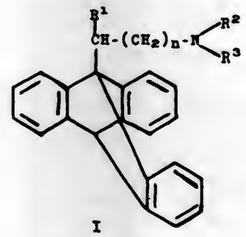
1. An acid addition salt of a compound of the formula



wherein R_1 is selected from the group consisting of hydrogen and lower alkyl; R_2 is selected from the group consisting of hydrogen, halogen, nitro, trifluoromethyl, lower alkyl and lower alkoxy; R_3 is selected from the group consisting of hydrogen, halogen, trifluoromethyl, nitro, lower alkyl-thio, lower alkyl and lower alkoxy.

3,370,092
9-AMINOALIPHATIC TRIPTYCENES AND SALTS THEREOF
Edmund C. Kornfeld, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
No Drawing. Filed Dec. 28, 1964, Ser. No. 421,690
6 Claims. (Cl. 260—570.6)

1. The compounds having the following Formula I,



I

wherein R^1 is selected from the group consisting of hydrogen and hydroxyl; R^2 and R^3 are selected from the group consisting of hydrogen and C_1–C_{24} alkyl; n is a number from 1 to 18; and the acid addition salts thereof.

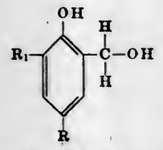
3,370,093

PROCESS FOR PREPARING BENZYL ETHERS

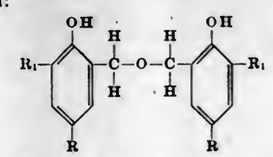
Juan Longoria III, Lake Jackson, Tex., assignor to American Potash & Chemical Corporation, Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed Aug. 16, 1962, Ser. No. 217,260
1 Claim. (Cl. 260—611)

1. A process for producing benzyl ethers comprising:
(A) heating at a temperature between about 45° C. and about 65° C., in the presence of a catalytic amount of a catalyst selected from the group consisting of a HCl, H_2SO_4, $C_6H_5SO_3H$, $NaHSO_4$, $NaHSO_3$ and $CaCl_2$, a phenolic compound having the formula:



wherein R is an alkyl substituent having from 4 to 12 carbon atoms, and R_1 is a halogen to form a degradation product, and
(B) recovering said benzyl ether from the resultant degradation product, said benzyl ether having the formula:



wherein, R and R_1 have the meaning assigned above.

3,370,094

STABILIZED PARTIALLY HYDROGENATED XYLENE - FORMALDEHYDE CONDENSATION PRODUCTS AND PROCESS FOR OBTAINING SAME

Stephen M. Kovach, Highland, Ind., and Robert A. Sanford and David W. Young, Homewood, Ill., assignors to Sinclair Research Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 10, 1965, Ser. No. 486,551
7 Claims. (Cl. 260—611)

Process of stabilizing xylene-formaldehyde condensation products of about 250 to 3000 molecular weight against further condensation by hydrogenation in liquid phase and by contact with molecular hydrogen in the presence of a nickel hydrogenation catalyst at a temperature of about 200 to 500° F. for a length of time sufficient to selectively saturate at least about 25% of the terminal tri-substituted benzene rings of the condensation product. Also partially hydrogenated xylene-formaldehyde condensation products stabilized against further condensation in accordance with this process.

3,370,095

PREPARATION OF VINYL ETHERS

James F. Vitcha, New Providence, N.J., assignor, by mesne assignments, to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,457
7 Claims. (Cl. 260—614)

1. The process for preparing vinyl ethers which comprises reacting together acetylene with an excess of a lower alkanol containing less than about five carbon atoms in a reaction medium consisting essentially of at least one member of the group consisting of a higher alkanol containing between about 10 and 22 carbon atoms, and the vinyl ether of a higher alkanol containing between about 10 and 22 carbon atoms, thereby forming the vinyl ether of said lower alkanol, the reaction being carried out at substantially atmospheric pressure and a temperature of 160–200° C. in the presence of about 5–15% by weight of an alkali metal hydroxide vinylation catalyst based on the weight of said reaction medium.

3,370,096

HALOGEN EXCHANGE PROCESS

George R. Donaldson, Barrington, and George R. Lester, Mount Prospect, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Sept. 23, 1965, Ser. No. 489,757
14 Claims. (Cl. 260—648)

Halogen exchange of the halogen of a halo-hydrocarbon with a different halogen contained in a Friedel-Crafts metal halide composited with alumina or other oxide support, preferably containing a Group VIII metal, such as platinum, said exchange preferably being effected in the presence of hydrogen.

3,370,097

PROCESS FOR THE PRODUCTION OF ALKYLATED AROMATIC HYDROXY COMPOUNDS

Willi Hahn, Cologne-Stammheim, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Apr. 25, 1961, Ser. No. 105,307
Claims priority, application Germany, May 4, 1960, F 31,157
11 Claims. (Cl. 260—619)

1. A process for the catalytic alkylation of phenolic compounds which comprises contacting a phenolic compound unsubstituted in at least one of the positions ortho and para with respect to the phenolic hydroxy group, with an olefin in the presence of metal oxide as catalyst, said metal oxide being selected from the group consisting of oxides of metals of groups 5–A, 6–A, and 8, to alkylate the phenolic compound in a position initially unsubstituted as aforesaid.

3,370,098

PREPARATION OF UNSATURATED HALIDE COMPOUNDS

George E. Illingworth, Mount Prospect, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Jan. 14, 1965, Ser. No. 425,625
14 Claims. (Cl. 260—654)

Preparation of an unsaturated halide compound by condensing an alkyl halide with a 1,2-diolefinic compound at a temperature of −50° to 150° C. and a pressure of 1–100 atm. in the presence of a Friedel-Crafts catalyst. The reaction is exemplified by the condensation of isopropyl chloride with propadiene, in the presence of $AlCl_3$ catalyst, to form 2-chloro-4-methyl-1-pentane.

3,370,099

ISOMERIZATION PROCESS

Charles J. Plank, Woodbury, and Edward J. Rosinski, Almonesson, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Dec. 12, 1962, Ser. No. 244,010
The portion of the term of the patent subsequent to July 7, 1981, has been disclaimed
13 Claims. (Cl. 260—666)

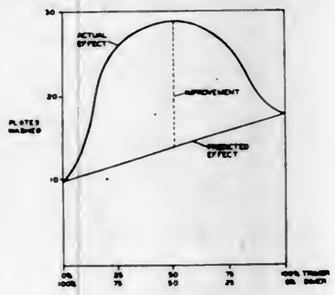
1. Method for the isomerization of hydrocarbons which comprises contacting an isomerizable hydrocarbon in the presence of hydrogen at a temperature between about 250° F. and 650° F. at a liquid hourly space velocity between about 0.05 and 40 with a catalyst composition comprising a crystalline aluminosilicate having less than about 0.25 equivalents of alkali metal per gram atom of aluminum and containing metallic cations wherein at least some of the cations are cations of a rare earth metal.

3,370,100

DETERGENT ALKYLATE COMPOSITIONS

Gilbert J. McEwan, Webster Groves, Mo., assignor to Monsanto Company, a corporation of Delaware

Original application June 19, 1963, Ser. No. 288,976, now Patent No. 3,311,563, dated Mar. 28, 1967. Divided and this application Oct. 18, 1966, Ser. No. 600,305
3 Claims. (Cl. 260—668)



A detergent intermediate composition comprising a mixture of (1) monododecyl aromatic hydrocarbons selected from the group consisting of monododecyl benzene, monododecyl toluene, monododecyl xylene wherein the dodecyl portion of the monododecyl aromatic hydrocarbon contains from about 6 to 9 methylene groups and branching on from about 25% to about 50% of its alpha carbon atoms and (2) mono-octadecyl aromatic hydrocarbons selected from the group consisting of mono-octadecyl benzene, mono-octadecyl toluene, and mono-octadecyl xylene wherein the octadecyl portion of said mono-octadecyl aromatic hydrocarbon contains from about 9 to about 15 methylene groups and having branching on from about 5% to about 50% of their alpha carbon atoms; the weight ratio of said monododecyl aromatic hydrocarbon to said mono-octadecyl aromatic hydrocarbon in the mixture being from about 1:4 to about 4:1, respectively.

3,370,101

COCATALYST SYSTEM FOR ORGANIC REACTIONS

Charles H. Hayes and Steven W. Swenson, Anaheim, and Thomas F. Rodé, Fullerton, Calif., assignors to Atlantic Richfield Company, a corporation of Pennsylvania

No Drawing. Filed Nov. 19, 1963, Ser. No. 324,828
19 Claims. (Cl. 260—671)

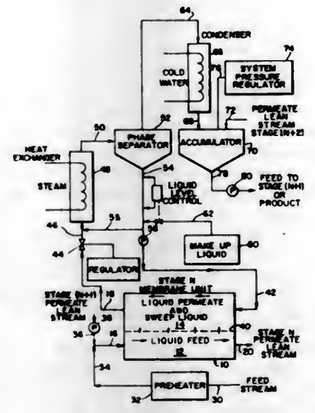
9. A process for the alkylation of hydrocarbons possessing hydrogen on a tertiary carbon atom selected from the group consisting of aromatics, paraffins and cycloparaffins by an olefinic hydrocarbon which comprises contacting the dehydrated acid form of a resin selected from the group consisting of hydrophilic, carbophilic and macroreticular sulfonic acid cationic exchange resins, with a mixture of said hydrocarbons, said olefinic hydrocarbons, and a Lewis acid of the type which does not form an inactive complex with said resin.

3,370,102

ISOTHERMAL-LIQUID-LIQUID PERMEATION SEPARATION SYSTEMS

Clifford Leroy Carpenter and Richard P. de Filippi, Wellesley, Mass., assignors, by mesne assignments, to Abcor, Inc., Cambridge, Mass., a corporation of Massachusetts

Continuation of application Ser. No. 524,778, Feb. 3, 1966. This application May 5, 1967, Ser. No. 636,546
15 Claims. (Cl. 260—674)



1. A membrane permeation method for the separation of liquid mixtures which method comprises:
introducing a liquid feed mixture to be separated into a permeate-enriched and a permeate-lean liquid fraction into a feed zone, the feed zone being part of a membrane permeation system characterized by a permeate zone and a feed zone, the zones separated by a thin membrane material exhibiting a selective permeation affinity for at least one component of the feed mixture;
permeating a fraction of the liquid feed mixture through the membrane from the feed zone into the permeate zone to obtain in the permeate zone a permeate-enriched fraction;
contacting the permeate-enriched fraction in the permeate zone with a liquid sweep stream, which liquid sweep stream is a solvent for the permeate-enriched fraction, and has a different volatility than the permeate-enriched fraction and from which the resulting liquid effluent stream the said fraction and liquid may be separated by evaporation;
withdrawing from the permeate zone a liquid effluent stream comprising as components thereof the permeate-enriched fraction and the liquid sweep stream;
withdrawing from the feed zone a permeate-lean fraction;
reducing the pressure of the liquid effluent stream to a pressure of about the pressure or lower in the permeate zone of the component of the liquid effluent stream to be vaporized;
vaporizing one component of the liquid effluent stream by addition of only the latent heat of vaporization for that component;
separating the vaporized component and the liquid component of the effluent stream;
recovering the permeate-enriched fraction; and
recycling at least a part of the liquid sweep stream to the permeate zone, all steps of the process being carried out under a selected single substantial isothermal condition without intentional steps to change the temperature of the liquid sweep, feed, or liquid effluent streams.

3,370,103
PROCESS FOR PREPARING DIOLEFINS

James L. Callahan, Bedford, and Ernest C. Milberger Maple Heights, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 28, 1962, Ser. No. 240,734
9 Claims. (Cl. 260—680)

1. A process for preparing a diolefin comprising feeding a reactant mixture comprising a monoolefin free of quaternary carbon atoms having from 4 to 8 carbon atoms, at least four of which are arranged in a series in a straight chain, and oxygen to a lower portion of a vertical reactor containing a series of communicating compartments each communicated with and being separated from the next adjacent compartment by a foraminous member containing a fluidized solids catalyst in each compartment at an elevated temperature and at a pressure of from about 1 to 3 atmospheres and passing the reactant vapor upward through the successive compartments containing the fluidized catalyst, maintaining a contact time of from 0.1 to 50 seconds and recovering the diolefin from the top portion of the reactor.

3,370,104
SEALING COMPOSITIONS CONTAINING A MIXTURE OF EPOXY RESINS AND A LIQUID RUBBER

John J. O'Brien, Watertown, and Patrick J. Droney, Arlington, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Massachusetts

Filed June 22, 1964, Ser. No. 376,764
6 Claims. (Cl. 260—837)

Thermosetting sealing compositions are prepared containing 12 to 20 parts of a polyglycidyl ether of bisphenol A, 88 to 80 parts of an epoxy derivative prepared by reacting the above epoxide with ethylene glycol, and 19 to 30 parts of a liquid rubber exemplified by butadiene-acrylonitrile copolymers, polyurethanes, polysulfides and polychloroprene. A curing agent, and fillers, may also be present. In an example 12 parts of a polyglycidyl ether of bisphenol A are combined with 88 parts of the above epoxide reacted with ethylene glycol, 46 parts magnesium silicate, 10 parts 65% butadiene–35% acrylonitrile copolymer and 6 parts fine size silica. The mixture was cured at room temperature with 50 parts of the reaction product of equimolar amounts of tall-oil fatty acid and tetraethylene pentamine for 35 hours.

3,370,105
PROCESS FOR MANUFACTURE OF IMPACT POLYMERS

John M. De Bell, Enfield, Roy A. White, Somers, and Paul L. Tarko, Suffield, Conn., assignors to De Bell & Richardson, Inc., Hazardville, Conn., a corporation of Connecticut

Filed May 7, 1963, Ser. No. 278,707
12 Claims. (Cl. 260—880)

1. Method of making granular rubber-based ethylenic impact polymers in granular form which comprises adding to a liquid suspending system a rubber latex and catalyzed monomer, partially coagulating the disperse phase to obtain suspension size particles and polymerizing.

3,370,106
HOT MELT ADHESIVE CONTAINING ATACTIC POLYPROPYLENE AND POLYETHYLENE

Lewis W. Hall, Jr., and Jackson S. Boyer, Claymont, Del., and Richard E. Ware, Trainer, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Mar. 23, 1965, Ser. No. 442,174
3 Claims. (Cl. 260—897)

A hot melt adhesive composition, which is suitable for bonding two materials together such as a corrugated paper medium and a 50-pound kraft paper facer sheet to product corrugated paper board, composed essentially of 60–95 weight percent atactic polypropylene and 5–40 weight percent polyethylene. The atactic polypropylene should have a molecular weight in the range of 15,000 to 60,000 and the polyethylene should have a melt index of 2–10.

3,370,107
MIXTURES OF POLYACRYLATES AND POLYARYLENE POLYETHERS

Bruce P. Barth, Somerville, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 6, 1965, Ser. No. 469,841
12 Claims. (Cl. 260—901)

1. Polymeric mixture characterized by improved impact strength and improved resistance to thermal stress embrittlement comprising from about 0.1 to about 20 parts by weight of a polyacrylate and a linear thermoplastic polyarylene polyether composed of recurring units having the formula



wherein E is the residuum of a dihydric phenol and E′ is the residuum of a benzenoid compound having an inert electron withdrawing group having a sigma* value above about 0.7 in at least one of the positions ortho and para to the valence bonds, and where both of said residua are valently bonded to the ether oxygens through aromatic carbon atoms.

3,370,108
O-ETHYL-O-PHENYL-S-(N-METHOXY-N-ISOPROPYLACETAMIDO)-DITHIOPHOSPHATE

Sidney B. Richter, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Aug. 11, 1964, Ser. No. 388,942
1 Claim. (Cl. 260—943)

The compound O-ethyl-O-phenyl-S-(N-methoxy-N-isopropylacetamido)-dithiophosphate useful as a herbicide.

3,370,109
PROCESS FOR PREPARING ESTERS OF AMIDOIMIDODIPHOSPHORIC ACID

Morris L. Nielsen, Dayton, Ohio, assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Dec. 27, 1963, Ser. No. 333,999
5 Claims. (Cl. 260—968)

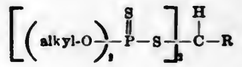
Esters of amidoimidodiphosphoric acid are prepared by reacting alkyl and aryl phosphoramidates with an alkali source such as an alkali, its amide or hydride at a temperature of from 60° C. to 250° C. A preferred proportion is from 0.3 to 4.0 gram atom of the alkali per gram atom of phosphorus.

3,370,110
PROCESS FOR PREPARING TOLUENE-ALPHA, ALPHA-DITHIOL BIS (O,O-DI LOWERALKYL PHOSPHORODITHIOATES)

Donald W. Stoutamire, Modesto, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 24, 1964, Ser. No. 347,057
2 Claims. (Cl. 260—978)

1. In the process for the preparation of a compound of the formula

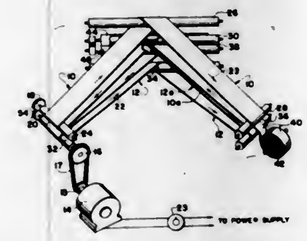


wherein each alkyl contains from 1 to 4 carbon atoms and R represents a mononuclear aromatic radical, which process comprises reacting an O,O-dialkyl dithiophosphoric acid, $(alkyl—O—)_2P(S)(SH)$, with a mononuclear aromatic aldehyde substituted by one to a plurality of radical(s) selected from the group of hydrogen, bromine, chlorine, nitro, hydroxy, cyano; and NH(alkyl), $N(alkyl)_2$ and alkoxy wherein the alkyl is from 1 to 4 carbon atoms, wherein the improvement comprises conducting the reaction in the presence of sulfuric acid of about 70% to 100% by weight sulfuric acid, wherein the sulfuric acid: aldehyde mole ratio is about 1:1 to 1:5, at a temperature between about 15° C. to 100° C.

3,370,111
PROCESS AND APPARATUS FOR MAKING SHEET MATERIAL HAVING A VARYING MOLECULAR ORIENTATION

Philip Boone, Winchester, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed June 17, 1964, Ser. No. 375,853
7 Claims. (Cl. 264—2)



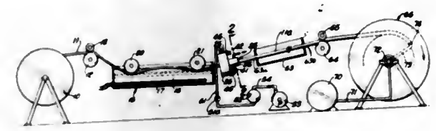
1. A method of providing a given pattern of varying molecular orientation in a deformable plastic film material, comprising the steps of advancing longitudinally a continuous length of said film material in a given direction and at a given rate, applying a compressive gripping force across said material in a narrow band-like area while maintaining its direction and rate of advancement, softening said film material at a location adjacent to said band-like area of compression, advancing said film material longitudinally immediately from said softening location in at least one direction and at a plurality of rates which are different, respectively, from said given direction and said given rate so as to apply a plurality of given differential constantly-varying tensioning forces thereto in a given sequence, thereby providing said pattern of varying molecular orientation.

3,370,112
PROCESS AND APPARATUS FOR PRODUCING PLASTIC MEMORY ARTICLES

Pierre Edward Wray, San Carlos, Calif., assignor to Raychem Corporation, Redwood City, Calif., a corporation of California

Filed Sept. 26, 1963, Ser. No. 311,715
15 Claims. (Cl. 264—22)

1. A process for the production of heat-shrinkable tubing having a predetermined diameter from an extruded tube of crystalline polymeric material, said material exhibiting elastomeric properties when heated to a temperature at least equal to its crystalline melting temperature, said process comprising heating said tube to a temperature at least equal to the crystalline melting temperature of said material, said heating step being carried out with the exterior of the tube exposed to atmospheric pressure, establishing a pressure differential between the inside and outside of said tube by imposing a partial vacuum on the exterior of the tube, said pressure differential being less than that required to expand the tube to the final predetermined diameter while it is at said temperature, but being sufficient to expand the tube to the final predetermined diameter upon cooling the tube to a temperature below said crystalline melting temperature, and cooling the tube to a temperature below said crystalline melting temperature while continuing to maintain said pressure differential until said tube is set at the desired predetermined expanded diameter.



3. The process of claim 1, wherein said crystalline polymeric material is produced by cross-linking a crystalline polymer by means equivalent to an irradiation dose of at least about 2×10^6 rads.

3,370,113
METHOD OF MAKING CABONACEOUS PRODUCTS

Walter V. Goeddel, Poway, Calif., assignor, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware

No Drawing. Filed Mar. 12, 1965, Ser. No. 439,461
6 Claims. (Cl. 264—29)

A process for making carbonaceous products, such as graphite articles, to accurate dimensional standards. A green article containing particulate carbonaceous material plus a carbonizable binder is placed in a container, such as a porous graphite sleeve, and physically restrained therein without placing the green article under substantial compression, as by using vibration compaction to fill the void region within the container with particulate ceramic material. By heating the green article under this condition for sufficient time to carbonize substantially all of the carbonizable binder, baked articles having true dimensional characteristics to the green articles are produced which baked articles can be subsequently graphitized by known methods without significant change in dimensions.

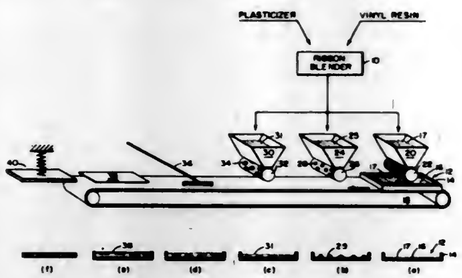
3,370,114
METHOD OF PREPARING NONDIRECTIONAL VINYL FLOORING

Ernest R. Holmstrom and Merrill M. Smith, Morrisville, Pa., and Natalie S. Marcus, Trenton, N.J., assignors to American Biltrite Rubber Co., Inc., Trenton, N.J., a corporation of Delaware

Filed Aug. 10, 1964, Ser. No. 388,593
9 Claims. (Cl. 264—77)

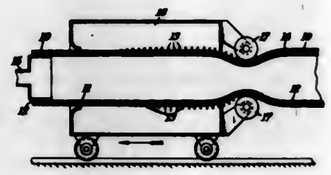
This invention is a method of making decorative sheet flooring, such as floor tiles, which has a nondirectional, nonrepetitive marbleized-appearing pattern, the method comprising providing in a suitable mold a plurality of layers of vinyl resin powder particles of less than about 60-mesh particle size and preferably less than about 100-mesh average particle size. The fact of the particles being less than about 60-mesh particle size is critical in order to obtain the correct marbleized appearance in the end product of this invention. Three layers are provided in the mold, and then the second and third layers are disturbed in a random manner so as to intermingle the particles to create the desired nondirectional pattern or swirl designs. If desired, the powdered resins may be initially deposited in the mold in a predetermined desired pattern,

in which case the step of disturbing these predetermined patterns may be omitted. Or, a combination of the two may be used. After the particles are thus disturbed, the particles are then pressed without further disturbance



under heat in the mold in order to fuse the particles together. Thereafter the hot-pressed material is cooled to room temperature. By the method, directional effects in the final pattern are greatly reduced, if not eliminated completely.

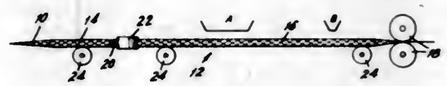
3,370,115
METHOD OF MANUFACTURING A HOSE
Frank Derek Wood, Bentham, near Lancaster, England, assignor to George Angus & Company Limited, Northumberland, England, a company of England
Filed July 31, 1963, Ser. No. 307,276
Claims priority, application Great Britain, Aug. 3, 1962, 30,033/62
6 Claims. (Cl. 264—94)



1. A method of manufacturing a hose, which comprises the steps of introducing into a tubular textile jacket a lining tube of expandable thermoplastic material, said lining tube comprising inner and outer layers, said outer layer having the capacity for flowing more readily when subjected to pressure and heat than the inner layer of said lining tube, applying heat and internal pressure to said lining tube after it has been introducted into the jacket and in the absence of external pressure to cause the more readily flowable outer layer thereof to exude through said jacket and project from the exterior of the jacket in short spikes while said less flowable inner layer adheres to but does not flow through said jacket, and thereafter applying mechanical pressure to said exuded spikes to agglomerate the spikes and from a continuous external coating on said jacket.

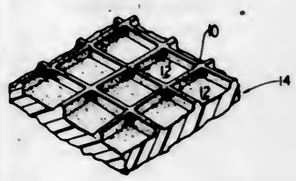
3,370,116
METHOD FOR SPREADING TUBULAR NET
Harold F. Wrede, Basking Ridge, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed Dec. 30, 1964, Ser. No. 422,252
7 Claims. (Cl. 264—292)

Method is provided for imparting a lasting spread to tubular plastic net. The net is spread to at least a wrinkle-free periphery or spread to a larger size. The net is



thereafter heated to an annealing temperature thereof to stabilize the net at its spread size.

3,370,117
CRUSHED POLYURETHANE FOAM AND METHOD OF MAKING SAME
Sidney D. Blue, New York, N.Y., assignor to Reeves Brothers, Inc., New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 256,703, Feb. 6, 1963. This application Sept. 16, 1965, Ser. No. 487,788
4 Claims. (Cl. 264—321)



1. A process for manufacturing cellular polyurethane comprising compressing a thin sheet of flexible foamed polyurethane of the polyester type between contra-rotating rolls in which at least one of said rolls is heated to a temperature in the range of 50° F. to 100° F. below the melting point of such pollyurethane to permanently crush a substantial part of the cell walls and reduce the original thickness by at least 65 percent.

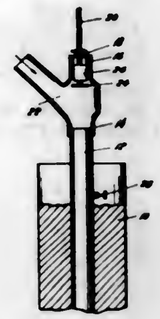
3,370,118
CORRUGATING METHOD
Edwin C. Lowe, Van Nuys, Calif., assignors to Robbins Aviation, Inc., Vernon, Calif., a corporation of California
Filed Sept. 21, 1964, Ser. No. 397,868
2 Claims. (Cl. 264—325)



A process for producing circumferential corrugations in a sealing sleeve composed of polytetrafluoroethylene wherein a blank sleeve is placed on a mandrel coaxially positioned inside a cylindrical forming cavity, and end pressure is then exerted on the ends of the sleeve, causing it to buckle laterally and circumferentially into a succession of corrugations, with the further feature that the corrugations are inclined in one direction relative to the axis of the sleeve, and thereby affording an improved sealing function.

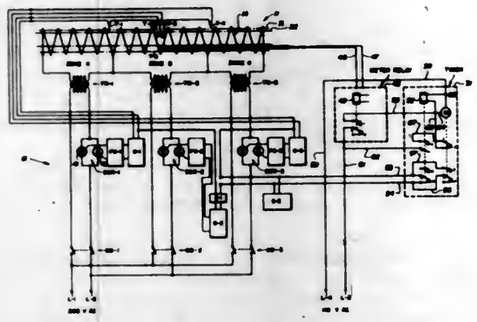
ELECTRICAL

3,370,119
HOLLOW ELECTRODE FOR ARC FURNACES
Ludwig Grimm, Hart (Alz), Franz Kaess, Traunstein, and Otto Kick, Hart (Alz), Germany, assignors to Suddeutsche Kalkstickstoff-Werke Aktiengesellschaft, Trostberg, Upper Bavaria, Germany
Filed Oct. 26, 1966, Ser. No. 589,721
Claims priority, application Germany, Oct. 29, 1965, S 100,273
6 Claims. (Cl. 13—18)



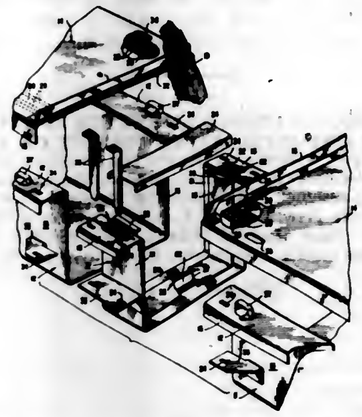
1. A hollow electrode for arc furnaces comprising a shell of electrode material forming the electrode body, an inner tube inside said body, an admission tube opening into said inner tube, a branch of said admission tube of approximately the same diameter as said inner tube extending said inner tube upwardly coaxially therewith, expansible closure plug means vertically movable in said branch tube and inlet tube, and means actuated from the outside for displacing said plug means.

3,370,120
DIFFUSION FURNACE AND METHOD UTILIZING HIGH SPEED RECOVERY
Cecil A. Lasch, Jr., Los Altos, Calif., assignor to Electroglas, Incorporated, Menlo Park, Calif., a corporation of California
Original application May 28, 1965, Ser. No. 459,795, now Patent No. 3,311,694, dated Mar. 28, 1967. Divided and this application Sept. 26, 1966, Ser. No. 598,535
3 Claims. (Cl. 13—34)



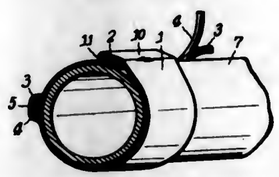
Method for operating diffusion furnace which rapidly brings the furnace to the desired operating temperature as soon as it is sensed that a cold load is introduced into the diffusion furnace.

3,370,121
RF ENERGY RETAINING RACEWAY FOR COMMUNICATIONS CABLES
Claude O. Merckle, Hagerstown, Md., assignor to The Danzer Metal Works Co., Inc., Hagerstown, Md., a corporation of Maryland
Continuation-in-part of application Ser. No. 441,149, Mar. 19, 1965. This application June 26, 1967, Ser. No. 648,891
5 Claims. (Cl. 174—35)



An RF energy retaining raceway for communications cables which includes trough-like raceway sections into which cables are laid and detachable covers for the raceway sections. A connector unit for adjacent raceway sections consists of a short trough-like member which interfits with the ends of the adjacent pair of raceway sections and has positive interlocking engagement therewith. A bridging element spans the top of the short trough-like member and provides a firm seat for opposed terminal end portions of the adjacent covers. Metallic RF energy retaining gasketing extends in a continuous band around the connector unit and between all covers and their underlying raceway sections.

3,370,122
CONDUIT AND GROUND WIRE CONNECTED BY A METAL STRAP
Mitsuji Ichikawa, 33 1-chome, Fukasawa, Setagaya-ku, Tokyo, Japan
Filed May 27, 1964, Ser. No. 370,608
Claims priority, application Japan, May 30, 1963, 38/38,635; Oct. 22, 1963, 38/79,229; Oct. 22, 1963, 38/79,230; Feb. 3, 1964, 39/5,180
4 Claims. (Cl. 174—78)



1. In combination, a conduit, a metal ground wire and a connecting piece surrounding said conduit and said ground wire, said connecting piece consisting of an elongated metal strap initially in the form of a J having

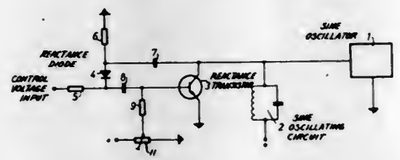
a base and a stem, the base being arcuate on a radius equal to that of said conduit held therein, a transverse groove across said base in a central portion thereof providing inner and outer curved base areas, the base end being bent outwardly into an L-shaped flange, the depth of said groove being slightly less than the thickness of said wire, the free end of said stem being bent inwardly to form a hook-shaped flange, said metal ground wire being held in said groove in direct contact with said conduit, means for penetrating insulation on said conduit to provide electrical connection with said ground wire, said stem being bent around said conduit with said hook embracing said L-flange, said hook being crimped and pressing said ground wire into contact with the outer surface of said conduit, the stem of said strap being forcefully bent around said conduit to exert a compressive force between said wire and conduit.

3,370,123

AFC CIRCUIT ARRANGEMENT FOR FINE-TUNING THE SINE-OSCILLATING CIRCUIT OF A HORIZONTAL OSCILLATOR IN TELEVISION SETS

Gerhard-Günter Gassmann, Berkheim, Wurttemberg, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 30, 1964, Ser. No. 355,698
Claims priority, application Germany, Apr. 9, 1963, St 20,487
2 Claims. (Cl. 178—7.3)



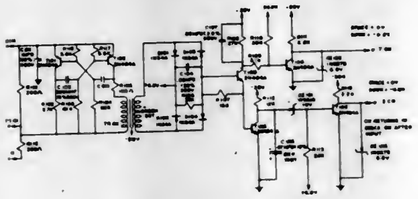
A reactance diode is used for fine-tuning of an oscillator in an automatic phase and frequency television synchronization circuit. A silicon diode is operated in the cut-off range to provide high impedance capacitive connection between the oscillator and the base of a transistor reactance stage to phase shift the current in accordance with a control voltage.

3,370,124

RECEIVING DEVICE WITH SIGNAL VOLTAGE CONVERTER

James T. Nelswinter, Garden City, N.Y., and Carl N. Pederson, Westmont, Ill., assignors to Pioneer Electric & Research Corporation, Forest Park, Ill., a corporation of Illinois

Filed Apr. 10, 1964, Ser. No. 358,739
3 Claims. (Cl. 178—70)



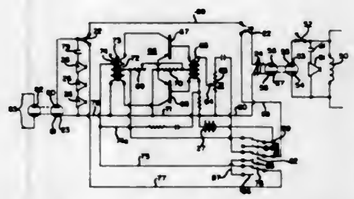
A signal voltage converter circuit for connecting between data communication equipment operable at low voltage levels and transmission lines normally operable at high voltages. The circuit has a high voltage input portion electrically isolated from a low voltage output portion, the input portion including an oscillator circuit responsive to differences in incoming mark and space signal representative of one of the two forms of signal bits. A transformer between the input and portions transfers the oscillatory signal bits to the output portion which includes two signal channels, one channel providing code signals in response to the oscillator output and the second channel including a time delay circuit and being responsive to signal transmission through the first channel to provide output signals indicative of transmission and of no transmission of code signals through the first channel.

3,370,125

AUXILIARY LOUD-SPEAKER SYSTEM

Henry W. Shaw and Howard C. Gamble, Morrilton, Ark., assignors to Sound-Craft Systems, Inc., Morrilton, Ark., a corporation of Arkansas

Filed May 26, 1964, Ser. No. 370,245
8 Claims. (Cl. 179—1)



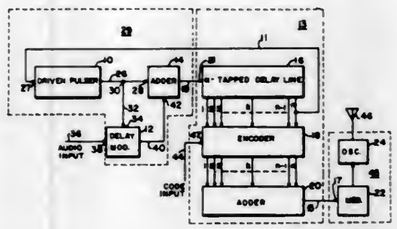
An auxiliary loud speaker system wherein multiple locally powered units can be coupled to a main speaker unit. The input to each is taken from the output of the preceding unit. A by-pass connection employing a drop-out relay enables any speaker unit to be turned off or to malfunction with no effect upon those that follow it and further enables the entire system to be turned off from the main speaker unit.

3,370,126

COMMUNICATION APPARATUS

Don L. Scidmore, Seattle, Wash., assignor to Honeywell Inc., a corporation of Delaware

Filed Sept. 23, 1964, Ser. No. 398,610
7 Claims. (Cl. 179—1.5)



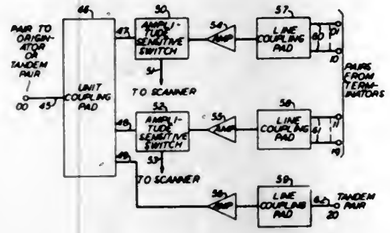
A security transmitting and receiving system utilizing a tapped delay line wherein predetermined taps of the delay line are added together to produce apparent noise. The apparent noise signal is received and decoded by a further delay line which provides a time inverse of the original tapped delay line. The signals transmitted are pulse position modulated and the frequency of the information is determined by the delay line characteristics.

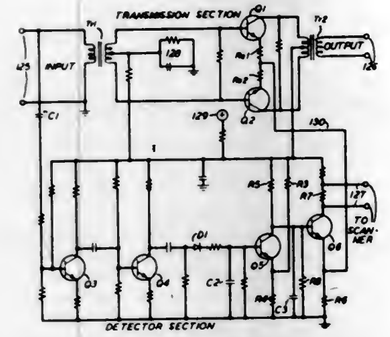
3,370,127

MULTIPLE ADDRESS BRIDGE CIRCUIT WITH NOISE REDUCTION CIRCUITRY

Galen R. Courtney, Matawan, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 5, 1964, Ser. No. 409,091
3 Claims. (Cl. 179—2)





A multiple-address bridge for a digital data communication system in which broadcast data calls from a single originating data subscriber can be made to a plurality of terminating subscribers simultaneously. Provision is made for each terminating subscriber to signal the originating subscriber on a roll-call basis as to readiness to receive the broadcast message or to confirm receipt thereof. Terminating subscribers are grouped in blocks of uniform size. A fan-in, fan-out four-wire bridge circuit intercoupling the originating subscriber with the plurality of terminating subscribers includes a normally open gating circuit for each block of terminating subscribers which is only closed responsive to a return signal from a terminating subscriber in a particular block. Noise from other blocks of terminating subscribers is thus prevented from overriding such return signal.

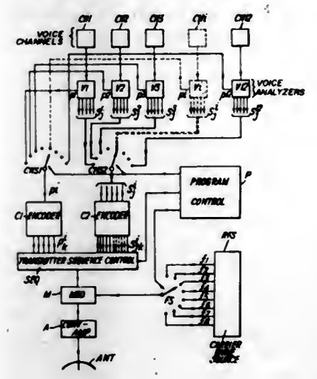
3,370,128

COMBINATION FREQUENCY AND TIME-DIVISION WIRELESS MULTIPLEX SYSTEM

Masasuke Morita, Tadasu Hukami, Masahisa Miyagi, and Sukehiro Ito, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan

Filed July 22, 1964, Ser. No. 384,416
Claims priority, application Japan, July 29, 1963, 38/39,988
19 Claims. (Cl. 179—15)

A wireless communication system for transmitting and receiving each of a plurality of multiplex telephone signals with a plurality of different narrow frequency band widths, comprising a transmitter including each signal separated into a pitch component and a group of spectrum components, each pitch component encoded into a first predetermined number of pitch code elements and each spectrum component of each group thereof encoded into a second predetermined number of spectrum code elements, the pitch and spectrum code elements arranged in a predetermined time sequence during a sampling period, a plurality of sources of carrier waves of different frequencies, and program means for modulating certain of the carrier waves provided at one repetitive time rate with the pitch code elements to compress each of the latter carrier waves into one narrow frequency band width and others of the carrier waves provided at a different repetitive time rate with the spectrum code elements to compress each of the latter carrier waves into narrow band width different from the one frequency band width for transmission, and receiving means for the transmitted one and different narrow band width pitch and spectrum code element modulated certain and other carrier waves, including means operating in an order essentially inverse to the foregoing transmitting order for providing additional signals corresponding to the pitch and spectrum components and utilized to synthesize voice signals representing the telephone signals.

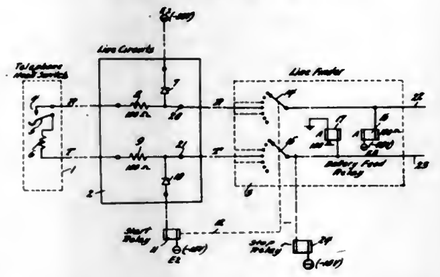


3,370,129

BIASED DIODE TELEPHONE LINE FINDING CIRCUITS

Adam A. Jorgensen and Ernest O. Lee, Jr., Charlottesville, Va., assignors to Stromberg-Carlson Corporation, a corporation of Delaware

Filed Sept. 2, 1964, Ser. No. 393,988
2 Claims. (Cl. 179—18)



A telephone line finding circuit has two diodes connected to the lines for providing a start relay current path from a D-C source potential when the hook switch couples the lines together. Line finder circuits then connect a third higher potential blocking both diodes to isolate the lines and prevent crosstalk. This is accomplished simply by having two negative potential levels both lower

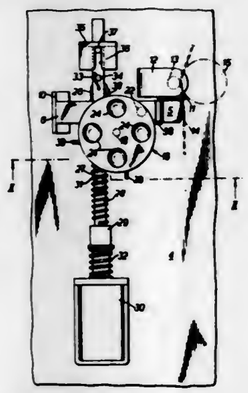
than the blocking potential coupled respectively to anode and cathode of different diodes on the tip and ring telephone lines so that current flows through both diodes and a relay winding when the hook switch couples the lines together.

3,370,130
JACK STRIP FOR TELEPHONE PURPOSES
Arne Rudolf Kjällström, Hagersten, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed June 18, 1964, Ser. No. 376,072
Claims priority, application Sweden, July 15, 1963, 7,832/63, Patent 194,002
7 Claims. (Cl. 179—97)



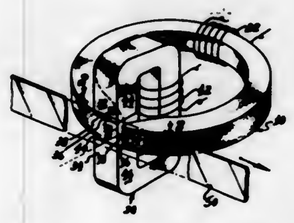
A jack strip in which the rear part of a one-piece frame made of plastic material has in one side a plurality of parallel grooves. A contact spring is inserted into each of said grooves and each spring is secured in its groove by one of several lugs protruding from the respective lengthwise edge of the spring through holes extending from the base of the grooves through the thickness of the rear part of the frame, the protruding portion of each lug being secured to the opposite side of the rear part for instance, by bending over.

3,370,131
MULTI-TRACK MAGNETIC HEAD MOVING APPARATUS
Gordon Howard Reed, Jersey, Channel Islands, England, assignor to Television Research Limited
Filed Dec. 28, 1964, Ser. No. 421,205
Claims priority, application Great Britain, Dec. 31, 1963, 51,270/63
5 Claims. (Cl. 179—100.2)



This invention provides automatic track-changing apparatus for moving a magnetic head in a transverse direction with respect to a multi-track tape. Activation of an electro-motive device causes a cam member having a sleeve member mounted with a plurality of angularly spaced cavities to engage a biased pin at predetermined angular positions of the cam member to align the magnetic head to associated tape tracks. The magnetic head is mounted by a parallel linkage such that the tape contacting face of the head remains substantially parallel to the plane of the tape throughout its range of movement.

3,370,132
POLARIZED MAGNETIC RECORDING
Andrew E. Flanders, 257 Hickory Ave., Pomona, Calif. 91767
Continuation of application Ser. No. 136,697, Aug. 31, 1961, which is a continuation of application Ser. No. 561,618, Jan. 26, 1956. This application Mar. 28, 1963, Ser. No. 269,844
5 Claims. (Cl. 179—100.2)

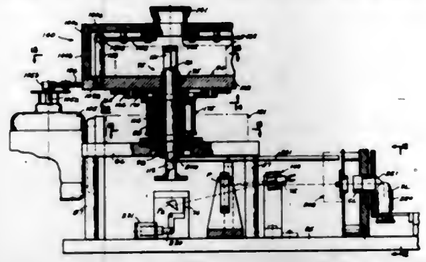


1. A transducer for magnetic recording of intelligence signals on a movable magnetic record medium spaced from said transducer, said transducer comprising:
- a first, wide-gapped magnetic core means in a plane transversely perpendicular to the surface of said movable magnetic record medium,
- a first coil wound about said first core and adapted to generate a regularly fluctuating unidirectional polarizing field of a frequency at least several times that of the highest frequency of the intelligence signals to be recorded and having a steep intensity gradient in the direction of relative movement of said medium, to define a recording line in response to signals applied to said first coil from an external source;
- a second magnetic core means disposed in a plane perpendicular to the plane of said first magnetic core means within the wide gap thereof and parallel with the direction of motion of said movable magnetic record medium, said second magnetic core means having a narrow gap parallel with and adjacent an outer edge of said first magnetic core; and
- a second coil wound about said second magnetic core and adapted to generate a fluctuating intelligence signal field across said narrow gap in accordance with intelligence signals applied thereto from an external source, said intelligence signal field interacting with said polarizing field on said magnetic record medium to vary said recording line in accordance with said intelligence signal.

3,370,133
OPTICAL SOUND-RECORDING APPARATUS
Werner K. Bender, Plainville, Conn., assignor to The Kalart Company Inc., Plainville, Conn., a corporation of New York
Filed Dec. 11, 1963, Ser. No. 329,702
22 Claims. (Cl. 179—100.3)

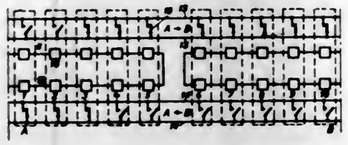
1. An apparatus for optically recording on a light-sensitized area of a carrier a sound record area in the form of parallel sound track sections, said apparatus comprising rotatable hollow support means for supporting the carrier cylindrically curved in a predetermined position on the support means, first drive means for continuously rotating said support means during recording about the center axis of the cylindrical curvature of the carrier, a stationary light-modulating means for modulating light in

accordance with the sound to be recorded, an optical assembly optically disposed to receive light from said light-modulating means and extending into said hollow support means coaxially therewith for directing successive light images corresponding to the received modulated light



upon the sensitized carrier area supported on said support means, mounting means supporting said optical assembly lengthwise displaceable along said rotational center axis, and second drive means for continuously displacing said optical assembly during recording along said center axis and in reference to said sensitized carrier area.

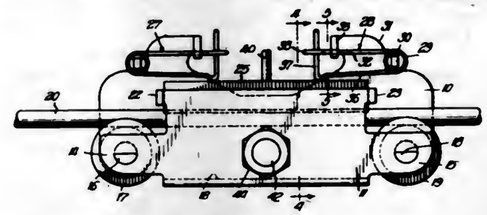
3,370,134
FAULT RECORDING ARRANGEMENT
Nils Olof Johannesson and Sverre Normann Tronsli, Hagersten, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Apr. 30, 1964, Ser. No. 363,865
Claims priority, application Sweden, May 27, 1963, 5,813/63
3 Claims. (Cl. 179—175.31)



There is disclosed apparatus for indicating a defective intermediate repeater in a carrier frequency transmission system utilizing coaxial cables in each direction of transmission. The intermediate repeaters are fed serially with an operating direct voltage, one conductor of the cable being the feed conductor and the other conductor the return. In each repeater there is a fault monitoring device which includes a relay. The relay, when a fault is detected, short circuits a special line pair to send an alarm signal to a terminal station.

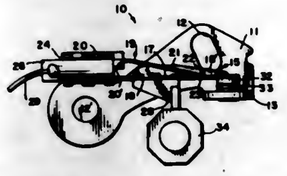
3,370,135
CONSTANT PRESSURE CURRENT COLLECTOR
Charles R. Norman, South Holland, Ill., assignor to Whiting Corporation, a corporation of Illinois
Filed July 20, 1964, Ser. No. 383,662
5 Claims. (Cl. 191—59.1)

1. A current collector comprising, an elongated frame and meeans for supporting the same for movement in a horizontal plane only, a pair of rollers supported by the frame in spaced relation longitudinally of the latter for peripheral engagement with the lower surface of a horizontally extending current carrying wire, said rollers being fixed against vertical movement relative to the frame thereby adapting the rollers to support said wire at two locations spaced longitudinally thereof, means on said frame cooperating with said rollers for confining the wire above and below the same and at both sides thereof, a contact insert extending longitudinally of the frame and having an elongated surface in sliding contact with a substantial portion of the length of the wire which is supported by and between said rollers, at least a portion of said means on the frame including means engaging said insert bar at its sides and ends thereby mounting the bar



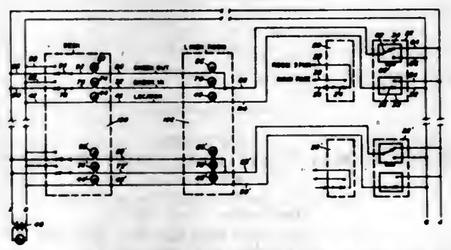
for vertical movement relative to the frame, resilient means on the frame engaged with said insert for holding the latter in vertically yieldable contact with the wire, said resilient means serving as the sole mechanical means affecting the pressure between the wire and said elongated surface.

3,370,136
IGNITION BREAKER HAVING A BREAKER ARM WITH HINGED DEFLECTION CHARACTERISTICS
Lloyd F. Neely, Indianapolis, Ind., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
Filed July 18, 1966, Ser. No. 566,006
9 Claims. (Cl. 200—19)



An ignition breaker having a breaker arm with an area of reduced section to provide an ignition breaker arm having a hinged deflection. A cantilever return spring includes a free end slidably engaging the breaker arm which provides a force biasing a movable contact of the breaker arm toward a fixed contact carried by a base plate.

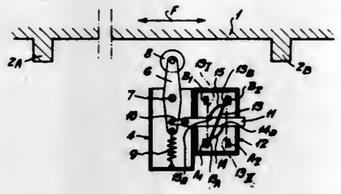
3,370,137
ROOM CHECK KEY
Thomas J. P. O'Connor, 803 Finley St. Jacksonville, Ill. 62650
Filed Jan. 3, 1967, Ser. No. 606,631
5 Claims. (Cl. 200—42)



A room check key reversably insertable in wall jacks to operate selected switches. Switches operate indicators at central desk to indicate maid location and room occu-

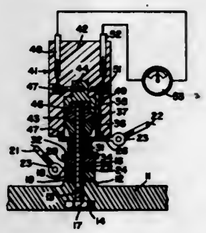
pancy in hotel or motel. Key includes two parallel pins of unequal length which may be inserted in side-by-side wall jacks.

3,370,138
THREE POSITION LIMIT SWITCH
Claude Paul Vinot, Nanterre, France, assignor to La Telemecanique Electrique, Nanterre, France, a company of France
Filed Oct. 13, 1965, Ser. No. 495,593
Claims priority, application France, Nov. 6, 1964, 994,228
2 Claims. (Cl. 200—47)



A three position limit switch with a snap-acting type of contact carrying member disymmetrically solicited by its springs so that the contact carrying member may occupy a stable diagonal position between its end contacts. The contact carrying member is kept in a stable diagonal position owing to accurate centering of its spring urged actuator, so that said member rocks in one direction towards one of the end positions for a displacement of the actuator in one direction, and conversely, rocks in the other directions towards the other end position for reverse displacement of the actuator.

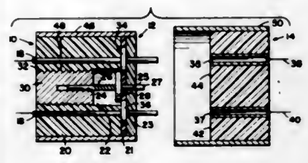
3,370,139
TERMINAL POST AND TESTING TOOL
Fred Kastel, 3434 Edison St., San Mateo, Calif. 94403
Filed Oct. 21, 1965, Ser. No. 500,061
9 Claims. (Cl. 200—51.1)



A binding post is constructed so that normally contact between two wires leading to the post is established by resilient means. A tool cooperates with a portion of the post to separate electrical connection between the two wires and simultaneously uninterruptedly to establish connection with wires leading to a test tool.

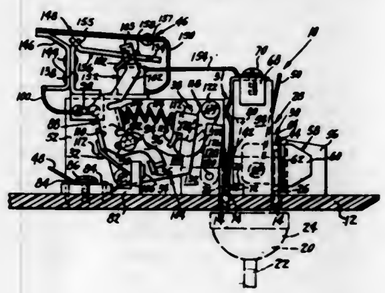
3,370,140
ELECTRO-MAGNETIC RADIATION PROOF PLUG AND RECEPTACLE
Robert E. Betts, 8107 Hogan Drive, Huntsville, Ala. 35802
Filed Nov. 16, 1966, Ser. No. 595,316
10 Claims. (Cl. 200—51.1)

An electromagnetic radiation proof connector including male and female members, the male member is provided with a plurality of conductors extending therefrom for insertion into a plurality of receptacles of the female member. Both members are provided with means for shielding thereof against stray radiation. The male member includes a shorting member engaging the conductors thereof for shorting the conductors of the male and female



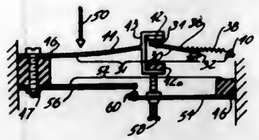
members until the device is completely shielded during the assembly of the members at which time the shorting member is displaced from engagement with the conductors of the male members responsive to engagement of the shorting member with the female member responsive to assembly of the two members.

3,370,141
ELECTRICAL RECEPTACLE HAVING ZERO POTENTIAL UNTIL AN ELECTRICAL PLUG IS POSITIONED THEREIN AND INCLUDING CIRCUIT BREAKER MEANS
Charles Garamszegi, 73 Woodrow St., West Hartford, Conn. 06107
Filed Oct. 21, 1965, Ser. No. 499,509
15 Claims. (Cl. 200—115.5)



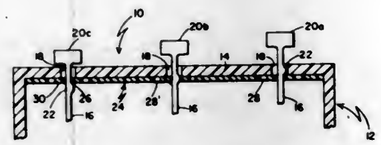
2. An electrical receptacle comprising:
means forming outlet terminals for engagement with a removable electric plug,
a power delivery circuit connected to said outlet terminals for delivering electrical potential to said outer terminals only when said plug is engaged therewith including a pair of normally open electrical contacts,
means mounting said contacts for relative movement from a closed position for delivering electrical potential to said terminals to an open position to prevent delivery of electrical potential to said terminals when said plug is not in engagement therewith,
motion transmitting means engageable with the prongs of said removable plug when said plug is adjacent said terminals for closing said contacts upon the retraction and reinsertion of said plug in said terminals, and
means in said circuit for opening said contacts when said circuit carries a current flow above a predetermined value and said plug is in engagement with said terminals.

3,370,142
CONDITION DETECTING CONTROL WITH MEANS TO ENABLE THE SYSTEM TO RETURN TO ITS FIRST POSITION UPON A SLIGHT CHANGE OF CONDITION
Lyndon W. Burch, Three River St. Place, Boston, Mass. 02108, and Hadley K. Burch, Pittsfield, Vt. 05763
Filed Sept. 23, 1964, Ser. No. 398,508
14 Claims. (Cl. 200—122)



A means for increasing the responsiveness of a condition-detecting control system and especially applicable to snap action switches and other devices. The means applies a force acting in the return direction of the control member or the snap acting member but the force is only applied after the member has achieved its second position. In another aspect of the invention a spring applies a predetermined force proportioned to the return resistance of the control member. In another aspect of the invention the spring is associated with a bi-metal inhibitor which removes the effect of the spring when the control member is in the first position.

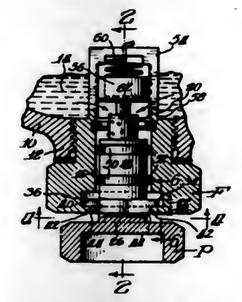
3,370,143
PUSHBUTTON SWITCH DETENT
Charles Azel Barney, Stow, Mass., assignor to Ark-Les Switch Corporation, Watertown, Mass., a corporation of Massachusetts
Filed Mar. 15, 1967, Ser. No. 623,337
7 Claims. (Cl. 200—166)



A pushbutton switch including a push rod mounted for reciprocating movement in a direction perpendicular to a wall of the switch. The push rod includes a projecting portion of increased width and extends through an opening in the wall and a corresponding opening in a resilient insulating sheet mounted in the wall. The width of the wall opening is greater than that of the projecting portion of the push rod; the width of the corresponding sheet opening is less than that of the projecting portion. The sheet portions defining the opening are resiliently deformable.

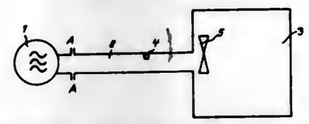
3,370,144
SECURING MEANS FOR PLUGS AND THE LIKE
John R. Arthur and Richard K. Graham, Clarinda, Iowa, assignors to Lisle Corporation, Clarinda, Iowa, a corporation of Iowa
Filed June 23, 1965, Ser. No. 466,160
3 Claims. (Cl. 210—222)

Means of coaction between a plug and a fitting to quickly and positively connect the plug in fluid tight relationship to the fitting or disconnect it therefrom with no more than 90° of rotation of the plug relative to the fitting. Certain flanges of the plug coact with flanges of the fitting to accomplish locking the one to the other and their proper alignment is insured in both the locked and unlocked positions by means of a stop. The plug carries



a magnet for attraction of ferrous particles from fluid or the like within the housing to which the fitting is applied.

3,370,145
ARRANGEMENT IN MICROWAVE STOVES
Leo Malmquist, Ektorp, Sweden, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 1, 1965, Ser. No. 444,548
Claims priority, application Sweden, Apr. 7, 1964, 4,244
5 Claims. (Cl. 219—10.55)

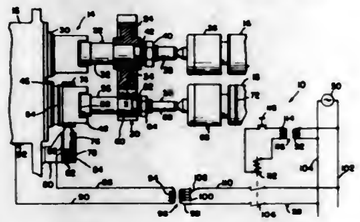


1. A microwave oven comprising a wall structure defining a heating cavity, an opening in one wall of said cavity for supplying microwave energy thereto, a magnetron, a waveguide interconnecting said magnetron with said wall opening, a reactive matching element positioned within said waveguide between the magnetron and the wall opening, and a field stirrer rotatably mounted in said cavity in front of and close to said wall opening so as to reflect a portion of the microwave energy radiated from said opening back towards said magnetron, the reflected wave varying as a function of the movement of the stirrer, said reactive element being located within said waveguide and dimensioned relative to said stirrer so that the reflected waves from said matching element and stirrer produce a resultant wave in the direction towards the magnetron having a given phase variation that corresponds to operation of the magnetron in the sink region of its characteristic diagram, said phase variation producing a substantial variation in the magnetron frequency thereby to improve the field distribution within said heating cavity.

3,370,146
ELECTROEROSIVE BURR-REMOVING METHOD AND APPARATUS
Luigi Matteucci, Porretta Terma, Provincia de Bologna, Italy, assignor to S.p.A. Officine Meccaniche Fratelli Daldi & Matteucci, Milan, Italy, a company of Italy
Continuation-in-part of application Ser. No. 225,227, Sept. 21, 1962. This application Mar. 9, 1964, Ser. No. 350,154
Claims priority, application Italy, June 19, 1962, 24,610, Patent 671,375
8 Claims. (Cl. 219—68)

Apparatus for and a method of removing protruding irregularities, such as burrs, from engaging gear surfaces, including means for rotatably mounting a first gear, means for rotatably mounting a second gear in mesh with

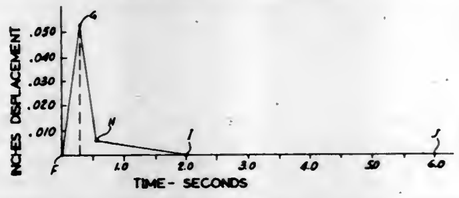
the first gear and electrically insulated therefrom, means for rotating one of said gears and an electric circuit including said gears in series for passing low voltage, high current electrical energy between the gears intermittently without a dielectric therebetween in combination with means for determining the noise produced on rotation of the gears and the method of use of such apparatus whereby protrusions, such as burrs and the like on the engaging surfaces of the gears are burnt off to provide gears which are quiet when rotated in mesh.



3,370,147
OVERRIDING CONTROL MEANS FOR A SERVO CONTROL SYSTEM ON AN ELECTRICAL DISCHARGE APPARATUS

Victor E. Matulaitis, Franklin, Mich., assignor to Ex-Cell-O Corporation, Detroit, Mich.

Filed May 13, 1964, Ser. No. 366,985
13 Claims. (Cl. 219—69)



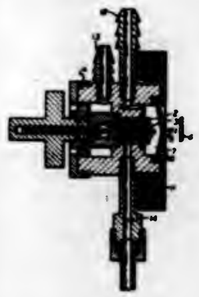
An electrical discharge machining apparatus provided with a circuit for a singular power feed system wherein the normal operator preselected servo control means can be periodically overriden by a first means for the automatic cyclic retraction and subsequent advance of the electrode tool at a preselected frequency of repetition, and preselected amplitude and rate of motion, followed by an operator preselected time interval wherein normal cutting occurs; a second jog means whereby the said normal servo means can be overriden, at the will of the operator, to provide manual jog movements of the electrode tool, where said jog means overrides both the normal servo, and cycle interrupter means, and a third means for the immediate retraction of the electrode tool from the workpiece at maximum possible speed, overriding servo, cycle interrupter and jog means, in the event of abnormally low gap voltage, or in the event the gap is short circuited.

3,370,148
ELECTRIC-ARC PLASMA-FINE-SPRAY BURNER

Manfred von Ardenne, Dresden-Weisser Hirsch, Germany, assignor to Firma Kjellberg, Elektroden & Maschinen G.m.b.H. IN. Verwaltung, Finsterwalde, Germany, a corporation of Germany

Continuation-in-part of application Ser. No. 249,076, Jan. 2, 1963. This application June 29, 1965, Ser. No. 468,055
12 Claims. (Cl. 219—75)

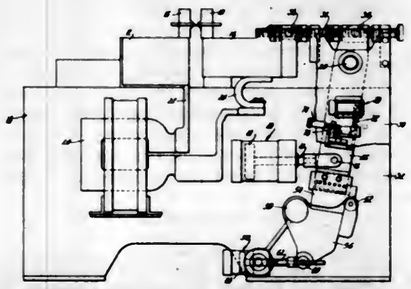
An electric-arc plasma-fine-jet burner for cutting and welding metallic work-pieces comprising a burner body having a recess and an elongated cathode secured in the recess of the burner body and having a limited emitting surface at its end facing outwardly from the burner body. The burner body defines a discharge chamber in the recess surrounding the cathode, and a burner nozzle opening is formed in a nozzle portion of the burner body spaced apart from and substantially coaxial with the cathode, and has an entrance and exit opening for a plasma spray originating at the emitting surface of the cathode and adapted to flow toward a work-piece disposed in front of the exit opening. Means are provided for applying a high pressure gas charge in the discharge chamber. The diameter of the burner nozzle is about 0.65 to 1.2 millimeters, and the ratio of the gap width of the burner nozzle corresponds to 1:5 to 1:1.5 with respect to the distance of the emitting surface of the entrance opening. The operating pressure of the gas charge is within the range of 30 to 100 atm. Either the nozzle portion or the work-piece is adapted to function as an anode whereby a fine, nearly parallel plasma stream is propelled toward the anode, the stream having a speed of about 3 to 4 Mach., and a length corresponding to about 25 to 30 times the diameter of the burner nozzle.



3,370,149
PLATEN CONTROL MECHANISM FOR WELDING MACHINES

Peter W. Allen, Wakefield, Mass., assignor to Thomson Electric Welder Company, Inc., Lynn, Mass., a corporation of Massachusetts

Filed Mar. 15, 1965, Ser. No. 439,784
3 Claims. (Cl. 219—97)

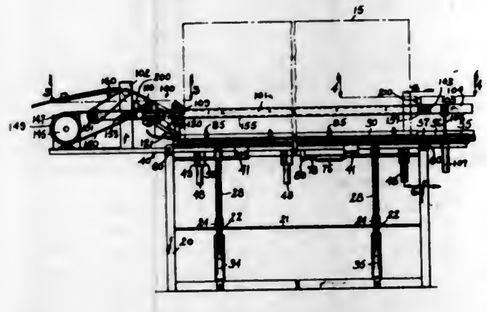


1. Platen control mechanism for a flash-butt-welding machine having a relatively fixed platen, and a platen supported for flash and continuing upset movement between retracted and upset positions adjacent said relatively fixed platen, which comprises a fluid motor, and means connecting said motor to the movement platen to shift said movable platen between said retracted and upset positions, a cam in said connecting means supported for movement therewith along a predetermined path, a cam follower movable against said cam along a path transverse to the path of said cam, and a fluid pressure operated snubbing device connected with said cam follower providing a controlled resistance to the movement of said follower by said cam, thereby to control the rate of advance of said movable platen in said flash and continuing upset movements, said cam being contoured to vary the effective resistance to the movement of said cam along its path to produce a regulated flash followed by a free upset movement of said movable platen under the influence of said fluid motor.

3,370,150
WELDING APPARATUS AND METHOD

Alfred Alling Nordgren, New Britain, Conn., assignor to The Leonard Concrete Pipe Company, Inc., Hamden, Conn., a corporation of Connecticut

Filed July 7, 1965, Ser. No. 469,986
6 Claims. (Cl. 219—125)



Apparatus for welding a section of wire mesh together to form a cage, the section including a plurality of vertical strands each having a pair of free ends and a plurality of cross strands coupled to at least some of said vertical strands and each of the free ends of the vertical strands extending a distance from one of said cross strands positioned nearest the tip of the free ends, said apparatus comprising in combination, means for aligning the free ends of the same vertical strands to contact each other, and automatic means sequentially traveling across each pair of contacting free ends for sequentially welding the free ends of at least some of the same vertical strands together to form the cage, said means for welding including means for sensing the contacting free ends to initiate welding of the free ends.

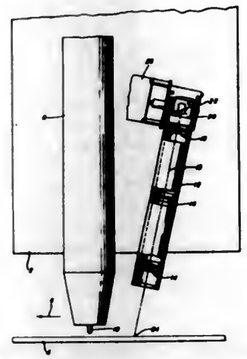
A method of welding the free ends of the same wire mesh strands of a plurality of wire mesh strands together to form a wire mesh cage, comprising the steps of positioning the free ends of the same strands in contact with each other and against a surface to parallelly align them in a plane in a side-by-side relationship, and moving a welding mechanism rapidly between pairs of contacting free ends, sensing a free end and then slowly moving the welding mechanism across contacting free ends to sequentially weld together each of said ends in contact with each other.

3,370,151
CONTROL SYSTEM USING RADIANT-ENERGY DETECTOR SCANNING

Neil J. Normando, Livingston, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed May 13, 1964, Ser. No. 367,040
9 Claims. (Cl. 219—131)

1. In a control system, in combination, heating means relatively movable with reference to a workpiece to locally heat successive portions of the workpiece along a path over a surface of the workpiece, radiation-sensitive means movable with said heating means over a path on a surface of the workpiece, the path of said heating means and the path of said radiation-sensitive means being substantially parallel to each other, and means to cause said radiation-sensitive means to scan along a line transverse to the path of said radiation-sensitive means, to sense a radiation profile along said transverse line.



3,370,152
COVERED ELECTRODE WITH IMPROVED STARTING CHARACTERISTICS

Jerome M. Rolnick, Baltimore, Md., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 31, 1964, Ser. No. 422,630
3 Claims. (Cl. 219—146)



In a low hydrogen type coated electrode, the core wire of otherwise uniform diameter is tapered at the arc-striking end at an included angle of less than 90 degrees, and preferably less than 45 degrees. The low hydrogen coating has an outside diameter of the coating over the tapered portion of the rod substantially the same as over the non-tapered portion. As a result the ratio of coating to core wire is maximum for arc starting and decreases as the electrode burns back to the point where the core wire is of constant diameter. This makes it possible to make pore free welds without rewelding over the start.

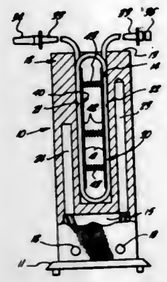
3,370,153
ELECTRIC HEATING APPARATUS FOR WARMING A PARENTERAL FLUID

Armand F. Du Fresne, Duarte, and Walter H. Goodwin, Sierra Madre, Calif., assignors to Dupaco Incorporated, Arcadia, Calif., a corporation of California

Filed Mar. 6, 1964, Ser. No. 349,869
10 Claims. (Cl. 219—302)

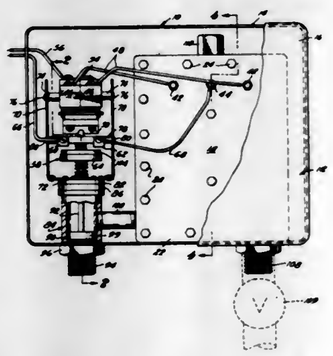
1. Apparatus for warming a circulating fluid comprising a metallic block defining therein an upwardly open cavity having walls and adapted to receive a quantity of

liquid, means for heating the block and liquid received in the cavity, control means disposed in the block operatively coupled to the heating means for controlling the heating means to maintain the block and liquid disposed in the cavity at a predetermined temperature, a resilient



coil of tubing adapted for circulation therethrough of the fluid to be warmed removably disposed in the cavity and immersed in the liquid, and means cooperating with the coil for urging the coil into intimate contact with the walls of the cavity over a substantial portion of the length of the coil.

3,370,154
ELECTRIC FLUID HEATER
Theodor F. E. Fuchslocher, 14712 Gledhill St., Van Nuys, Calif. 91402
Filed June 29, 1964, Ser. No. 378,715
7 Claims. (Cl. 219—309)



1. A fluid heater comprising:

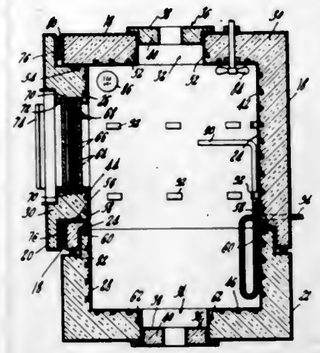
a casing including electrical insulating means defining a fluid passageway, said casing including an inlet adjacent one extremity of said passageway for incoming cold fluid and an outlet adjacent the opposite extremity of said passageway for outgoing heated fluid;

electrical heating means extending through at least a portion of said passageway;

means including a plurality of secondary switches operative to couple different portions of said heating means in parallel circuit with one another, and including a primary switch operative to couple said parallel circuit with a source of electrical energy to energize said heating means;

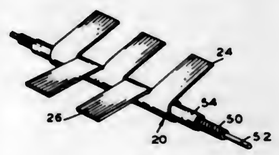
and means responsive to fluid flow through said passageway to operate said primary switch and subsequently said secondary switches.

3,370,155
ENVIRONMENTAL STRESS:STRAIN TEST CHAMBER
Robert J. Belliveau, South Weymouth, Mass., assignor to Instron Corporation, Canton, Mass., a corporation of Massachusetts
Filed Sept. 8, 1964, Ser. No. 394,788
3 Claims. (Cl. 219—406)



An environmental test chamber comprising a housing, a door, and heating apparatus, the door and housing each having an insulating layer and a metal skin, portions of the housing and door metal skin being adjacent to form a joint, the housing including a pair of opposed openings therethrough, and the heating apparatus being oriented to distribute heat evenly over the metal skin outside the joint and including supplementary heating devices for heating the metal skin portions around the joint and the openings.

3,370,156
CONTACT HEATER CONSTRUCTION
Howard K. Graves, Cleveland, Ohio, assignor to H. W. Tuttle & Company, Tecumseh, Mich., a corporation of Michigan
Filed Mar. 29, 1965, Ser. No. 443,243
4 Claims. (Cl. 219—540)



A heat exchange construction comprising a strip of conductive metal wrapped transversely to provide a tubular chamber for a heat generating component such as an electrical resistance element, the strip having a plurality of spaced integral fingers on each edge which engage interdigitally and extend in opposite directions substantially tangentially of the tubular chamber to form contact fingers to transmit heat conductively from the unit.

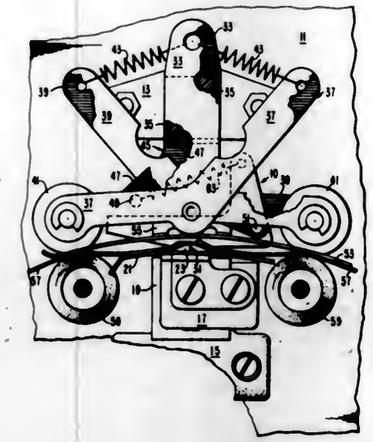
3,370,157
PRESSURE PAD
Kenneth L. Lockey, Livonia, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 21, 1963, Ser. No. 317,525
8 Claims. (Cl. 235—61.11)

1. In an apparatus for transporting a magnetically encoded information bearing sheet around and in surface

contact with a magnetic transducing head and for reducing frictional wear and damage to said sheet and the surface of said head:

a pressure pad mounted on said apparatus adjacent said head and having

a first face obliquely entering into the path of said sheet in advance of said head and



second, third, and fourth spaced and angularly distinct faces parallel in part to different portions of said head and lying in close proximity thereto and defining therebetween a serpentine guideway for said sheet.

3,370,158
BI-QUINARY COUNTER WITH RECIRCULATING DELAY LINES
Donald E. Lehmer, Berkeley, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Mar. 23, 1964, Ser. No. 353,949
5 Claims. (Cl. 235—159)

1. In a device for accumulating data in the form of pulses per unit time, each pulse representing a unit of data, the combination comprising

a plurality of recirculating storage devices, each device being divided into a plurality of word sections, and each word section being divided into a plurality of binary storage segments,

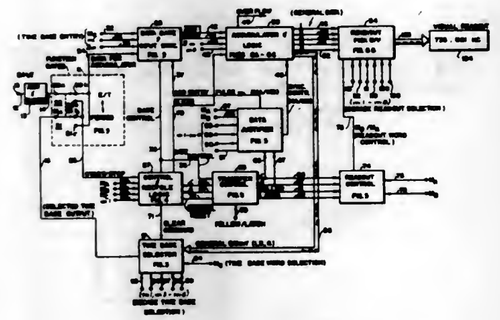
first means for generating a first sequence of cyclic clock pulses connected to said storage devices for synchronizing the store and read operations of said storage device in parallel by binary storage segments, a group of binary signals read in parallel from binary storage segments comprising a character,

second means for generating a second sequence of cyclic clock pulses, one cycle of such clock pulses for each pulse of said first sequence of cyclic clock pulses connected to said storage devices for synchronizing the store and read operations of said storage devices in series by binary storage segments, a sequence of characters being read from a word section comprising a number, the first character representing the least significant digit thereof, and the last character representing the most significant digit thereof,

an adder connected to said recirculating storage devices to add at least a unit to the contents of the first binary storage segments of a given word section under the synchronizing control of the first one of said second sequence of cyclic clock pulses and a selected one of said first sequence of cyclic clock pulses, and to add a carry propagated from one group of binary storage segments of the selected word to the next under the synchronous control of subsequent ones of said second sequence of cyclic clock pulses, in accordance with a predetermined binary code by which said characters are represented,

a time base generating means connected to said recirculating storage device for accumulating a first one of said second sequence of cyclic clock pulses under the control of a predetermined one of said first sequence of cyclic clock pulses in a predetermined one of said word sections,

a time base selector for detecting a carry propagated from one parallel group of binary storage segments of the predetermined word section to the next under the control of a selected one of said second sequence of cyclic clock pulses and the predetermined one of said first sequence of cyclic clock pulses,



a data gating and input synchronizing means for receiving and storing data input pulses to be accumulated in a given selected one of said word sections,

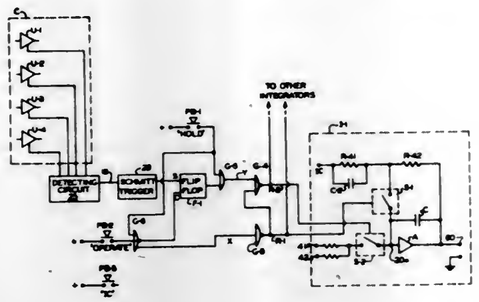
transfer control means for selecting one of said word sections for accumulating data during a given accumulating cycle and for selecting another word section for accumulating data during a succeeding accumulating cycle, and

control and recycle means for initiating an accumulating cycle by clearing said predetermined word section and gating data input pulses from said data gating and synchronizing means to said given selected one of said word sections and, in response to said time base selector, for terminating an accumulating cycle until said predetermined one of said word sections recirculates and is again cleared upon initiation of a subsequent accumulating cycle.

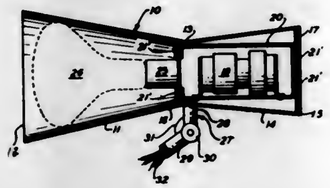
3,370,159
ANALOG COMPUTER APPARATUS FOR REPETITIVE TYPE OPERATION
Laurence E. Fogarty and Robert M. Howe, Ann Arbor, Mich., assignors to Applied Dynamics, Inc., Ann Arbor, Mich., a corporation of Michigan
Filed Oct. 19, 1964, Ser. No. 404,895
17 Claims. (Cl. 235—184)

Analog or hybrid analog-digital computer apparatus in which overload signals are derived from the plural-stage direct-coupled high-frequency channels of dual channel operational amplifiers to provide rapid sensing of operational amplifier overload, and use of such overload

signals to control integrator modes, integrator time-constants, repetitive operation cycles and application of signals between analog computer apparatus and an attached digital computer.



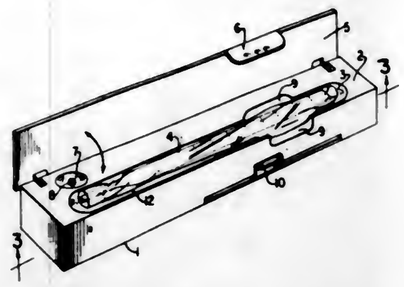
3,370,160
FLOOD LIGHT FIXTURE
Henry C. Pfaff, Summit, and John Kepenach, Middlesex, N.J., assignors to Pfaff and Kendall, Newark, N.J., a corporation of New Jersey
Filed June 23, 1966, Ser. No. 559,903
8 Claims. (Cl. 240—3)



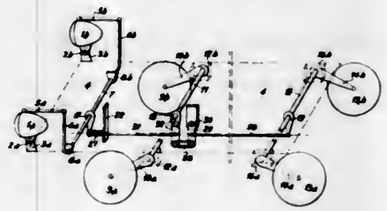
1. A floodlight fixture comprising an elongated hollow housing having a first section tapered inwardly of one end of the housing to a point intermediate the length of the housing, and a second section tapered inwardly from the other end of the housing to said intermediate point, thereby defining a housing with sections reversely tapered outwardly of said intermediate point, a first end cap adapted to be positioned within the housing first section and proportioned to have abutting engagement with the first section thereof, and a second end cap adapted to be positioned within the housing second section and proportioned to have abutting engagement with said second section, a lamp socket secured to said first end cap, and means engaging the end caps to draw them toward each other and thereby into tight abutting relation with the tapered interior walls of the first and second sections, assembling the same within the housing, and thereby holding the lamp socket therein.

3,370,161
THERMOMETER CARRYING CASE AND ILLUMINATING DEVICE
Elliott E. Engler, 4 Maple Grove Ave., Westport, Conn. 06880
Filed Oct. 21, 1966, Ser. No. 588,544
5 Claims. (Cl. 240—6.46)

A novel device to provide illumination for reading a thermometer and to act as a carrying case for the thermometer when not in use which comprises a body whose upper surface is provided with a recess adapted to accommodate a medical thermometer, a moveable cover on the said body to close over the upper surface to retain the thermometer in the recess, the bottom of the said recess being transparent over at least a portion of the recess, a moveable light source positioned beneath the recess, a source of electrical energy in the said body connected to the light source and switch means for interrupting the electrical circuit.

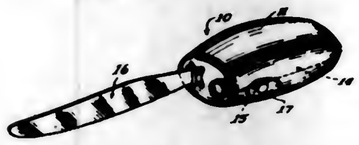


3,370,162
DEVICES FOR AUTOMATICALLY ADJUSTING THE INCLINATION OF THE HEADLAMPS OF AN AUTOMOTIVE VEHICLE
Edmond Henry-Biabaud, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France
Filed June 15, 1965, Ser. No. 464,131
Claims priority, application France, June 18, 1964, 978,766
6 Claims. (Cl. 240—7.1)



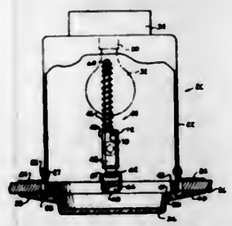
A device for automatically adjusting the inclination of the lights of an automotive vehicle to compensate for differences in static and dynamic loads carried respectively for front and rear sets of wheels comprises an anti-roll bar associated with each set of wheels. The rotation of a central point of each of the anti-roll bars is proportional to the average vertical movements of the respective set of wheels. Arms on central portions of the roll bars are connected to means for tilting the headlights through an intermediate integrating device adapted to effect the algebraic addition of the effects produced by movements of the wheels of the two sets so as to lower the optical axes of the headlights in relation to the chassis when the level of the front set of wheels is raised with respect to the chassis and vice-versa and to raise the optical axes of the headlights in relation to the chassis when the level of the rear set of wheels is raised and vice-versa. The connections between the anti-roll bars and the headlight inclining means may be, e.g., mechanical or hydraulic. Preferably the connections include a lost motion device or a time lag element to smooth out any rapid or irregular movements caused by road conditions.

3,370,163
ELECTRICALLY LIGHTED IMPLEMENT HOLDER
David Dudley Brill, 830 Lakeshore Drive, Delray Beach, Fla. 33444
Filed May 17, 1966, Ser. No. 550,669
3 Claims. (Cl. 240—6.46)



An electrically lighted implement holder comprises a molded pliable member which is composed of a soft resilient material, such as a suitable resilient plastic, the pliable member being complementally formed to be grasped between the fingers and palm of a user. The pliable member includes an elongated deformable chamber which is readily deformable to receive and releasably support a flashlight. The pliable member also has another elongated deformable chamber which snugly grips and detachably supports an implement in proper visual alignment with the light pattern of the flashlight so that the light pattern is directed onto the work area of the implement.

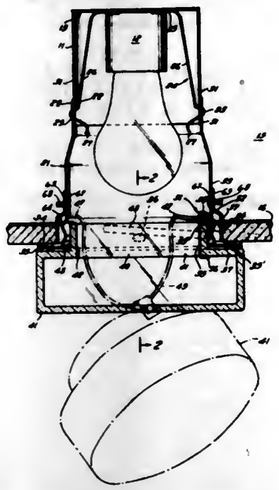
3,370,164
LIGHT FIXTURES WITH DIFFUSER RETENTION MEANS
Frederic Lee Green, El Cerrito, Calif., assignor to Prescolite Manufacturing Corporation, San Leandro, Calif., a corporation of California
Filed Sept. 20, 1965, Ser. No. 488,497
7 Claims. (Cl. 240—147)



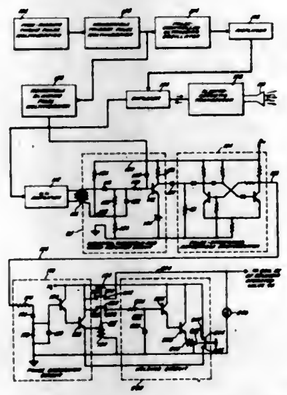
A recessed lighting fixture is described which includes a diffuser mounting means by which the diffuser closing the open end of the light housing can be securely retained in a position below and spaced from the housing to permit servicing of the housing interior. The mounting means includes a set of brackets on diametrically opposed interior wall portions of the housing supporting elongated bar members for slidable movement longitudinally of the housing. The lower ends of the bar members are adapted for securance to the diffuser, and springs coact with the bar member and the brackets to urge the bars inwardly. Intermediate the end of each of the bars, a notch is provided which can be hooked on an end portion of the brackets and operate against the force of the spring to securely position the diffuser below and spaced from the housing.

3,370,165
RECESSED LIGHTING FIXTURE
Kingsley Chan, Lyndhurst, N.J., assignor to Lightolier Incorporated, Jersey City, N.J., a corporation of New York
Filed Dec. 28, 1966, Ser. No. 605,365
9 Claims. (Cl. 240—147)

1. A lighting fixture comprising a support sleeve having rotary locking conformations, a light shielding element having an extension with complementary rotary locking conformations adapted to coact with the locking conformations of said sleeve, for releasable support of said light shielding element, support means carried by said sleeve, and means slidably connecting said light shielding element to said support means, said connecting means being movable along said support means when the locking conformations of said light shielding element are in proximity to the complementary locking conformations of said sleeve to permit rotation or said light shielding element with respect to said sleeve for engagement of said complementary locking conformations.



3,370,166
OBJECT DETECTOR AND CONTROL SYSTEM EMPLOYING SAME
James J. Da Rold, Huntington Station, and Rudolph F. Trevisin, Huntington, N.Y., assignors to American Bosch Arma Corporation, Garden City, N.Y., a corporation of New York
Filed Feb. 21, 1966, Ser. No. 529,081
6 Claims. (Cl. 246—182)



An automatic object detecting and braking system for railroad cars employing an ultrasonic echo apparatus. The echo receiver has blanking circuitry for eliminating unwanted echoes from nearby objects while permitting

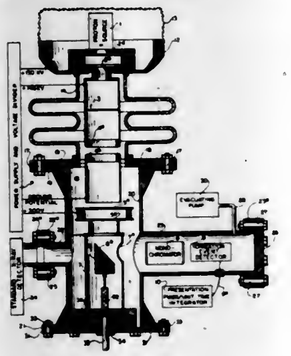
detection of objects at a predetermined range. False detection is avoided by producing a single pulse during each operating cycle in which an echo is detected and integrating successive pulses to produce a braking control signal. If the braking control signal persists for a predetermined time, the braking is continued in the absence of received echoes due to operation of a holding circuit.

3,370,167

PROTON-EXCITED SOFT X-RAY ANALYZER HAVING A ROTATABLE TARGET FOR SELECTIVELY DIRECTING THE X-RAYS TO DIFFERENT DETECTORS

Andrew A. Sterk, Arlington, Va., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed July 13, 1964, Ser. No. 382,165
6 Claims. (Cl. 250—49.5)



1. Apparatus for analyzing the chemical composition of a sample of material containing a low-atomic-number element, comprising:

(a) a vacuum chamber;

(b) a source of protons in said chamber;

(c) a target having a holder for said sample within said chamber;

(d) means in the chamber for accelerating the protons to impinge upon the target sample;

(e) a monochromator located in said chamber and positioned to receive X-rays emitted by the target sample;

(f) and X-ray detector means located in said chamber and positioned to receive and measure monochromatic X-rays passing through the monochromator;

(g) standard X-ray detector means disposed in said chamber adjacent the target;

(h) target support means disposed in said chamber and having means extending outside said chamber for rotating said target; and

(i) said rotating means selectively directing X-rays to said standard detector means and to said monochromator.

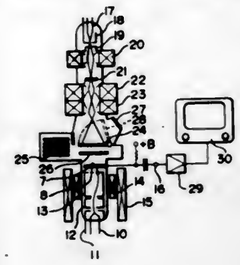
3,370,168

ANODE APERTURE PLATE FOR A TELEVISION CAMERA TUBE IN AN ELECTRON MICROSCOPE COMPRISING A STAINLESS STEEL FOIL

Tsutomu Komoda, Tokyo-to, Japan, assignor to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan

Filed Dec. 31, 1964, Ser. No. 422,828
Claims priority, application Japan, Jan. 14, 1964, 39/1829
1 Claim. (Cl. 250—49.5)

A television camera tube for installation in electron microscopes utilizing a scanning electron gun provided with an anode aperture plate made of a stainless steel



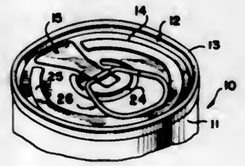
whose aperture part is heated by bombardment of the scanning electron beam itself.

3,370,169

PULL TAB OPENER

John S. Bozek, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Oct. 22, 1965, Ser. No. 501,373
6 Claims. (Cl. 220—54)



This disclosure relates to an easy opening container end having a removable panel portion defined by a weakening line. A starting end part of the removable panel portion is completely severed from the container end and rolled upon itself to form a loop in which there is positioned a pin portion of a pull member. An internally directed generally C-shaped rib is formed about the starting end of the tear out portion and a sealing disc is seated within the rib and adhesively bonded in place.

3,370,170

ARTICLE AND METHOD FOR FORMING A THERMOGRAPHIC REPRODUCTION ON A SHEET OF POLYETHYLENE TEREPHTHALATE

Robert M. Gold, Brooklyn, N.Y., assignor to Keuffel & Esser Company, Hoboken, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 2, 1964, Ser. No. 401,228
12 Claims. (Cl. 250—65)

1. A method of making a thermographic reproduction, which comprises the steps of:

treating a polyethylene terephthalate support with an acid solution to improve the surface bonding properties of said support;

drying the support to remove solvent from said support without removing acid from the surface thereof;

providing a layer of diffusible dye in heat-conductive contact with said support;

heating said support imagewise to diffuse dye into said support in areas corresponding to the heated image areas; and

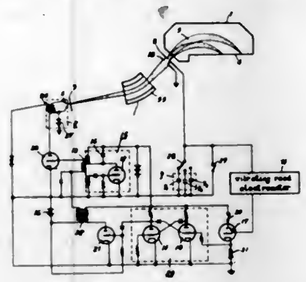
removing dye from the heated areas, thereby producing a dyed image on said support.

3,370,171

EXPOSURE CONTROL SYSTEM FOR A MASS SPECTROMETER RESPONSIVE TO THE ION BEAM INTENSITY

Tomiyoshi Ohta, Tokorozawa-shi, Japan, assignor to Nihon Denshi Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed Jan. 4, 1965, Ser. No. 422,893
9 Claims. (Cl. 250—41.9)



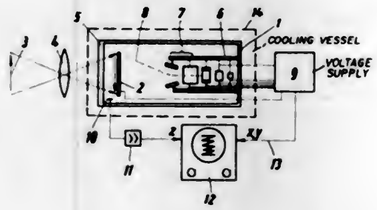
A control system in a mass spectograph utilizing a photosensitive plate having a shielding member formed of an electrically conductive material and having an opening, the dimension of which is smaller than the cross section of the beam and which is positioned within the path of the beam to interrupt its flow and allow only a portion thereof to pass through and penetrate the photosensitive plate. The balance of the beam impinges upon the electrically conductive material so as to impose an electric voltage therein. The impinged voltage is built-up and accumulated in a condenser or capacitor, and an electrometer measures the buildup in the condenser and interrupts the electric current of the ion source when said potential has reached a predetermined voltage.

3,370,172

ARRANGEMENT FOR PRODUCING TWO-DIMENSIONAL IMAGES OF AN INFRA-RED RADIATOR

Heinrich Hora, Garching, Germany, assignor to Institut für Plasmaphysik Gesellschaft mit beschränkter Haftung, Munich-Garching, Germany

Filed June 24, 1964, Ser. No. 377,590
Claims priority, application Germany, June 27, 1963, J 23,969
12 Claims. (Cl. 250—83.3)



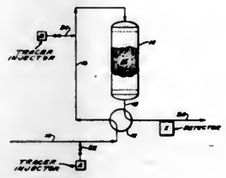
A multi-alkali type photocathode is cooled to a temperature range in which the quantum yield of photoelectrons, emitted thereby upon impingement of supplementary optical radiation, is strongly dependent on temperature; and image-originated radiation is directed on the cathode, changing its temperature so that the yield of photoelectrons as caused by the supplementary radiation is sharply modified by the selective heating due to projected image radiation.

3,370,173

METHOD OF DETECTING AND/OR MEASURING INTERNAL LEAKAGE IN A PROCESS STREAM

Carl D. Ackerman, Indiana Township, Allegheny County, and William E. Mott, O'Hara Township, Allegheny County, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Mar. 19, 1964, Ser. No. 353,061
5 Claims. (Cl. 250—106)



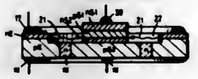
3. A method of measuring bypassing in a continuous stream process system without removing a sample of the stream from the process system which comprises injecting into the process stream upstream of a point of possible bypassing a known quantity of a radioactive halogen tagged tracer, removing the radioactive tracer from the process stream flowing through that portion of the system possibly being bypassed by contacting the process stream with a halogen adsorptive material, and detecting externally of the system the quantity of radioactivity of the process stream downstream from the point of possible bypassing; whereby the quantity of radioactivity detected is indicative of the extent of bypassing.

3,370,174

SEMICONDUCTOR LATCHING SWITCH WITH LIGHT-COUPLED TRIGGERING MEANS

Hans-Norbert Toussaint, Munich, Germany, assignor to Siemens Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Oct. 9, 1964, Ser. 402,724
Claims priority, application Germany, Oct. 10, 1963, S 87,803
4 Claims. (Cl. 250—211)



1. A semiconductor switching device, comprising

a single semiconductor body integrally comprising an optically controllable switching diode having four zones of alternately different conductivity type forming p-n junctions between adjacent ones thereof and

a radiation emissive emission diode semiconductor member which emits radiation when excited by electrical current, said radiation emissive diode member being integrally formed with and in proximity with said switching diode and spaced from said switching diode by a space and having a p-n junction and an emission beam axis issuing from the p-n junction of said radiation emissive member and directed onto said switching diode for optically triggering said switching diode upon excitation of said radiation emissive member by electrical current, said radiation emissive member being of substantially annular configuration and coaxially surrounding said switching diode in a manner whereby radiation issuing from said radiation emissive member passes through the space be-

tween said switching diode and said radiation emissive member to a p-n junction of said switching diode, said semiconductor body including isolating p-n junctions positioned between said switching diode and said radiation emissive member and electrically separating said switching diode from said radiation emissive member;

biasing means for biasing a p-n junction of said switching diode in the blocking direction;

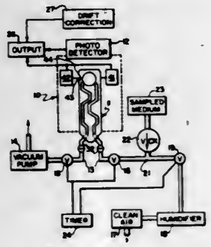
control circuit leads connected to said radiation emissive member for exciting said radiation emissive member with electrical current; and

load circuit leads connected to said switching diode.

3,370,175
TOXICANT DETECTOR

Albert L. Jordon, West Covina, Edwin R. Schnauss and Edward H. Sie, Los Angeles, Andrew Thanos, Redondo Beach, and Earl V. Wagoner, Jr., San Pedro, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed Jan. 28, 1965, Ser. No. 428,744
24 Claims. (Cl. 250—217)



1. A method of monitoring air for the presence of toxicant comprising:

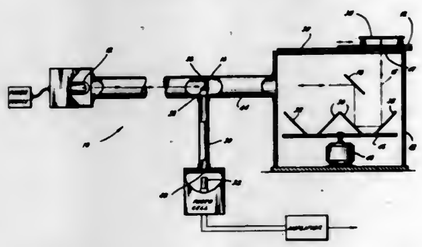
passing air suspected of containing a toxicant distributed therein over the surface of a culture of aerobic luminous micro-organisms; and

sensing the relation of luminous light output from said culture after exposure to the air to luminous light output from said culture before exposure to the air.

3,370,176
RADIATION-SENSITIVE MEANS FOR DETECTING FLAWS IN RADIATION-TRANSMISSIVE MATERIALS

Allen H. Ett, Bethesda, Md., Francis P. Kelper, Jr., Oreland, Pa., and George Revesz, Bala Cynwyd, Pa., assignors to Philco-Ford Corporation, a corporation of Delaware

Filed Nov. 10, 1964, Ser. No. 410,090
5 Claims. (Cl. 250—219)

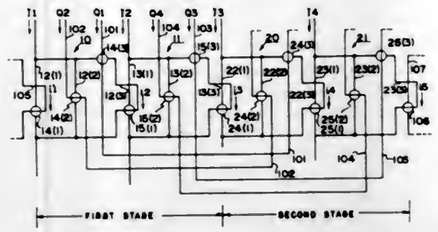


Apparatus for detecting flaws in radiation-transmissive material, comprising a pair of spaced lens elements, or their optical equivalent, constructed and arranged to focus radiation on material interposed therebetween, and which in cooperation with associated obturating means produce an optical system which is non-transmissive of radiation in the absence of a flaw contained in the interposed material.

3,370,177
CRYOELECTRIC SHIFT REGISTER

Dwight W. Doss, Phoenix, Ariz., and John W. Bremer, Sunnyvale, Calif., assignors to General Electric Company, a corporation of New York

Filed Oct. 14, 1965, Ser. No. 495,869
4 Claims. (Cl. 307—221)

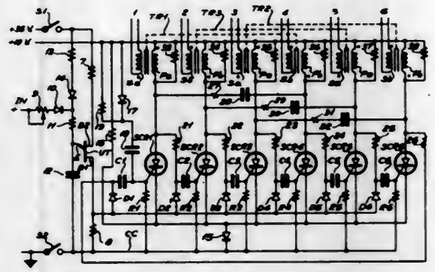


1. A shift register comprising: a plurality of successive stages, each stage comprising first and second superconductive circuits, each circuit comprising first, second and third branches connected in parallel; means for applying a current to each of said circuits; a plurality of cryotrons, a respective cryotron having the gate thereof connected in each of said branches; said third branch of said first circuit containing the control of the cryotron in said first branch of said second circuit; and means for applying shift current pulses in sequence to the controls of the cryotrons in said third branches of said first circuits, to the controls of the cryotrons in said second branches of said first circuits, to the controls of the cryotrons in said third branches of said second circuits, and to the controls of the cryotrons in said second branches of said second circuits.

3,370,178
PULSE REGISTERING AND SHIFTING SYSTEM OF THE MODIFIED RING COUNTER TYPE

Robert L. Risberg, Milwaukee, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed July 13, 1964, Ser. No. 382,270
16 Claims. (Cl. 307—223)



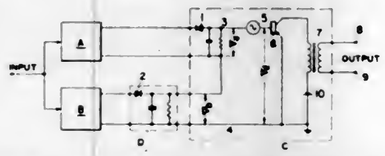
A solid state ring counter of the pulse-triggered anode-commutated type having semi-conductor devices connected in sequence and a single input for sequential D.C. pulses and being modified to provide first to fourth, second to fifth and third to sixth commutation of the successively connected semi-conductor devices to insure conduction of three semi-conductor devices at all times to provide a plurality of output signals each having 180 degree square wave pulses separated by 180 degree off

periods, the respective signals of first and second groups thereof being displaced 180 degrees and the signals of the first group being in overlapping sequential relation with a phase displacement of 120 degrees, and a starting circuit responsive to connection of supply voltage to initiate an output signal to condition the counter for operation and inhibiting circuits between successive semi-conductor devices to insure steering of each input pulse to the next succeeding semi-conductor device to be controlled.

3,370,179
SELECTIVE CALLING SYSTEM FOR RADIO RECEIVERS

Masatoshi Shimada, 78 2-chome, Todorokimachi, Tamagawa Setagayaku, Tokyo, Japan

Filed July 28, 1964, Ser. No. 385,605
Claims priority, application Japan, July 30, 1963, 38/37,778; Nov. 7, 1963, 38/59,398; Jan. 18, 1964, 39/2,039; Jan. 30, 1964, 39/4,226; Apr. 13, 1964, 39/28,429, 39/28,430; Apr. 25, 1964, 39/23,397, 39/32,023
12 Claims. (Cl. 307—235)

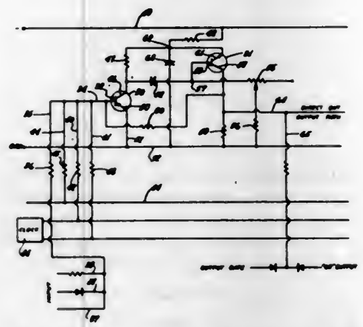


A signal-receiving device having a pretuned resonant circuit controlling a switch circuit to provide an A.C. output whenever a signal is received within a narrow frequency band of the pretuned frequency. A delay system in parallel with the tuned circuit prevents D.C. transients from affecting the switching circuit. The device utilizes the actual received A.C. signal, after amplification, as the calling signal.

3,370,180
DECIMAL STORAGE APPARATUS EMPLOYING TRANSISTOR MONOSTABLE MULTIVIBRATOR

Phillip C. Halverson, Fullerton, and Howard G. Preston, Whittier, Calif., assignors to Brite-Lite Corporation of America, Phoenix, Ariz., a corporation of Delaware

Filed Mar. 29, 1965, Ser. No. 443,417
1 Claim. (Cl. 307—238)

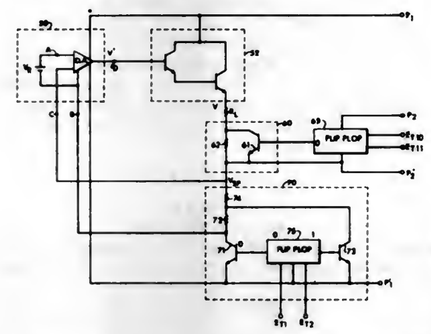


The disclosed apparatus operates to provide time domain storage of a decimal number, and includes a simple univibrator having stable and quasi-stable states. A set pulse input to a transistor shifts univibrator output to stable state, and clock pulse inputs to the same transistor shift output to quasi-stable state; also, a time delay shifts output from quasi-stable to stable state at synchronous intervals.

3,370,181
HIGH-SPEED TRANSISTORIZED SWITCHES PROVIDING MULTIPLE STABLE CURRENT LEVELS FOR INERTIAL INSTRUMENTS

James L. Sitomer, Middleton, Mass., assignor to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts

Filed June 17, 1964, Ser. No. 375,815
10 Claims. (Cl. 307—247)



1. A multiple current level electronic switch incorporating a D-C amplifier with an output terminal supplying a substantially constant voltage to a given load, comprising, in combination with said amplifier,

(a) signal coupling means in series with said load,

(b) a plurality (n) of serially connected resistors each having a first and second terminal, the first terminal of the nth resistor in series with said load,

(c) a like plurality (n) of transistors each having a collector, base and emitter terminal, the collector of the nth transistor coupled to the second terminal of the nth resistor and the collector of a decreasingly numbered transistor respectively coupled to the second terminal of a correspondingly numbered resistor,

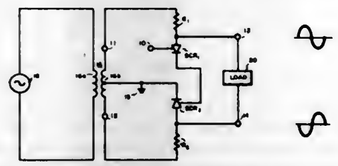
(d) a reference voltage potential coupled to said emitter terminals, and

(e) triggering means coupled to the base terminal of each transistor for switching said transistors into an on and an off operating state.

3,370,182
SCR SWITCHING CIRCUIT WHEREIN HIGH SERIES IMPEDANCES PREVENT AVALANCHE BREAKDOWN OF SCR'S

Hans G. Blank, Bronx, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware

Filed Oct. 4, 1965, Ser. No. 492,813
8 Claims. (Cl. 307—252)



1. A switching circuit which comprises:

(a) first and second input terminals;

(b) a first four-layer semiconductor element having anode, cathode, and gate electrodes;

(c) a second four-layer semiconductor element having anode, cathode, and gate electrodes, the gate electrode of said second element being coupled to the cathode electrode of said first element, the applica-

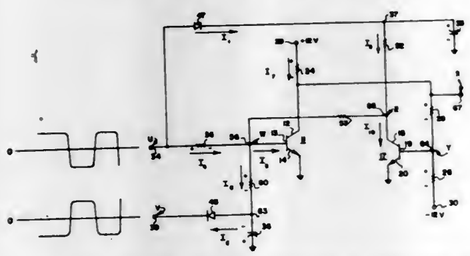
tion of a signal between the gate electrode of said first element and the cathode of said second element rendering said first and second elements conductive;

(d) first and second impedance means, said first impedance means being coupled in series with the anode electrode of said first element and said first input terminal and said second impedance means being coupled in series with the anode electrode of said second element and said second input terminal;

(e) first and second output terminals coupled to the anode electrodes of said first and second semiconductor elements respectively; and

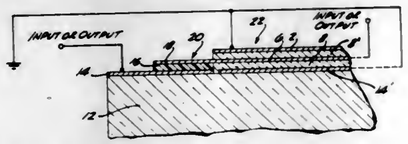
(f) means for applying a signal between said first and second input terminals, said signal substantially appearing between said first and second output terminals in the absence of a signal at the gate electrode of said first element.

3,370,183
PULSE SHAPER
Charles S. Turner, Dallas, Tex., assignor to General Electric Company, a corporation of New York
Filed Sept. 11, 1964, Ser. No. 395,710
10 Claims. (Cl. 307—264)



A pulse-shaping circuit employing a collector-coupled trigger circuit for receiving pulses having variations in shape and for producting pulses having uniform wave shapes.

3,370,184
COMBINATION OF THIN-FILMED ELECTRICAL DEVICES
Rainer Zuleeg, Huntington Beach, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Continuation of application Ser. No. 333,127, Dec. 24, 1963. This application Dec. 14, 1966, Ser. No. 633,638
7 Claims. (Cl. 307—303)



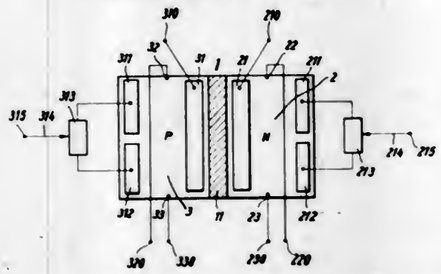
1. Integrated electrical apparatus comprising:

(a) an electrically insulating support member;

(b) a high frequency electrical transmission line disposed on said support member and formed of a body of semi-insulator material disposed between a pair of electrical conductive members and having an inner electrical conductive member disposed within and surrounded by a barrier layer formed between said inner member and said semi-insulator material;

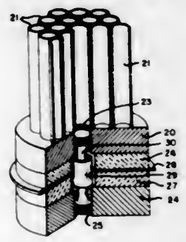
(c) and a solid-state active electronic device comprising a body of semi-insulator material formed integrally with said first-named body of semi-insulator material and having at least one electrode member in contact with said second-named body of semi-insulator material and formed integrally with said inner one of said electrically conductive members of said high frequency transmission line whereby said active device is electrically connected to said transmission line.

3,370,185
SEMICONDUCTOR DEVICE FOR DEMONSTRATING THE HALL EFFECT
Albert Lindberg, Cologne-Marienburg, Germany, assignor, by mesne assignments, to Leybold Holding A. G., Zug, Switzerland
Filed Sept. 24, 1963, Ser. No. 311,168
Claims priority, application Germany, Sept. 25, 1962, L 43,041
10 Claims. (Cl. 307—309)



1. A semiconductor device, comprising, in combination: a semiconductor slab having two homogeneous sections of different type conductivity and defining a pn-junction therebetween; and Hall voltage pick-up electrodes and transverse current feeding electrodes disposed on each of the sections.

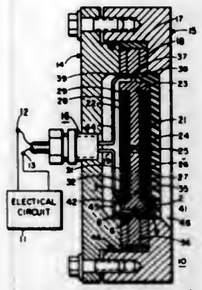
3,370,186
ULTRASONIC TRANSDUCERS
John N. Antonevich, Chautauqua County, N.Y., assignor to Blackstone Corporation, a corporation of New York
Filed Feb. 5, 1965, Ser. No. 430,543
4 Claims. (Cl. 310—8.2)



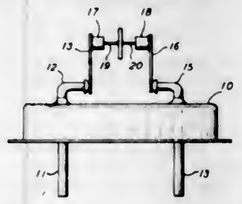
An electromechanical transducer system made up of an electrostrictive means sandwiched between a perforate and an imperforate mass and being mechanically resonant in the length of direction of the system and equalling at least one half wave length unit.

3,370,187
ELECTROMECHANICAL APPARATUS
Helmut J. Straube, Webster, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Apr. 30, 1965, Ser. No. 452,052
The portion of the term of the patent subsequent to December 26, 1984, has been disclaimed
10 Claims. (Cl. 310—9.1)

An electromechanical transducer is described including a flexural vibratile member comprising a driven radiating portion having a channel for receiving an electrically responsive device, a stationary rim portion and a hinge portion connected to said stationary portion and about which flexure takes place.

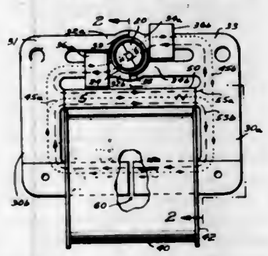


3,370,188
PIEZOELECTRIC CRYSTAL SUPPORT STRUCTURE
Paul R. Blomster, Emmaus, Pa., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 21, 1966, Ser. No. 522,114
1 Claim. (Cl. 310—9.1)



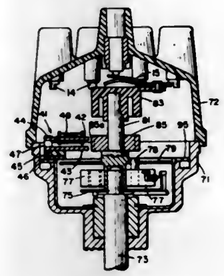
1. A piezoelectric crystal unit comprising a flat piezoelectric crystal plate, at least two wires attached to the major faces of the crystal plate, a support structure for suspending the crystal between said wires, said support structure comprising one relatively rigid member and one relatively flexible member, said relatively rigid member having a stiffness coefficient of at least 80 pounds per inch of deflection and said relatively flexible member having a stiffness coefficient in the range 0.5 to 10 pounds per inch of deflection and a base member for mounting each of said members in spaced parallel relationship.

3,370,189
STEPPER MOTOR HAVING A STATOR BIASING MAGNET
Arthur W. Haydon, Huntington, Edward Herbert III, Farmington, and William D. Riggs, Woodbury, Conn., assignors to Tri-tech, Inc., a corporation of Connecticut
Continuation of application Ser. No. 394,669, Sept. 8, 1964. This application Oct. 14, 1966, Ser. No. 595,286
8 Claims. (Cl. 310—49)



A pulsed or stepper motor with a pair of salient stator poles, a permanent-magnet cylindrical rotor, and a stator biasing magnet arranged in either series or parallel magnetic circuit relationship with the stator flux for producing a rotor advance of 360 electrical degrees for each electrical pulse applied to the stator field coil, together with shading coils and a non-uniform rotor-stator air-gap spacing for imparting a self-starting and unidirectional characteristic to the motor.

3,370,190
ELECTROMAGNETIC PICKUP DEVICE
Nicholas T. Neapolitakis, Chicago, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Sept. 9, 1965, Ser. No. 486,129
3 Claims. (Cl. 310—70)

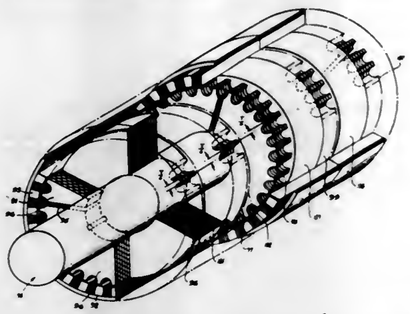


Ignition system for internal combustion engine including magnetic pickup device for operating semiconductor switching circuit. The magnetic pickup device operates with the breaker cam of a distributor commonly used to operate breaker points, and has a pair of pole pieces with ends adjacent the cam and forming air gaps therewith. A permanent magnet is positioned between the pole pieces to develop opposite poles therein, and as the cam rotates the plane surfaces and projecting edges of the cam change the lengths of the air gaps. A winding is provided on the pole pieces in which electrical pulses are developed by the change in flux through the pole pieces.

3,370,191
ELECTRICAL MACHINES AND INTERCONNECTIONS THEREFOR
Wolf H. Koch, Berkeley, Calif., assignor, by mesne assignments, to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 31, 1964, Ser. No. 341,604
24 Claims. (Cl. 310—168)

A class of electrical machines having an integral number of repeatable sections therein consisting of magnetic structure having first and second portions facing each other across a common surface, the first portion being stationary and the second portion being movable with respect to the first portion. The first portion has four spaced apart conductor receiving regions per repeatable section, each adjacent pair of which is separated by magnetic pole projecting toward the common surface. A plurality of conductors are distributed in the regions and include primary conductors arranged and connected in series in alternate conductor receiving regions to form first and second primary windings. Means which can consist of secondary windings are provided for creating a secondary magnetic field. The magnetic structure is arranged so that one of the portions extends a distance sufficient to span two of said poles to create a low magnetic reluctance path about one of said conductor receiving regions and is further constructed and arranged so that relative movement of the portions through repeat-

able section causes the low magnetic reluctance path to be formed about each of the conductor receiving regions individually once for relative movement of the first and second portions through a repeatable section. Specific ex-



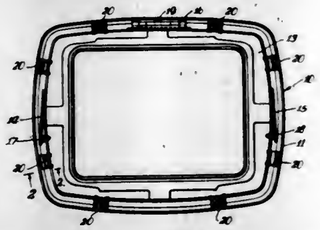
amples are disclosed in which the movable portions move perpendicular or parallel to the direction of the conductors and in which the magnetic structures are arranged to form linear motion machines or rotating machines.

3,370,192

COLOR TELEVISION TUBE CONSTRUCTION INCLUDING MEANS FOR MINIMIZING TEMPERATURE DIFFERENTIAL BETWEEN SHADOW MASK FRAME AND TUBE ENVELOPE

James W. Schwartz, Western Springs, Laszlo Javorik, Chicago, and Joseph W. Cooper, Hinsdale, Ill., assignors to National Video Corporation, Chicago, Ill., a corporation of Illinois

Filed Oct. 7, 1966, Ser. No. 585,168
5 Claims. (Cl. 313—46)



A shadow mask is mounted within a color television envelope adjacent the viewing screen with a three-point suspension system of mounting springs. Heat-conductive elements are interposed between the envelope and the shadow mask frame having a substantial area contacting the frame on one side and the envelope on the other for conducting heat from the mask to the envelope on all four sides of the mask. This arrangement minimizes the temperature differential between the mask and the envelope thereby obviating the need for correcting for misregistration of the apertures of the mask relative to the phosphor pattern on the screen during normal operation wherein the shadow mask of a conventional tube rises to a temperature 20–30° C. above that of its envelope.

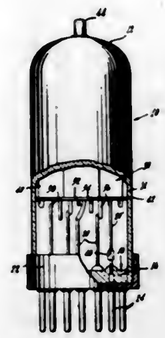
3,370,193

ELECTROLYSIS-RESISTANT ELECTRON DISCHARGE DEVICE

Milton S. Nachbar, Matawan, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Jan. 22, 1964, Ser. No. 339,422
3 Claims. (Cl. 313—54)

1. An electron discharge device having an envelope including a stem having a lead glass wafer and a lime glass bulb, said envelope being evacuated, an electrode assembly mounted on said stem within said envelope, and a



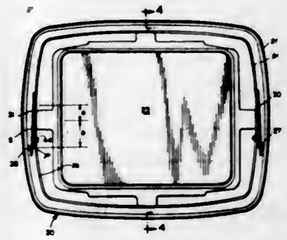
source of beta rays mounted within said envelope and outside said electrode assembly for irradiating portions of said envelope with beta rays.

3,370,194

COLOR TUBE MASK MOUNTING INCLUDING MEANS FOR LIMITING SHIFT OF THE MASK CENTER

James W. Schwartz, Western Springs, Laszlo Javorik, Chicago, Eugene V. Heitlinger, Franklin Park, and William A. Rowe, Chicago, Ill., assignors to National Video Corporation, Chicago, Ill., a corporation of Illinois

Filed May 31, 1966, Ser. No. 554,106
9 Claims. (Cl. 313—92)



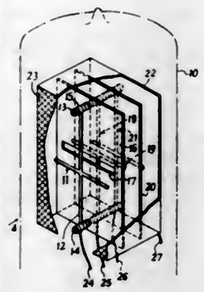
A rectangular shadow mask is mounted within a color television tube adjacent the phosphor screen which defines the viewing area. The mask support includes posts or studs embedded in the flange of the glass faceplate panel in alignment with the sides and top of the mask; and flat metal mounting springs are anchored to the mask and adapted for removable engagement with the posts. The spring associated with the top post includes a unitary metal element having leg portions divergent downwardly from its engagement with the post, and these leg members are symmetrical with respect to the vertical center line of the mask. The leg portions are secured to the mask adjacent their extremities, and the mounting springs are arranged relative to their associated posts to substantially limit shifting of the center of the shadow mask as the mask expands responsive to an impinging electron beam thereby eliminating misregistration of the apertures of the mask with their associated triads of phosphor dots.

3,370,195

COLD CATHODE GAS DISCHARGE TUBES HAVING AN OPTICALLY OPAQUE MASKING PLATE

George Peter Stenning, Stanmore, England, assignor to Hivac Limited, South Ruislip, Middlesex, England, a British company

Filed Oct. 12, 1965, Ser. No. 495,239
Claims priority, application Great Britain, Oct. 16. 1964, 42,349/64
4 Claims. (Cl. 313—204)



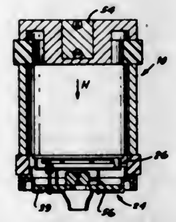
Cold cathode gas discharge indicator tube having several shaped cathode electrodes in front of at least one of which is an optically opaque masking plate provided with a light-transmitting aperture therein to permit visual observation of only those parts of the glow discharge on such cathode electrode which provide the required shape of visual indication.

3,370,196

ENVELOPE GEOMETRY FOR A MAGNETICALLY CONTROLLABLE FIELD EFFECT TUBE

Eduard Gerhardus Dorgelo, Huntington, and Bertram Green, Hicksville, N.Y., assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 385,259, July 27, 1964. This application Apr. 30, 1965, Ser. No. 452,063
7 Claims. (Cl. 313—162)



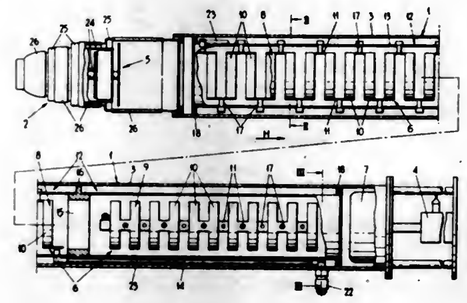
A field effect tube, employing an axial magnetic field, is constituted by a cylindrically shaped anode and similarly shaped cathode, separated from each other by a cylindrical control element. The control element includes rings of insulating material at either end, to which the anode and the cathode are respectively attached. A permanent magnetic field is applied axially by means of an electromagnet, coils of which are wound about the control element, or by a permanent magnet, inserted into the anode and cathode assembly. Additional control elements, coaxial with the original control element, may be provided to affect multicontrol element structures such as a tetrode.

3,370,197

TRAVELLING WAVE TUBES

Cyril Henry Dix, Harrow, Middlesex, England, assignor to The M-O Valve Company Limited, London, England

Filed Aug. 27, 1963, Ser. No. 304,813
Claims priority, application Great Britain, Aug. 29, 1962, 33,237/62
5 Claims. (Cl. 315—3.5)



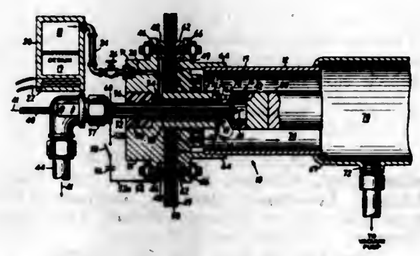
A high power, broad band travelling wave tube employing an annular electron beam, a "ring and bar" slow wave structure and a conductive tube surrounding and electrically insulated from the slow wave structure. The required relative radial dimensions of the beam, the slow wave structure and the conductive tube for improved performance are specified.

3,370,198

PLASMA ACCELERATOR HAVING A COOLED PREIONIZATION CHAMBER

Kenneth C. Rogers, 50 Riverside Drive, New York, N.Y. 10024, and Donald R. Simon, 73 Fichter St., Bloomingdale, N.J. 07403

Continuation of application Ser. No. 405,517, Oct. 21, 1964. This application June 21, 1967, Ser. No. 647,878
16 Claims. (Cl. 315—111)



1. A plasma accelerator comprising
a first electrode having a first surface,
a second electrode having a second surface spaced from the first electrode surface to form a preionization chamber,
means for cooling at least one of the first and second electrode surfaces,
means for introducing a vaporized material to be accelerated into the preionization chamber between the first and second electrode surfaces to condense and deposit the material on at least the cooled electrode surface,
a third electrode spaced from and cooperating with said first and second electrodes,

means for establishing a first electrical potential to provide a first arc discharge between said first and second electrode surfaces for vaporizing and preionizing the material deposited on the cooled electrode surface and for preionizing the vaporized material in the preionization chamber,

the first arc discharge narrowing the electrical gap between the third electrode and at least one of the first and second electrodes and propelling the preionized material into said gap, and

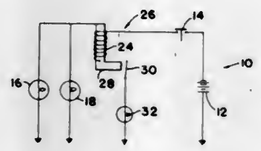
means for establishing a second electrical potential to provide a second arc discharge when the first arc discharge sufficiently narrows the gap between the third electrode and at least one of said first and second electrodes, the second arc discharge accelerating the preionized material from said electrodes.

3,370,199

AUTOMOBILE STOP LIGHT OPERATION INDICATOR

Bohuslav Kabriel, 324 Buckingham Drive, Riverside, Ontario, Canada

Filed Oct. 18, 1965, Ser. No. 496,919
4 Claims. (Cl. 315—130)



A circuit for indicating operation of vehicle stop lights including a source of electrical energy, a stop light switch and one or more vehicle lights in parallel with each other connected in series and additional means in the series circuit for indicating operation of the vehicle lights on closing of the stop light switch. The additional means in the series circuit may be a resistance light of the type operable to provide a qualitative indication of the number of vehicle lights operating. Alternatively the additional means may be a relay coil and an indicator light operable to be connected in the series circuit on energizing of the coil by means of a movable armature actuated by the coil. Two separate embodiments of switch structure for connecting the indicator light into the circuit on failure of a vehicle stop light are included.

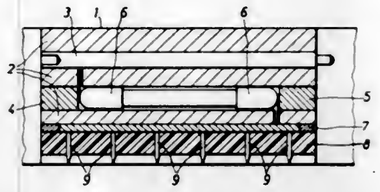
3,370,200

IONIZATION APPARATUS

Gerhard Heyl, Cologne, Stammheim, and Günter Lüttgens, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Jan. 30, 1963, Ser. No. 254,918
Claims priority, application Germany, Feb. 10, 1962, F 35,999
2 Claims. (Cl. 317—4)

1. An ionization apparatus which comprises a body of electrical insulation material, a first electrically conductive member supported by said insulation body, at least one discharge electrode conductively connected to said first member and extending therefrom, a second electrically conductive member extending within said insulation body and disposed for connection to a terminal of an external high voltage electrical source, a resistor disposed within said insulation body for support thereby and electrically connected to said first and second conductive members to limit electrical current flow therebetween, and a third electrically conductive member supported by said insulation body and disposed for connection to another terminal of said high voltage source, said third member being disposed in spaced apart relation to each discharge electrode extending from said first member to accommodate an electrical ionization discharge therebe-



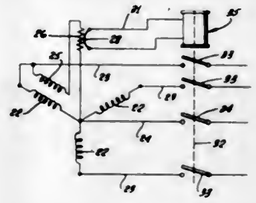
tween when said second and third members are connected to terminals of the high voltage source having a potential difference sufficient to effect such ionization discharge, with the current flow during said ionization discharge being limited by said resistor.

3,370,201

OVERLOAD PROTECTIVE CIRCUIT FOR ELECTRICAL MACHINERY

Elmer F. Ward, Santa Ana, Calif., assignor to Task Corporation, Anaheim, Calif., a corporation of California

Filed Mar. 29, 1965, Ser. No. 443,370
11 Claims. (Cl. 317—13)



The disclosed overload protection control embodies an auxiliary conductor such as an auxiliary winding inductively coupled to and electrically connected in parallel with the main winding of an electrical machine, and also connected in series with a heater resistance to pass only a portion of the machine current, and to supply increased current to the heater when the main winding passes increased current. A thermostatic element is located to respond to such increased heating of the resistance, for controlling electrical energization of the main winding.

3,370,202

COMPONENT ARRANGEMENT HAVING CORRUGATED RINGS FOR APPLYING ELECTRICAL POTENTIAL TO DETACHABLE UNITS

John Marley, Wayne, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

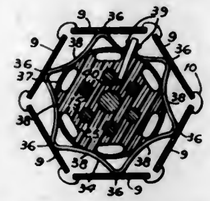
Filed Mar. 19, 1963, Ser. No. 266,342
5 Claims. (Cl. 317—101)

1. A high density electrical component packaging arrangement comprising:

first and second female member units;

a male plug-in-unit including a skeleton structure having a center post and retaining members fixedly attached thereto and transverse to the longitudinal axis thereof, said plug-in-unit receivable in said female member units;

mounting and energy distribution means for a plurality of electrical devices detachably connected to said skeleton structure, said mounting and distributing means including a plurality of planar non-conductive elements the extremities of which are receivable in said female member units, said planar elements having conductive signal paths disposed on a surface thereof and terminating at the extremities thereof and a plurality of conductive power supply paths disposed on another surface thereof, said signal and power paths being connected to various ones of said electrical devices; and



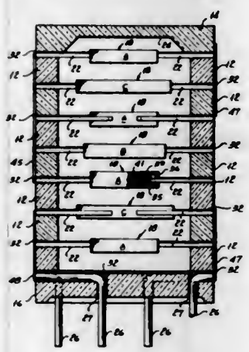
means integral with said skeleton structure for applying electrical potentials to said electrical devices, said means for applying said electrical potentials including a plurality of male power pins disposed substantially circular about said center post and receivable in said first female member unit, and conductive commutator means connected to said power pins, said commutator means comprising a plurality of open-end flexible corrugated ring conductive members disposed one above the other concentric with said center post, and insulator means concentric with and connected to said center post electrically isolating each of said conductive members one from the other.

3,370,203

INTEGRATED CIRCUIT MODULES

Bernard L. Kravitz, Forest Hills, and Herbert Winsker, Brewster, N.Y., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed July 19, 1965, Ser. No. 473,023
9 Claims. (Cl. 317—101)



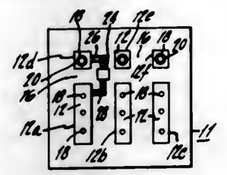
An integrated circuit module in which each of a stack of insulating frames of refractory material is provided with wall grooves for receiving the respective generally coplanar leads of a flat circuit package with the leads extending to the frame periphery. A plurality of frames together with a cover and a header are bonded in stacked relationship to form a hollow hermetic housing to a wall of which a conductive pattern is applied to connect said leads in a predetermined pattern.

3,370,204

COMPOSITE INSULATOR-SEMICONDUCTOR WAFER

Eric F. Cave, Somerville, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Original application June 28, 1963, Ser. No. 291,338, now Patent No. 3,300,832, dated Jan. 31, 1967. Divided and this application Aug. 9, 1966, Ser. No. 571,276
5 Claims. (Cl. 317—101)



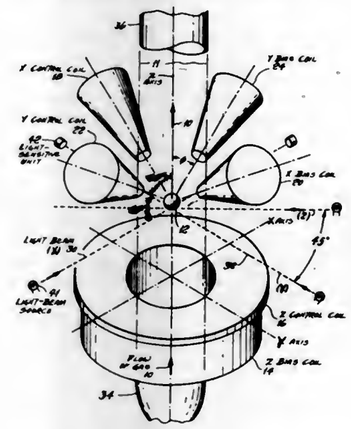
A composite wafer is made of semiconductor pieces embedded in a matrix of insulating glass. The semiconductor pieces and the glass each have a continuous common surface coincident with a surface of the wafer so that active components may be formed in the semiconductor pieces and passive components and interconnecting means may be deposited on the surface of the glass.

3,370,205

MAGNETIC SUSPENSION SYSTEM

Theodor A. Dukes, Princeton, and Ricardo N. Zapata, Kendell Park, N.J., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Sept. 27, 1965, Ser. No. 490,751
8 Claims. (Cl. 317—123)



1. A magnetic suspension system for supporting in a substantially invariant orientation a magnetizable suspended body whose position may vary comprising, in combination:

a system of three sets of magnetic-field-producing (m.f.p.) elements,

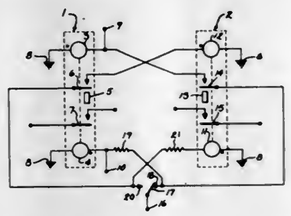
said sets arranged to produce three orthogonal magnetic forces which suspend the body and control its movement with respect to three orthogonal axes,

the magnetic force component produced by each set being a function of an electrical parameter in such a way that the average value of said parameter is that required to position said suspended body at its nominal equilibrium point,

position-sensing means for detecting changes in position of said suspended body along said three orthogonal axes and for providing signals proportional in value to said changes, and

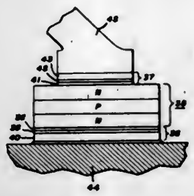
feedback control means for utilizing each of said change-proportional signals to vary the value of said parameter in the proper set of m.f.p. elements to produce the compensatory change in its field strength required to return said body to its nominal equilibrium point along the axis associated with that set of m.f.p. elements.

3,370,206
RELAY FLIP-FLOP
James N. Pearse, Menomonee Falls, Wis., assignor to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin
Filed May 26, 1965, Ser. No. 458,983
4 Claims. (Cl. 317—140)



The reed relay flip-flops employ two relays, each having a pair of common connected coils to actuate its contacts. The first embodiment has the input signal alternately delivered to the energizing coil of the leading relay through a resistor, and to the deenergizing coil through the contacts of the trailing relay, or to the deenergizing coil of the trailing relay through a resistor and to the energizing coil through the contact of the leading relay. In the other embodiment, the input signal is alternately fed to the common contact of each relay, the stationary contacts of each relay being connected to the coils of the other relay.

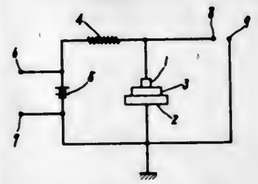
3,370,207
MULTILAYER CONTACT SYSTEM FOR SEMICONDUCTOR DEVICES INCLUDING GOLD AND COPPER LAYERS
David A. Fabel, Hamden, Conn., and Robert M. Hunter, Skaneateles, N.Y., assignors to General Electric Company, a corporation of New York
Filed Feb. 24, 1964, Ser. No. 346,868
2 Claims. (Cl. 317—234)



1. A semiconductor device of the rectifying junction type requiring external electrical connection thereto including a body of semiconductor material and contact means comprising a first layer of gold bonded directly to said semiconductor body a layer of copper bonded directly to said first layer of gold and a second layer of gold bonded directly to said layer of copper.

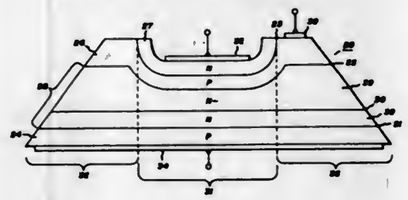
2. A semiconductor device of the rectifying junction type requiring external electrical connection thereto including a body of semiconductor material and ohmic contact means comprising a first layer of gold bonded directly to said semiconductor material a second layer of at least one material selected from the group of arsenic, antimony and indium bonded directly to said layer of gold and a layer of copper bonded directly to said second layer.

3,370,208
THIN FILM NEGATIVE RESISTANCE SEMICONDUCTOR DEVICE
Yoshihiko Mizushima, Yoshitaka Igarashi, and Osamu Ochi, Tokyo, Japan, assignors to Nippon Telegraph and Telephone Public Corporation, Tokyo, Japan, a corporation of Japan
Filed Mar. 23, 1965, Ser. No. 441,995
Claims priority, application Japan, Mar. 25, 1964, 39/16,362
4 Claims. (Cl. 317—234)



1. A semiconductor device comprising a substantially pure semiconductor layer having a wide energy band gap capable of current controlled type negative resistance characteristics disposed directly between opposed conductive electrodes, said electrodes consisting of a first conductive electrode consisting of a metal selected from the group consisting of Te, Pt, Mo, Ti and W and a second electrode consisting of a metal having a thermal expansion coefficient substantially identical with that of said semiconductor, the sustaining voltage of said negative resistance being smaller than the turnover voltage and not more than 3/2 of the band gap energy of said semiconductor, said semiconductor layer having a thickness of between less than 5 microns and more than 100 Angstroms and having a specific resistance of more than $10^3\Omega$ cm. but less than $10^{10}\Omega$ cm., said semiconductor layer being crystalline and substantially free of oxides and halides, whereby said negative resistance appears in both positive and negative directions of current.

3,370,209
POWER BULK BREAKDOWN SEMICONDUCTOR DEVICES
Calvin M. Davis and Robert L. Davies, Auburn, N.Y., assignors to General Electric Company, a corporation of New York
Filed Aug. 31, 1964, Ser. No. 393,290
5 Claims. (Cl. 317—235)



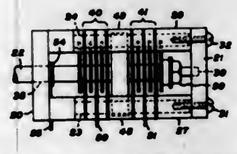
Bulk breakdown in power semiconductor devices is assured by providing in a multilayered semiconductor pellet an internal high resistivity region which is thicker around the outer periphery of the pellet than in the central region and providing main current carrying contacts which contact the outer surface of the pellet in the thinner region of the pellet so as to provide relatively low forward voltage drops and yet assure breakdown through the thinner region when reverse voltages are applied rather than over the pellet surface.

3,370,210
MAGNETIC FIELD RESPONSIVE SUPERCONDUCTING TUNNELING DEVICES
Milan D. Fiske, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 28, 1965, Ser. No. 516,980
6 Claims. (Cl. 317—235)



1. A supercurrent tunneling device comprising an elongated laminated body, and means for connecting the body in an electric circuit, said laminated body comprising two coextensive films of superconductive metal, a coextensive insulating film between the superconductive metal films preventing the flow of electric current therebetween, a tunneling junction bridging the insulating film at one region of said elongated body and connecting the superconductive metal films for current flow through said tunneling junction, and electrically conductive control means positioned operably adjacent said laminated body such that magnetic flux resulting from the flow of current therethrough passes through the plane of the tunneling junction.

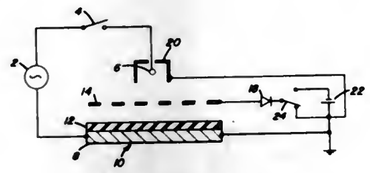
3,370,211
VARIABLE CAPACITORS
Eugene K. Von Fange, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 15, 1966, Ser. No. 565,570
5 Claims. (Cl. 317—254)



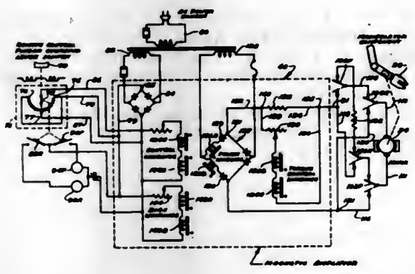
A variable capacitor comprises a set of fixed conductive plates mounted in a frame member, a set of rotatable conductive plates appropriately mounted on a shaft so as to interleave with the fixed conductive plates, and a dielectric member mounted on the shaft and supporting an opposing pair of sector-shaped conductive plates. The opposing pair of sector-shaped conductive plates are conductively connected and are mounted along the peripheries of the bases of a cylindrical member so as to interleave with adjacent stator plates. The cylindrical member may also serve as a mounting means for an additional sector-shaped conductive plate which serves as a shield between adjacent plates of the stator.

3,370,212
CORONA CHARGING APPARATUS
Lee F. Frank, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Aug. 19, 1965, Ser. No. 480,980
10 Claims. (Cl. 317—262)

A unilaterally conducting circuit for rectifying an A.C. corona current as a pulsed D.C. corona current is produced by modulating an alternating current corona discharge by interposing between the corona source and the grid plate of an electrographic plate a conductive grid connected to ground through a rectifier.



3,370,213
FORCE CONTROL SYSTEM FOR MANIPULATOR COMPONENT
Glenn Richard Rose, St. Paul, Minn., assignor to Programmed & Remote Systems Corporation, St. Paul, Minn., a corporation of Minnesota
Filed Apr. 26, 1965, Ser. No. 450,899
1 Claim. (Cl. 318—513)

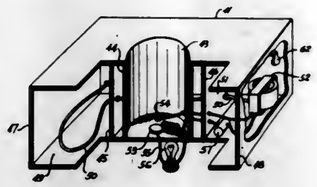


An electrical control circuit to selectively limit the gripping force exerted by gripping jaws on a remotely controlled manipulator. The circuit applies inverse electrical feedback to a magnetic amplifier used to power the motor that operates the gripping jaws of the manipulator. The output torque of the gripping jaw drive motor and consequently the force of the gripping jaws is made proportional to the grip motor current. The inverse electrical feedback to the winding of the magnetic amplifier driving the gripping jaw motor is proportional to the grip motor current and therefore a maximum limit is placed upon the output current of the magnetic amplifier. A variable torque control resistor is used in the feedback circuit to vary the amount of feedback current supplied to the magnetic amplifier and thus means are provided for adjusting the maximum limit of the gripping force.

3,370,214
STABLE RECHARGING STAND FOR BATTERY OPERATED TOOTHBRUSH
Julian Robert Aymar, 5122 Fort Hamilton Parkway, Brooklyn, N.Y. 11219
Filed July 27, 1964, Ser. No. 385,179
1 Claim. (Cl. 320—2)

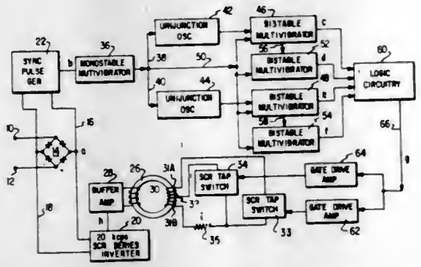
1. A recharging stand for recharging the battery of a mechanical toothbrush having electrical contacts, said stand comprising a housing having a bottom, a front side, end walls and a cylindrical wall enclosing a central cavity for receiving the toothbrush, transverse partitions extending between opposed end walls and forming two opposed

chambers in the interior of the housing, contacts located upon the bottom of the housing within said cavity and adapted to be engaged by the contacts of the toothbrush, the front side of the housing having a window, an incandescent lamp located within said housing behind said window and connected to one of said contacts, a transformer having primary and secondary wirings and located



in one of said chambers, a diode connected to said lamp and to the secondary wiring of said transformer, said secondary wiring being connected to the other one of said contacts, and an electric power cord connected with the primary wiring of said transformer and extending through the other one of said chambers and out of said housing.

3,370,215
STEP UP CYCLOCONVERTER WITH HARMONIC DISTORTION REDUCING MEANS
William R. Light, Jr., Charlottesville, Va., assignor to Basic, Incorporated, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 9, 1966, Ser. No. 526,124
7 Claims. (Cl. 321—4)



7. A step up cycloconverter for converting low frequency alternating current to high frequency alternating current comprising:

(a) a source of low frequency alternating current;

(b) a series inverter connected to said low frequency source for converting said low frequency AC to high frequency AC;

(c) a transformer having its primary winding connected to said series inverter and having its secondary winding connected to a load, at least one of said windings having a plurality of taps and having a pair of silicon controlled rectifiers connected in back to back relationship to each tap;

(d) a rectifier connected to said low frequency alternating current source for producing a pulsating DC output;

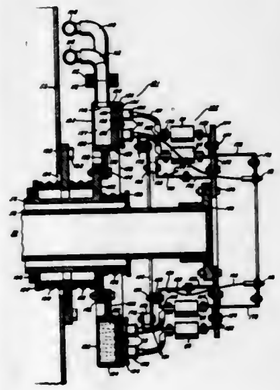
(e) a pulse generator connected to said rectifier and synchronized with said rectifier to produce a pulse every time the pulsating DC has an instantaneous value of zero;

(f) a plurality of clocked bistable multivibrators connected to and synchronized with said pulse generator for generating a plurality of pulse trains;

(g) gating means connected to said clocked bistable multivibrators and responsive to said pulse trains for combining said pulse trains to produce a signal dependent on the periodicity of said pulse trains; and

(h) driving means connected to said gating means and to said silicon controlled rectifiers and responsive to the signal output of said gating means for controllably energizing said silicon controlled rectifiers.

3,370,216
INTEGRAL TRANSFORMER-RECTIFIER SYSTEM WHEREIN LIQUID COOLED HEATSINKS FOR CURRENT RECTIFYING COMPONENTS ARE MOUNTED ON COAXIAL BUSHINGS
Gerald J. Bowar, Broomall, and Jack A. Marshall and Leon H. Sperow, Springfield, Pa., assignors to General Electric Company, a corporation of New York
Filed Dec. 21, 1965, Ser. No. 515,326
10 Claims. (Cl. 321—8)



10. An integral transformer-rectifier system comprising:

(a) a tank having A-C input terminals and first and second output terminals mounted thereon and having a wall with at least two adjacent apertures formed therethrough,

(b) a transformer having primary and secondary windings supported within said tank with connections from the transformer primary to said A-C input terminals,

(c) first and second means for connecting the transformer secondary to said first and second output terminals, respectively, said first means including a D-C bus supported within said tank,

(d) said second means including

(i) at least two sets of first and second coaxial conductors extending from said apertures, respectively, to the exterior of said tank, each of said sets having one of its conductors connected inside said tank to the transformer secondary,

(ii) means for connecting the other conductors of both of said sets to said second output terminal,

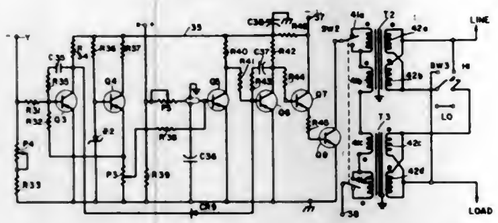
(iii) at least two annular members of conducting material respectively connected to the exterior ends of the first conductors of said sets in concentric relationship therewith,

(iv) a plurality of rectifying devices mounted in a symmetrical pattern on each of said annular members, each device having one main electrode directly connected to the annular member on which it is mounted, and

(v) means for connecting a second main electrode of each of said devices to the exterior end of the second conductor of the associated set, and

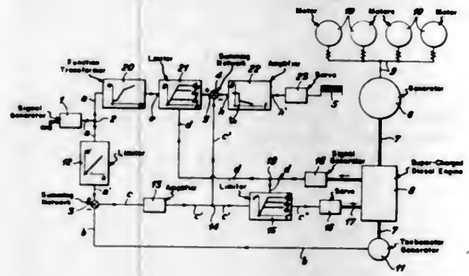
(e) at least two mounting means for mounting the coaxial conductors of said sets, respectively, on said tank wall in spaced relation to each other.

3,370,217
POWER SUPPLY CONTROLLED VOLTAGE CURRENT CHARACTERISTICS
Martin S. Tausig, Chicago, Ill. (2431 Eric Circle, Madison, Wis. 53706)
Filed Apr. 7, 1965, Ser. No. 446,254
9 Claims. (Cl. 321—11)



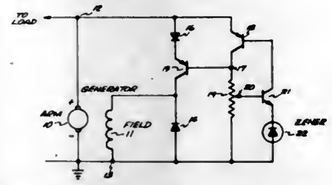
High voltage D.C. power supply using a control reactor in series with a high voltage line transformer that is coupled to a diode bridge rectifier. The output of the bridge after regulation is fed back to the reactor through a cross-over amplifier to control D.C. damping of the reactor.

3,370,218
CONTROL SYSTEM FOR DIESEL-ELECTRIC TRACTION VEHICLES
Peter Merz, Winterthur, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed Mar. 2, 1966, Ser. No. 531,189
Claims priority, application Switzerland, Mar. 5, 1965, 3,112/65
5 Claims. (Cl. 322—15)



1. A control system for a diesel-electric traction vehicle in which a supercharged diesel engine drives a series-connected direct current traction motor by means of a generator having variable excitation, said system comprising means to generate a first signal representative of engine speed, means to generate a second signal, means to limit the time rate of change of said second signal, means to develop a third signal from said first signal and from said second signal limited as to time rate of change, means to develop a fourth signal representative of engine supercharging pressure, first variable limiter means for said third signal responsive to said fourth signal, servomechanism responsive to said third signal as limited by said first variable limiter means to control the rate of fuel injection to the engine, means to modify said second signal, second variable limiting means for said modified second signal responsive to said fourth signal, means to develop from said limited modified second signal and from said third signal a fifth signal, a control amplifier having asymmetric proportional-integral operation receiving said fifth signal as an input, and means responsive to the output from said control amplifier for control of the excitation of said generator.

3,370,219
VOLTAGE REGULATOR WITH REGENERATIVE ACTION
Arthur C. Hupp, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Filed June 18, 1964, Ser. No. 376,002
3 Claims. (Cl. 322—28)



A voltage regulator for a generator is provided which utilizes DC coupling and regenerative action for immediate correction of generator voltage in response to generator voltage change. A first transistor supplies current to the generator field when generator output voltage is lower than desired. As generator voltage rises above a reference voltage second and third regeneratively coupled transistors are turned on which cause the first transistor to turn off. As generator voltage falls below the desired level the cycle repeats.

3,370,220
HAND OPERATED BLASTING GENERATOR
Byron J. Douglass, Webster Groves, and Kenneth E. Bleich, University City, Mo., assignors to Universal Match Corporation, St. Louis, Mo., a corporation of Delaware
Continuation of application Ser. No. 355,827, Mar. 30, 1964. This application June 9, 1967, Ser. No. 645,063
15 Claims. (Cl. 322—40)

1. A blasting machine which comprises:

a generator that has a rotor and a stator and that responds to rotation of said rotor to generate power,

manually-operable means to rotate said rotor of said generator and thereby cause said generator to generate power,

a capacitor that receives power generated by said generator and that responds to said power to develop a charge therein and a voltage thereacross,

a solid-state selectively-conductive element that has a high forward drop whenever it is non-conductive, that has a very low forward drop whenever it has been rendered conductive, and that has a low cut-off level, and

output terminals for said blasting machine,

said solid-state selectively-conductive element being connected between one of the terminals of said capacitor and one of said output terminals,

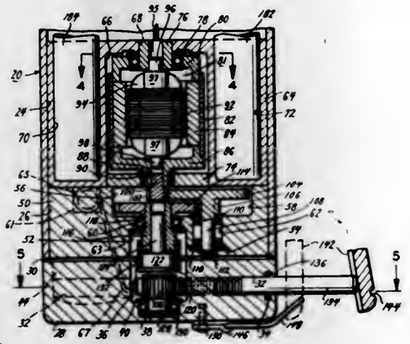
said generator responding to rotation of said rotor thereof by said manually-operable means to generate power and to supply power to said capacitor, and said capacitor responding to said power to develop a charge therein and a voltage thereacross,

said solid-state selectively-conductive element initially being non-conductive and thereby isolating said one output terminal from said one terminal of said capacitor, and continuing to isolate said one output terminal

from said one terminal of said capacitor until the voltage across said capacitor attains a predetermined value,

said solid-state selectively-conductive element thereafter becoming conductive and connecting said one terminal of said capacitor to said one output terminal to enable said capacitor to supply power to said output terminals,

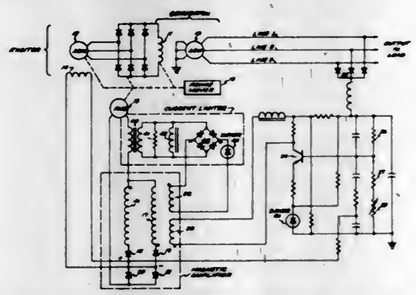
said solid-state selectively-conductive element remaining conductive until the forward drop thereacross falls to a low level, and said solid-state selectively-conductive element thereby continuing to connect said one terminal of said capacitor to said output terminal, and thus continuing to enable said capacitor to supply power to said output terminals, until said capacitor has become substantially fully discharged,



whereby said blasting machine can "fire" loads which can be "fired" only by the application of power to them for appreciable periods of time,

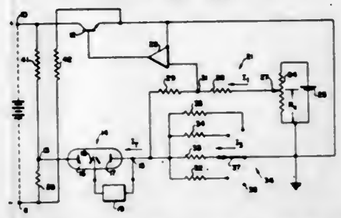
said manually-operable means including a member that can be moved through a stroke of predetermined length to effect rotation of said rotor of said generator, said manually-operable means also including a clutch that permits said rotor of said generator to continue to rotate after said member has reached the end of said stroke, whereby said generator can continue to generate power after said member has reached the end of said stroke.

3,370,221
FREQUENCY SENSITIVE CURRENT LIMIT
David L. Plette and Sidney T. Kyzer, Waynesboro, Va., assignors to General Electric Company, a corporation of New York
Filed Oct. 13, 1964, Ser. No. 403,535
9 Claims. (Cl. 322—44)



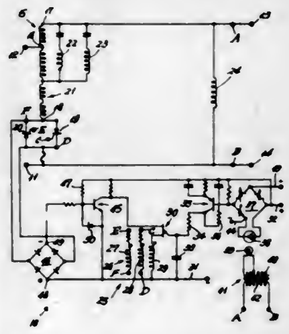
A frequency sensitive current limit for an AC generator is provided. The current supply to the generator field from a source synchronized to the generator frequency is sensed by a current transformer. An inductor coupled across the transformer produces a voltage dependent upon the value of the impedance of the inductor (which is frequency dependent) and the magnitude of the current. This voltage is compared against a reference to produce an error signal which is utilized to control the amount of excitation supplied to the generator field.

3,370,222
CONSTANT CURRENT POWER SUPPLY
Jan W. Haagen-Smit, San Gabriel, and Bohumil Polata, Redwood City, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed July 1, 1964, Ser. No. 379,594
12 Claims. (Cl. 323—4)



A constant current power supply is disclosed which may be accurately and continuously adjustable over a wide range of output current values. The constant current power supply has a variable impedance element and a load current sensing circuit connected in series with a load and a suitable source of current. The sensing circuit consists of two parallel branches, one branch providing for the selection of one of a plurality of constant impedances (including an infinite impedance or a open circuit) and the other a variable potential source and an impedance connected in series such that the potential drop across the impedance due to load current is in opposition to the variable potential source. The variable potential source provides for continuously varying the current over the entire range of current, the range being determined by the value of the selected impedance in the other branch. A feedback senses the difference in the aforementioned potentials and controls the impedance of the variable impedance element to maintain these potentials equal, thereby maintaining the current through the load constant.

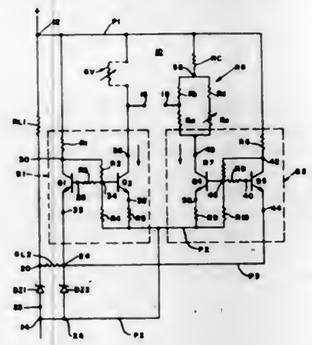
3,370,223
AUTOMATIC VOLTAGE REGULATOR
Alex Senetcen, Forestville, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed Nov. 27, 1964, Ser. No. 414,363
5 Claims. (Cl. 323—22)



An automatic A.C. voltage regulator for maintaining a substantially constant value of an output voltage in which the value of the output voltage is sensed and a signal

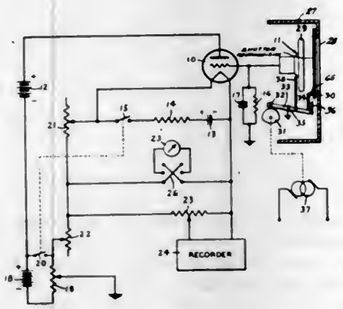
related to the value of the output voltage is used to control the value of the impedance of a shunt path connected across the input terminals by varying the conductivity of semiconductors in the path.

3,370,224
DIRECT CURRENT RESISTANCE BRIDGE CIRCUIT
Kenneth C. Merrell, Brea, and James H. Koegel, Placentia, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Oct. 7, 1965, Ser. No. 493,667
13 Claims. (Cl. 323—75)



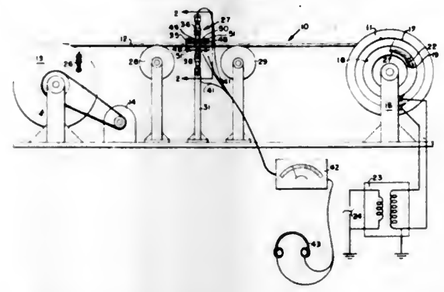
10. In a direct current resistance bridge including first and second input terminals and first and second parallel current paths between said first and second input terminals, energizing means for said bridge comprising constant current generator means providing a constant reference current flow in said first and second parallel current paths.

3,370,225
ELECTROMETER DEVICE FOR MEASURING THE STRENGTH OF ELECTRIC FIELDS
Ronald P. H. Winder, Lexington, Mass., assignor to International Paper Company, New York, N.Y., a corporation of New York
Filed Oct. 28, 1964, Ser. No. 407,122
6 Claims. (Cl. 324—32)



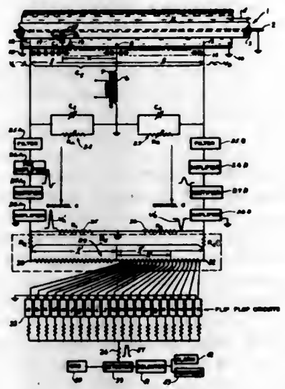
An electrometer device for measuring electric field strength in which an electrometer tube and a probe are mounted in a shielded housing. A shutter mechanism is periodically operated to expose the probe to external electric fields and thereby change the transconductance of the tube. When the shutter is closed the probe is grounded.

3,370,226
ULTRASONIC CABLE INSULATION TESTING APPARATUS AND METHOD
Alfred B. Widmer, Croton-on-Hudson, N.Y., assignor to Anaconda Wire and Cable Company, a corporation of Delaware
Filed July 20, 1966, Ser. No. 566,672
6 Claims. (Cl. 324—54)



In the continuous testing of electric cables for the detection of corona discharges within the insulation, a high voltage is applied between the conductor and shield of the cable while it is passed through a zone containing ultrasonic sound detectors.

3,370,227
APPARATUS TO MEASURE CONTINUOUSLY CORONA INCEPTION AND EXTINCTION VOLTAGES IN MOVING INSULATED CABLE CORES
George Bader, Metuchen, and Rafael Suarez, Avenel, N.J., assignors to General Cable Corporation, New York, N.Y., a corporation of New Jersey
Filed Sept. 20, 1966, Ser. No. 580,651
7 Claims. (Cl. 324—54)



Apparatus to measure and locate corona discharges generated in voids, gas-filled or empty spaces within the insulated layer of a cable, or in discontinuities in this insulation or its semi-conducting shields. This is accomplished by subjecting the cable insulation to a radial voltage stress which, if sufficiently high, will produce electrical discharges at the voids, spaces or discontinuities. These electrical discharges will produce transient voltage waves which are detected in a corona probe and then

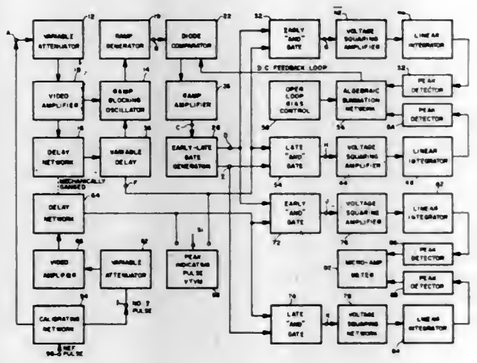
measured, localized and recorded with the equipment described while the cable is continuously moving through the apparatus.

3,370,228

TIME MEASUREMENT DEVICE ARRANGED TO LOCATE CENTERS OF ENERGY OF SPACED PULSES

Lawrence W. Mills, Orange County, Fla., assignor to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland

Filed Nov. 4, 1963, Ser. No. 321,153
11 Claims. (Cl. 324—68)



1. A system for locating the center of energy of a pulse of energy comprising, in combination:

(a) a triggered pulse generator having one input and first and second outputs, said pulse generator producing complementary output signals;

(b) first and second gates each having two inputs and one output;

(c) said energy pulse being coupled to one of said inputs of each of said first and second gates;

(d) said complementary output signals being respectively coupled to the other of said inputs of each of said first and second gates for controlling said gates;

(e) first and second energy indicating means respectively coupled to said first and second gates for respectively producing outputs indicative of the energy in said outputs of said first and second gates;

(f) comparing means coupled to said first and second energy indicating means for producing a DC output signal indicative of the energy difference of said outputs of said first and second energy indicating means;

(g) control means coupling said DC signal to said pulse generator for controlling the triggering time of said pulse generator so that the energy in said first gate output equals the energy in said second gate output, whereby said triggering time of said pulse generator indicates the center of energy of said energy pulse;

(h) said first and second energy indicating means each including a squaring amplifier whose voltage output is proportional to the square of the voltage input, which amplifiers are each serially coupled to a linear integrator with said outputs of said first and second gates being respectively coupled to said squaring amplifiers;

(i) said first gate being enabled so that a first portion of said energy pulse is coupled to said squaring amplifier of said first energy indicating means; and

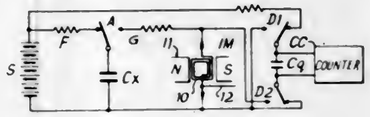
(j) said second gate being enabled so that a second portion of said energy pulse is coupled to said squaring amplifier of said second energy indicating means.

3,370,229

ELECTRICAL CAPACITANCE MEASURING METHOD AND APPARATUS WITH DIGITAL FORM INDICATION

Gerhart Lothar Hamburger, Hitchin, and Derek John Dean, Pottersbar, England, assignors to Sangamo Weston Limited, Enfield, Middlesex, England, a British company

Filed May 25, 1964, Ser. No. 369,989
17 Claims. (Cl. 324—60)



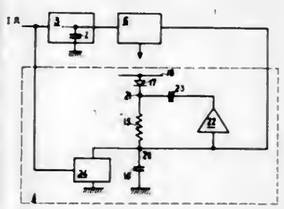
Method and apparatus for measuring electrical capacitance in which the capacitance is first charged to a given voltage and is then fully discharged through an integrating meter mechanism having a movable member which is displaced from an initial zero position to a position representing the current/time integral of the discharge current flow and in which such movable member is then returned to its initial position by means of a series of current pulses of known current/time integral value, the number of return pulses necessary being counted and used as a measure of the capacitance value. The metering mechanism is conveniently a torqueless moving coil measuring instrument. The return pulses are preferably derived by charging and discharging a capacitor of known value from the same potential source as that employed to charge the capacitance under measurement.

3,370,230

PULSE MEASURING SYSTEM

Georges Mirat, Bourg-La-Reine, Paul Mirat, Antony, and Yves Pichoff, Bourg-La-Reine, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed Oct. 4, 1963, Ser. No. 313,975
Claims priority, application France, Oct. 4, 1962, 911,232; Oct. 26, 1962, 913,641; Nov. 2, 1962, 914,277
2 Claims. (Cl. 324—68)



1. A system for measuring the maximum amplitude of a pulse including memory means for storing said pulse, generator means for producing in response to said pulse a ramp voltage which rises in substantially linear manner, auxiliary generator means for producing in response to said pulse a periodic voltage of stable frequency, means for comparing the amplitude of the stored pulse and ramp voltage and blocking said auxiliary generator means upon coincidence of amplitude, and means for counting the total number of periods which the auxiliary generator has been triggered, said generator means including a series circuit of a resistor and a capacitor through which a voltage source is connected to ground, a series circuit

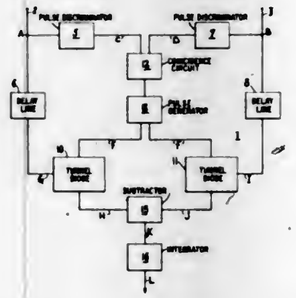
of an amplifier and a second capacitor associated in parallel with said resistor to produce a corrector component of current, a normally conducting switch shunting said first capacitor to ground, input circuit means for rendering said switch non-conducting for a predetermined time interval after the arrival of said pulse to be measured, and output circuit means joining the junction of said resistor and first capacitor to said comparing means.

3,370,231

TIME-AMPLITUDE CONVERTER

Robert van Zurk, Meylan, France, assignor to Commissariat à l'Energie Atomique, Paris, France

Filed Jan. 24, 1964, Ser. No. 340,068
Claims priority, application France, Feb. 13, 1963, 924,644
3 Claims. (Cl. 324—68)



1. A time-amplitude converter for producing an output signal having an amplitude proportional to a time interval defined by an initial pulse and a final pulse comprising:

a first pulse discriminator adapted to receive said initial pulse and produce in response thereto an output having a time duration equal to the maximum interval to be measured,

a second pulse discriminator adapted to receive said final pulse and produce in response thereto an output of short duration,

pulse generator means for producing a pulse in response to coincident outputs of said pulse discriminators,

a first and a second negative resistance diode arranged in parallel between ground and a source normally biasing said diodes to a first stable operating state,

first circuit means for applying the pulse generator means output pulse to bias said negative resistance diodes to a second operating state, subtractor means for combining in opposition the output voltages of said negative resistance diodes while in said second state,

second circuit means for delaying said initial pulse for a predetermined time interval and applying it to restore said first negative resistance diode to the first stable operating state,

third circuit means for delaying said final pulse for said predetermined time interval and applying it to restore said second negative resistance diode to the first stable operating state,

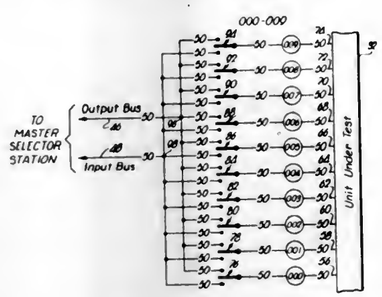
means connected to said subtractor means to integrate the combined negative resistance diode output voltages and produce a pulse having an amplitude proportional to the time period that said second negative resistance diode remains in its second operating state after said first negative resistance diode has been restored to its first operating state.

3,370,232

SWITCHING APPARATUS FOR VERIFYING THE RESISTIVE INTEGRITY OF ELECTRICAL WIRING SYSTEMS

Price D. Wickersham, Shawnee Mission, Kans., assignor to Xebec Corporation, a corporation of Missouri

Filed May 7, 1965, Ser. No. 453,924
9 Claims. (Cl. 324—73)



1. In a circuit testing system for use with a unit to be tested provided with test terminals having predetermined addresses, where a first test connection is to be made to a first selected terminal and a second test connection is to be made to a second selected terminal, switching apparatus for providing said test connections comprising:

a master selector station having a pair of connection points;

switching module means provided with a plurality of groups of terminal connection lines, said lines having addresses corresponding to said terminals;

means for coupling said lines with said terminals to associate each of said groups thereof with a corresponding set of said terminals;

first and second multiconductor buses extending from said station to said module means, the latter including switching devices coupled with said buses and respective groups, each of said devices being operable to couple its associated group with either of said buses;

said station being provided with first terminal selector means for establishing electrical continuity between any one of the conductors of said first bus and one of said connection points, and second, selectively operable terminal selector means for establishing electrical continuity between either any one of the conductors of said first bus or any one of the conductors of said second bus and the other of said connection points; and

control means coupled with said station and said module means for operating the same to couple the line having the same address as the first selected terminal to said one connection point, and to couple the line having the same address as said second selected terminal to said other connection point, whereby said test connections may be effected at said connection points.

3,370,233

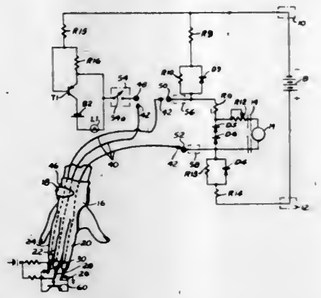
TEST APPARATUS FOR DETERMINING BETA AND LEAKAGE CURRENT OF AN IN-CIRCUIT OR OUT-OF-CIRCUIT TRANSISTOR

Oliver James Morelock, Millington, N.J., assignor to The Triplett Electrical Instrument Co., Bluffton, Ohio, a corporation of Ohio

Filed June 4, 1964, Ser. No. 372,459
2 Claims. (Cl. 324—158)

Test circuit for transistors comprising a D.C. source with resistors and diodes connected across the terminals thereof and a measuring instrument connected across

at least one of the diodes, probes for the collector and emitter of a transistor under test connected to the circuit with the resistors and diodes having symmetrically arranged between the points of connection of the probes to the circuit and the terminals of the D.C. source, the



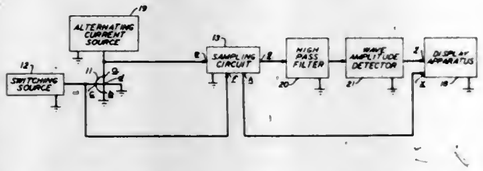
probes being on the tips of the fingers of a glove-like device and said device also including a probe for the base of the transistor under test for supplying voltage from the D.C. source to the base of the transistor under test.

3,370,234

APPARATUS FOR PRODUCING A REPLICA OF REPETITIVE WAVEFORMS HAVING UNDESIRED VOLTAGES SUPERIMPOSED THEREON

Benning Wentworth, Rockaway, N.J., assignor to Bell Telephone Laboratories Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 28, 1965, Ser. No. 490,833
7 Claims. (Cl. 324—158)



6. Apparatus for producing a replica of at least a portion of a recurring waveform that changes amplitude in a periodical manner at a frequency greater than a predetermined value and has superimposed thereon an undesired voltage that does not change amplitude with said waveform,

said apparatus comprising,

means for sampling each of said recurrent waveforms with samples taken at later times in successive ones of said waveforms and producing each of said samples as an output until the next of said samples is taken,

said later times in said successive waveforms increasing at time intervals that cause said sampling means output attributable to said undesired voltages to have a maximum frequency less than said predetermined value,

high pass filter means connected to said sampling means and having a cut-off frequency at substantially said predetermined value,

wave amplitude detecting means connected to said high pass filter means, and

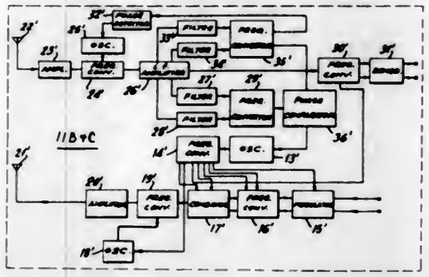
utilization means connected to said wave amplitude detecting means.

3,370,235

DUAL PILOT FREQUENCY-CORRECTING TERMINAL STATIONS FOR SATELLITE REPEATER SYSTEM

Masahisa Miyagi, Tokyo, Japan, assignor to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan

Filed Sept. 10, 1965, Ser. No. 486,372
Claims priority, application Japan, Sept. 11, 1964, 39/51,966
3 Claims. (Cl. 325—4)



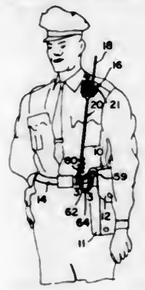
1. In a communication network having a plurality of ground based stations, each including a multifrequency carrier source, and a satellite repeater, the improvement for ameliorating the effects of Doppler shift comprising: means at one ground based station for deriving from said multifrequency carrier source and transmitting from said station at least two pilot signals; means at each ground based station for receiving and extracting said pilot signals; means at each ground based station save said one for deriving from the respective multifrequency carrier sources and transmitting from said stations at least two local pilot signals; means at each ground based station save said one for receiving and extracting the local pilot signals transmitter therefrom and looped through said repeater; comparison means, at each ground based station save said one, coupled to said pilot signal receiving and extracting means for deriving information on the Doppler shift of said station's signal; and means coupled between said comparison means and said multifrequency carrier source for varying the output thereof to minimize the variation in frequencies appearing at the satellite repeater.

3,370,236

RADIO EQUIPMENT WITH CHEST MOUNTED SPEAKER-MICROPHONE ASSEMBLY

Robert H. Walker, Morton Grove, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Jan. 30, 1967, Ser. No. 612,530
9 Claims. (Cl. 325—16)



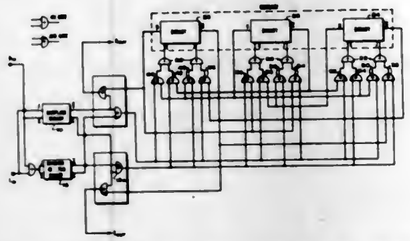
A portable radio unit includes a housing containing a speaker and a microphone and an antenna supported on the housing. The unit is removably attached to and maintained in position on the chest area of a person's clothing by a detachable connector. A unit containing receiving and transmitting equipment is mounted onto the person's belt and is connected to the speaker and the microphone by a cable having a tensioned section to maintain the cable in a fixed position against the person's clothing.

3,370,237

COUNTING CIRCUIT EMPLOYING THREE SWITCHING DEVICES INTERCONNECTED BY PARTICULAR LOGIC CIRCUIT FOR OPERATION IN PREDETERMINED SEQUENCE

Ralph R. Reiser, San Jose, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed July 1, 1965, Ser. No. 468,900
13 Claims. (Cl. 328—41)



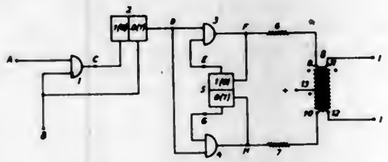
A gating circuit connects three binaries for division by five to provide a dual input counting circuit in which each of the binaries has the same output waveform whether the logic of the counting circuit is advanced in a forward or a backward direction. Two more binaries are connected to the dual input of this counting circuit to provide a reversible decade.

3,370,238

ARRANGEMENT FOR CONVERSION OF UNIPOLAR PULSES INTO BIPOLAR ONES

Oskar Evert Lampa, Hagersten, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed Oct. 7, 1965, Ser. No. 493,840
Claims priority, application Sweden, Oct. 26, 1964, 12,864/64
1 Claim. (Cl. 328—57)



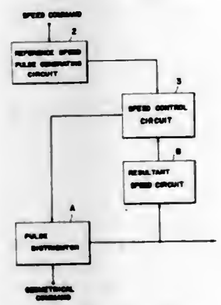
1. An arrangement for stabilizing the time positions of unipolar pulses in a pulse train and for conversion of said unipolar pulses into bipolar pulses after the stabilizing, said arrangement comprising a first AND-circuit, a source giving unipolar pulses and a source giving clock pulses, one input of said AND-circuit being connected to said unipolar pulse source, a second input of said AND-circuit being connected to said clock pulse source, and the output of said AND-circuit being connected to one trigger input of a first bistable switch circuit, a second trigger input of said first bistable switch circuit connected to said clock pulse source, a second and a third AND-circuit, each of said second and third AND-circuits having a first input connected to the output of said first bistable switch circuit and a second input connected to respective outputs of a second bistable switch circuit, respective trigger inputs of said second bistable switch circuit being connected to respective outputs of said second and third AND-circuits, each output of said second and third AND-circuits also being respectively connected to a different end of a first winding of a transformer, said winding being provided with a centre tapping and said transformer being provided with a second winding, said second winding being an output winding for the bipolar pulses.

3,370,239

NUMERICAL CONTROL SYSTEM FOR COMMAND SPEEDS OF TRI-DIMENSIONAL DISPLACEMENTS

Susumu Seki, Kokubunji-machi, Yuichiro Oya, Kodaira-shi, and Hirokazu Ando, Totsuka-machi, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan

Filed Sept. 15, 1964, Ser. No. 396,660
Claims priority, application Japan, Sept. 26, 1963, 38/50,742
1 Claim. (Cl. 328—155)



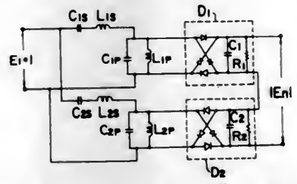
A numerical control system for the control of the command speed of tridimensional replacement of an object, for instance, but not limited to, the cutting operation in a machine tool. A reference speed pulse train is established which is proportional to a numerical value, corresponding to the speed of the object, and is compared to a resultant speed pulse train, proportional to the speed of displacement of the object. The latter is controlled so as to decrease the difference between the two pulse trains.

3,370,240

FREQUENCY DISCRIMINATOR USING FOUR TUNING CIRCUITS

Yoshio Kageyama and Yasusuke Katsuda, Yokohama-shi, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan

Filed Oct. 16, 1964, Ser. No. 404,258
Claims priority, application Japan, Oct. 17, 1963, 38/54,846
2 Claims. (Cl. 329—112)

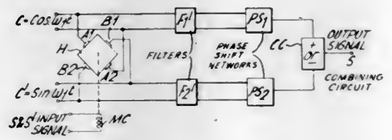


A frequency discriminator which uses four tuning circuits. Each of these consists of a series connection of a series tuning circuit and a parallel tuning circuit and operates on a frequency tuned to one of two specific fre-

quencies. There also are present two detector circuits to produce outputs which correspond to these two specific frequencies and which are connected to each other in parallel on their series tuning circuit sides. Their two parallel circuit tuning circuits are connected to the respective detector circuits which are selected so that a parameter θ_4, indicating the ratio of the difference of the two specific frequencies from a center frequency, and another parameter a, determining the type of each series connection, have the relationship expressed by

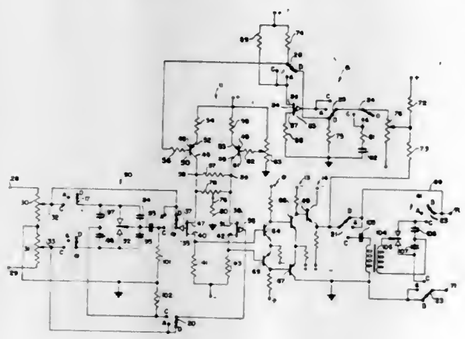
$$4a\theta_4^2=1$$

3,370,241
HALL EFFECT MULTIPLYING ARRANGEMENT
Wolja Saraga, Orpington, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Oct. 22, 1964, Ser. No. 405,897
Claims priority, application Great Britain, Oct. 25, 1963, 42,228/63
4 Claims. (Cl. 329—200)



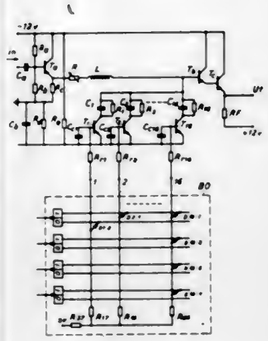
Hall effect arrangements in which two electrode pairs of a symmetrical Hall plate are utilized as common input/output electrodes, thereby enabling two multiplying operations to be performed independently but simultaneously: the two multiplying operations can be utilized for modulation and demodulation purposes.

3,370,242
TRANSISTOR AMPLIFIERS EMPLOYING FIELD EFFECT TRANSISTORS
Franklin F. Offner, Deerfield, Ill., assignor to Beckman Instruments, Inc., a corporation of California
Filed June 25, 1963, Ser. No. 290,413
13 Claims. (Cl. 330—9)



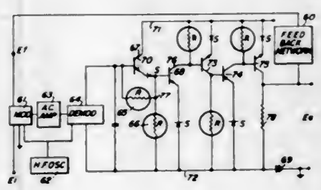
A transistorized common mode rejection type differential amplifier having a pair of current control means, one in series with the current amplifying terminal of each of two transistors of the differential amplifier and resistive means providing a current path between the current amplifying terminals of the two transistors.

3,370,243
CIRCUIT ARRANGEMENT FOR CONTROLLING A VOICE-FREQUENCY SPECTRUM BY MEANS OF BINARY SIGNALS
Burghardt Hermann Josef Vollmer, Jakobsberg, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Sept. 9, 1963, Ser. No. 307,433
Claims priority, application Sweden, Sept. 17, 1962 10,006/62
3 Claims. (Cl. 330—21)



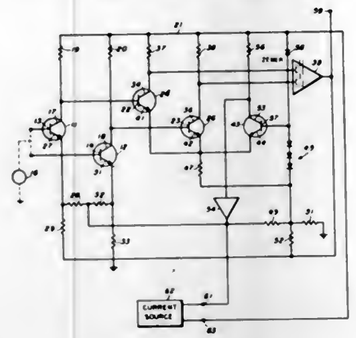
There is disclosed the format circuits of a formant vocoder. Each of the formant circuits includes an inductor connected between input and output terminal means. Connected to the junction of the inductor and the output terminal means are a plurality of tuning capacitors. Connected to each tuning capacitor is a base-operated transistor switch. Each transistor base is connected to an output of a binary decoder. The inputs to the decoder receive binary-coded combinations of signals. Therefore, a resonant circuit is established which includes the inductor and a capacitor selected in accordance with the received binary coded combination of signals.

3,370,244
TRANSISTOR AMPLIFIER TEMPERATURE STABILIZATION CIRCUITS
John W. Higginbotham, Bel Air, Md., assignor to Martin-Marietta Corporation, a corporation of Maryland
Application May 15, 1963, Ser. No. 280,643, now Patent No. 3,214,678, dated Oct. 26, 1965, which is a division of application Ser. No. 756,920, Aug. 25, 1958, now Patent No. 3,105,198, dated Sept. 24, 1963. Divided and this application Mar. 24, 1965 Ser. No. 449,916
3 Claims. (Cl. 330—23)



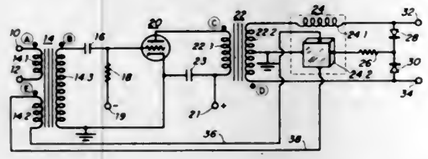
This disclosure describes a number of transistorized circuits in which the transistors are effectively temperature stabilized so that they will operate within the linear portion of their operating characteristics. A resistor and a stabistor are series connected between the base and emitter electrodes of each transistor to be so stabilized.

3,370,245
DIFFERENTIAL AMPLIFIER WITH COMMON MODE REJECTION
William G. Royce and David N. Petersen, San Diego, Calif., assignors, by mesne assignments, to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 22, 1964, Ser. No. 398,277
4 Claims. (Cl. 330—30)



The present invention relates to a differential amplifier and more particularly to a differential amplifier with a high common mode voltage rejection factor. The common mode voltage rejection is accomplished by means of feedback to differentially connected amplifier stages. Moreover, a supply source and a single-ended output are referenced to the common mode rejection network.

3,370,246
ALTERNATING CURRENT POWER CONTROLLER
Donald F. O'Brien, 55 Fairview Ave., Watertown, Mass. 02172
Filed Mar. 19, 1965, Ser. No. 441,210
11 Claims. (Cl. 330—102)

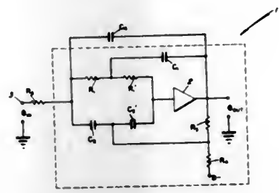


A constant current device for controlling the power applied to a load utilizing a Hall effect device to sense the instantaneous voltage and instantaneous current applied to the load. The output of the Hall effect device is a signal voltage that is proportional in magnitude to the instantaneous power (the product of voltage times current) applied to the load, the sense of which is utilized in a feedback circuit that is connected to and is 180° out of phase with the input signal.

3,370,247
HARMONIC NOTCH FILTER
Benjamin F. Hoffman, Hyattsville, and Ronald W. Carruthers, Sr., Baltimore, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed July 24, 1964, Ser. No. 385,560
9 Claims. (Cl. 330—109)

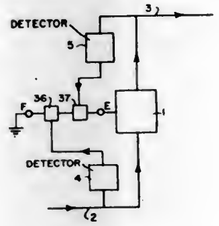
1. The combination in a harmonic notch filter for filtering out undesired harmonics from suppressed carrier control signals, comprising

a twin T notch filter having a resistive portion and a reactive portion,
a unity gain amplifier connected to the output of said twin T notch filter,
a resistor connected to the input of said twin T notch filter for providing a relatively high input impedance at frequencies above the notch frequency,
a first capacitor connected to the output of said amplifier and to the resistive portion of said twin T notch filter,
a first resistor connected to the output of said amplifier,



a second resistor connected in series with said first resistor,
means for providing a conductive path between the junction of said first and second resistors, and the reactive portion of said twin T notch filter,
a ground line for providing an electrical ground at the input and output of said harmonic notch filter, and
a second capacitor connected between the input of said twin T notch filter and the output of said amplifier, whereby said harmonic notch filter will introduce very little phase lag to input signals at low frequencies.

3,370,248
DISTORTION REDUCING CIRCUIT
Alexander Peter Treu, Ottawa, Ontario, and Edward E. Pascal, Chomedey, Quebec, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Nov. 9, 1964, Ser. No. 409,632
15 Claims. (Cl. 330—149)

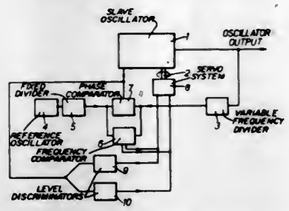


This invention is a circuit for amplifying a signal while cancelling any distortion caused by the stage without requiring total signal feedback. A sample of the input signal is subtracted by passive circuit elements such as by transformer, from a sample of the output signal. Any difference, which amounts to distortion caused by any non-linearity within the stage is applied the control element in the active valve within the stage, thus remodulating the signal traversing the stage during amplification in such direction as to cancel the effects of such non-linearity.

3,370,249
OSCILLATOR TUNING ARRANGEMENTS

David J. Martin, Cowplain, England, assignor to The Plessey Company Limited, Ilford, England, a British company

Filed Aug. 25, 1965, Ser. No. 482,579
Claims priority, application Great Britain, Sept. 4, 1964, 36,431/64
3 Claims. (Cl. 331—11)

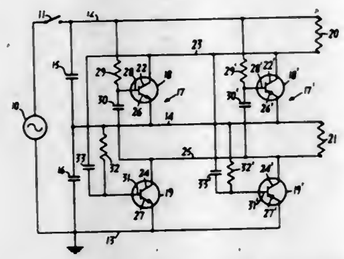


An oscillator tuning arrangement having frequency and phase comparators for comparing the frequencies and phase of slave and reference oscillator outputs, the output from the phase comparator being fed to voltage level discriminators which respond to effect coarse tuning of the slave oscillator to keep the phase relationship between the oscillator outputs within predetermined limits.

3,370,250
ALTERNATING CURRENT FREQUENCY CONVERTER

Cecil Paul Porterfield, Brecksville, and George Andrew Kappenhagen, Parma, Ohio, assignors to The Ohio Crankshaft Company, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 27, 1964, Ser. No. 406,862
1 Claim. (Cl. 331—49)



In the particular embodiment of the invention described herein, two transistor multivibrators energized from the same alternating current source through a capacitor divider circuit oscillate at a frequency greater than that of the source during opposite halves of the alternating current cycle, respectively. Each side of each multivibrator is connected in parallel to the corresponding side of the other multivibrator and to a load element so that two load elements are energized at high frequency during the complete alternating current cycle.

3,370,251
PLURAL OSCILLATORS WITH A CIRCUIT TO IDENTIFY A MALFUNCTIONING OSCILLATOR

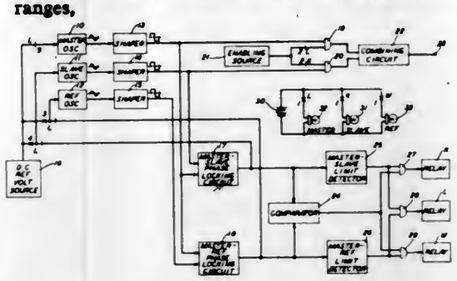
Robert L. Overstreet, Jr., Burlington, N.C., assignor to Bell Telephone Laboratories, Inc., Berkeley Heights, N.J., a corporation of New Jersey

Filed Dec. 9, 1966, Ser. No. 600,600
4 Claims. (Cl. 331—55)

1. In a combination comprising a master-oscillator and first and second additional oscillators normally responsive to first and second phase-locking circuits, respectively, to phase lock said additional oscillators to said master-oscillator,

a comparator connected to said phase-locking circuits to produce an output when the phase-locking circuit outputs differ by a predetermined amount,

first and second limit detectors connected to said first and second phase-locking circuits, respectively, to produce outputs when the outputs of their phase-locking circuits occur outside of predetermined ranges,



first means connected to said first detector and said comparator to indicate the simultaneous occurrence of their outputs,

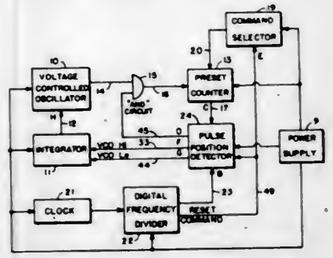
second means connected to said second detector and said comparator to indicate the simultaneous occurrence of their outputs, and

third means connected to both of said detectors to indicate the simultaneous occurrence of their outputs.

3,370,252
DIGITAL AUTOMATIC FREQUENCY CONTROL SYSTEM

James R. Zoerner, Cincinnati, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed July 11, 1966, Ser. No. 564,347
4 Claims. (Cl. 331—18)

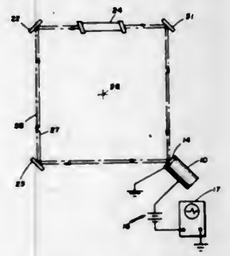


A voltage controlled oscillator is controlled by an integrator. At the initiation of a cycle of operation a time gate is set up and a counter begins to count the oscillator output pulses in an approach to a pre-set number or count. A two-level reference pulse is also initiated. Ideally, the count is satisfied, that is the oscillator reaches the pre-set count, at the instant of the transition in the reference pulse. When the oscillator is fast, a first coincidence device or "and" gate, to which the reference pulse and the output of a first flip flop, set by a count satisfied indication, are applied, measures the width of the high level portion of the reference wave which remains after reception of the count satisfied pulse and before the transition. The first coincidence device is disabled by the transition. When the oscillator is slow, a second coincidence device or "and" gate, to which the inverted reference pulse and the output of a second flip flop, set by the reference wave form, are applied, measures the width of the high level portion of the inverted reference wave which follows the transition and precedes the arrival of the count satisfied pulse. An additional output from the first flip flop is used to disable the second coincidence gate when the count satisfied pulse arrives. The pulse output of the first gate is applied to the integrator to slow down the oscillator and the inverted pulse output of the second coincidence gate is applied to the integrator to speed up the oscillator. The initiation of the reference wave form also sets up the time gate.

3,370,253
INTEGRAL MIRROR-PHOTODETECTOR STRUCTURE

Bernard V. Kessler, Takoma Park, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Mar. 31, 1964, Ser. No. 356,331
6 Claims. (Cl. 331—94.5)

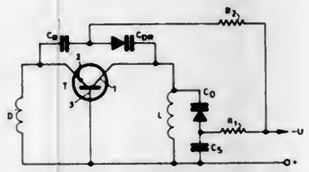


A combination mirror and photosensor for use in an optical maser comprising superposed layers, one being of highly reflective material and the other being of photoelectric material. That part of the incident light which is transmitted through the mirror causes photoelectric action in the photosensor which is used as a measure of the intensity of the incident radiation.

3,370,254
TRANSISTORIZED VOLTAGE TUNABLE OSCILLATOR

Hans Keller, Freiberg im Breisgau, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed July 25, 1966, Ser. No. 567,414
Claims priority, application Germany, Aug. 3, 1965, J 28,707
4 Claims. (Cl. 331—117)

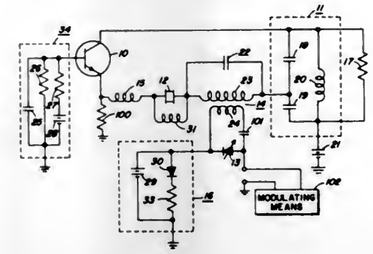


The output amplitude of a transistor oscillator, tuned by a voltage variable capacitor diode, is maintained constant by a feedback path including, in one form, a fixed capacitor coupled between the emitter and a first junction, to which the control voltage is coupled, between a series connected fixed resistor and a first variable capacitor diode forming part of a parallel inductor-capacitor resonant circuit, and, in another form, a fixed capacitor connected in series with a second variable capacitor diode coupled between the emitter and collector, the junction of these two latter components being coupled to the first junction.

3,370,255
FM SYSTEM USING CRYSTAL OSCILLATOR

Harley P. Brower, Cedar Rapids, and Darrell F. Hennessey, Marion, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Oct. 18, 1965, Ser. No. 497,393
8 Claims. (Cl. 332—26)

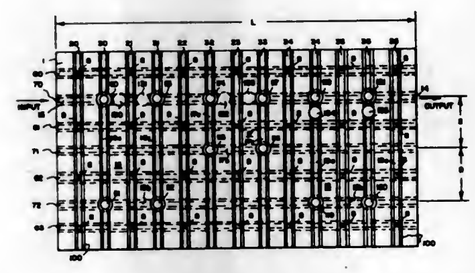


A crystal-controlled frequency modulator oscillator having a greater frequency swing from the nominal center frequency than obtainable by prior art circuits. The circuit includes, in series arrangement, an electron valve, a crystal, a tuned circuit loading means, variable capacitive means and inductive means. The overall reactance of the tuned circuit loading means, the inductive means, and the variable capacitive means, at the nominal center frequency is inductive in nature and equal to X_L. To maintain oscillation the crystal must operate below its series resonant frequency in the capacitive reactance operating portion of its response curve and, at nominal center frequency, must have a capacitive reactance $X_C=X_L$. The variable capacitor is coupled to the main series circuit through a step-up transformer in order to effectively pull the frequency of the relatively large reactance crystal.

3,370,256
VARIABLE DELAY LINE

John W. Baur and Beuford E. Tindal, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York

Filed Sept. 14, 1964, Ser. No. 396,266
5 Claims. (Cl. 333—31)



A variable length signal delay line wherein transit time of a signal through the line may be varied.

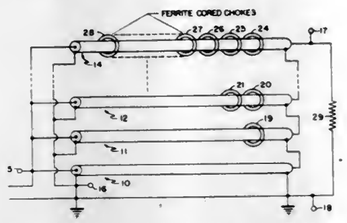
3,370,257
WIDE BAND IMPEDANCE TRANSFORMER

Herbert C. Spierling, Loveland, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Oct. 27, 1964, Ser. No. 406,685
2 Claims. (Cl. 333—33)

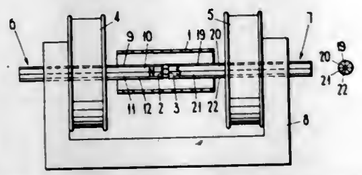
This is a wide band impedance transforming device comprising a plurality of coaxial transmission lines. The

lines are connected in parallel at the input end, the outer conductors being there connected to ground and the inner



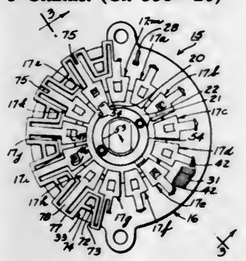
conductors being there connected to an ungrounded input terminal.

3,370,258
METHODS OF AND APPARATUS FOR THE PRODUCTION OF MAGNETIC FIELDS USING SUPERCONDUCTING MAGNETS
Michael Williams, Watford, England, assignor to The General Electric Company Limited, London, England, a British company
Filed Dec. 12, 1966, Ser. No. 600,956
Claims priority, application Great Britain, Dec. 10, 1965, 52,566/65
6 Claims. (Cl. 335—216)



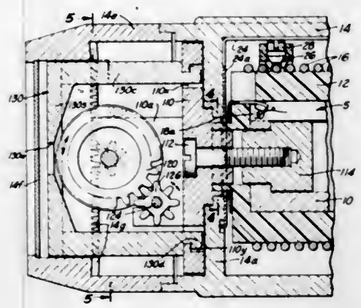
An intense magnetic field is produced within a tube of superconductive material by arranging flux-carrying separable core parts along the tube axis, with their inner ends together, cooling the tube to the superconducting state and then drawing the core parts outwards so as to extend the magnetic flux within the tube interior. The core withdrawal may be effected by balanced withdrawal of constituent core parts, and the cores may be provided by an electromagnet.

3,370,259
MULTIPLE CONTACT ROTARY SWITCH
Alarico A. Valdettaro, Joe G. Badger, and Stanley R. Meadows, Bloomington, Ind., assignors to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana
Continuation of application Ser. No. 765,138, Oct. 3, 1958. This application Jan. 10, 1964, Ser. No. 337,038
5 Claims. (Cl. 336—20)



3. In a multiple contact rotary switch of the type having a stator member of insulating material provided with a central opening therein and a rotor member of insulating material rotatably mounted in said central opening and carrying a conductive wiper, an integral, stamped, stator contact and inductance increment assembly in the form a flat metallic member supported by said stator member and having a plurality of stator contact portions projecting generally radially, said stator contact portions having inner stator blade portions extending into said central opening in said stator member and arranged to be selectively engaged by said wiper as said rotor is rotated, said flat metallic member also having a plurality of inductance increment portions connected to the outer ends of said radially extending stator contact portions by means of flexible hinge portions, whereby said inductance increment portions may be individually adjusted by bending the same out of the plane of said flat metallic member to vary the value of inductance between the corresponding stator contact portions.

3,370,260
INDICATING VARIABLE RESISTANCE
Wilbur T. Hardison and Wylie A. Stout, Riverside, Calif., assignors to Bourns, Inc.
Filed Apr. 26, 1965, Ser. No. 450,964
9 Claims. (Cl. 338—196)

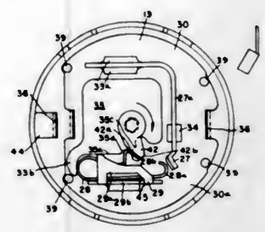


A variable resistor of the type comprising a multiple-turn helical resistance element, a contact movable along the resistance element and slider means to carry and move the contact, the preceding element and means being housed in a manually-rotatable shell means which concurrently serves to effect movement of the slider means and contact, all of the foregoing structures being supported at the front face of a panel by rigid supporting means secured at a rear end thereof in an aperture in the panel, with terminal connections to the element and contact passing through the aperture within the supporting means, the resistor comprising at the front thereof digital turns-counting and indicating means affixed to the front of the supporting means by locking means and the turns-counting and indicating means comprising gear means driven by a gear included in the rotatable shell means, whereby with manual rotation of the shell means the movable contact is traversed around and along the helical resistance element and concurrently the gear means drives a turns-counting and indicating set of wheels providing a visible easily read digital indication of the extent of movement of the contact along the element and hence of the decimal fraction of the total resistance of the element interposed between two of the terminals of the resistor.

3,370,261
ELECTRICAL SWITCH AND COMBINATION ELECTRICAL RESISTOR AND SWITCH
John D. Van Benthuysen, Elkhart, Ind., assignor to CTS Corporation, Elkhart, Ind., a corporation of Indiana
Filed Jan. 4, 1965, Ser. No. 422,935
20 Claims. (Cl. 338—198)

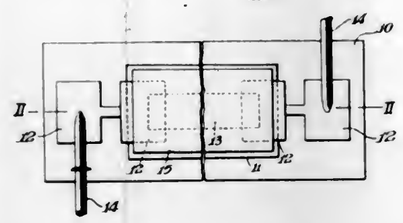
A component such as an electrical switch having a guide

means and an entire contactor supported by the guide means and slideable from a first position to a second posi-



tion as a cam engages and shifts a cam follower connected to the contactor.

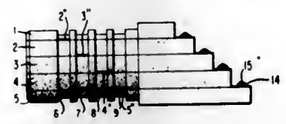
3,370,262
ELECTRICAL RESISTOR
Robert S. Marty, Nashua, N.H., and John H. Fabricius, Stamford, Vt., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed May 27, 1963, Ser. No. 283,176
5 Claims. (Cl. 338—309)



1. In an electrical resistor, an inert electrically non-conductive base having a coefficient of expansion of over 6×10^{-6} cm./cm./° C. over a temperature range of from 27° C. to 1100° C., a fired-on continuous inorganic homogeneous electrical non-conducting first layer on a surface of said base having a lower temperature coefficient of expansion than said base, a fired-on electrically resistive metal film on said first layer having a firing temperature not greater than said first layer with spaced electrodes in electrical connection with said film, and a fired-on continuous inorganic homogeneous electrically non-conducting second layer overlying said film and adjacent portions of said electrodes and joined to said first layer in areas of contiguity, said second layer having a firing temperature not greater than said film and a temperature coefficient expansion not greater than first layer and said base.

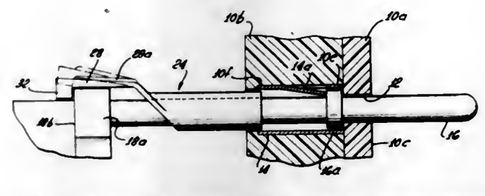
3,370,263
SLIPRING ASSEMBLY AND METHOD OF MAKING
Rainer Schreieck, Stuttgart-Feilbach, Wurttemberg-Baden, Germany, assignor to Teldix Luftfahrt-Ausrustungs GmbH, Heidelberg-Wieblingen, Germany
Filed Feb. 11, 1966, Ser. No. 526,861
Claims priority, application Germany, Feb. 11, 1965, T 27,971
8 Claims. (Cl. 339—5)

1. A slipring assembly comprising a cylindrical body comprised of a lamination of a plurality of insulating plates each having first electrically conductive means on one surface thereof and a plain plate of insulating material, each of said conductive means comprising a strip of conductive material extending from one end of the respective plate on which said strip is located and intersecting the cylindrical surface of said body in spaced relation to the other points of intersection of each of the other strips with said cylindrical surface along the length of



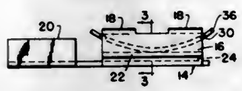
said cylindrical surface, a plurality of circumferential grooves in said cylindrical surface, each of which intersects one of said conductive strips, second electrically conductive means located in each of said grooves and electrically connected to said first conductive means in each of said grooves.

3,370,264
ELECTRICAL CONNECTOR CAPTIVATED TERMINAL RELEASE TOOL
Joseph F. Kelly, Huntsville, Ala., and William R. Thomas, Phoenix, Ariz., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed July 1, 1966, Ser. No. 562,372
3 Claims. (Cl. 339—217)



The disclosure is drawn to a combination connector and tool. The tool is permanently attached to the connector, but slidable thereon. The connector is a pin type connector which has two axially spaced shoulders. A cylindrical sleeve is slidable axially on the pin between the shoulders. One shoulder fits between a leaf spring tang in an insulator body opening and insulator flange. The sleeve is, therefore, slidable into the insulator body to disengage the leaf spring tang so that the connector may be removed from the insulator. Acting as a special feature of the invention, a cantilever type leaf spring is provided at one end of the sleeve to hook in front of or behind one shoulder to hold the sleeve in a position such that it will not disengage the spring tang.

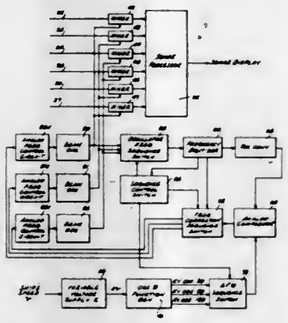
3,370,265
ELECTRICAL CONNECTOR
Quentin Berg, % Berg Electronics, Inc., New Cumberland, Pa. 17070
Filed May 9, 1966, Ser. No. 548,478
31 Claims. (Cl. 339—256)



13. A contact member for an electrical connector comprising an elongated socket formed from relatively malleable sheet metal of high electrical conductivity and having a base, side walls, and a top, a longitudinally bowed elongated spring member formed from high yield strength

metal, said spring member being confined within said socket with end portions thereof slidably abutting said top, locating means for limiting axial movement of said spring member in said socket, the central portion of said spring member engaging a portion of said socket so that said spring member is confined under spring tension between said top and said portion of said socket, said spring member having a decreasing width to each side of its center so that the spring member is uniformly and elastically deformed when a pin contact element is fully inserted in the socket, and means for connecting said contact member to a circuit element whereby upon insertion of the pin contact element in said socket said spring member holds the contact element in intimate contact with said base so as to form an electrical connection therebetween.

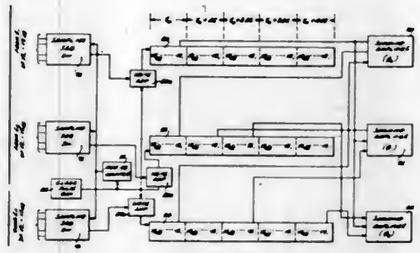
3,370,266
FREQUENCY SYNTHESIZING SYSTEM
Fausto V. Taddeo and Donald W. Baker, Anaheim, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Sept. 13, 1965, Ser. No. 486,623
15 Claims. (Cl. 340—3)



A system for generating a plurality of frequencies which are individually controlled as a function of a plurality of control signals. The difference between the frequencies of the plurality of oscillators and a predetermined frequency are sequentially sampled by a frequency digitizer which in association with a digital to analog converter provides a series of analog signals representative of the frequencies of the oscillators relative to the predetermined frequency. The control signal related to a particular oscillator and the portion of the analog signal representing the output frequency of that particular oscillator relative to the predetermined frequency as compared in a comparator. The output signal of the comparator is synchronously switched to the oscillators to adjust the output frequency thereof to nullify any error. The comparator is time shared with each one of the plurality of oscillators and control signals in such a manner that the output frequencies of the oscillators are accurately and precisely controlled; each one of them producing an accurate and stable frequency within prescribed limits.

3,370,267
BEAM FORMING SYSTEM
Harry J. Barry, Fullerton, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 502,932
16 Claims. (Cl. 340—6)

A beam forming system in which output signals of a plurality of staves of a receiving array are sequentially sampled and supplied to a tapped magnetostrictive delay line. The location of the taps along the line correspond to the phase delay required to provide phase coherency between the output signals of a selected number of staves used to form a given beam. The signals applied to each of the output taps of the delay line are coupled to a single multi-input summing amplifier through a side lobe



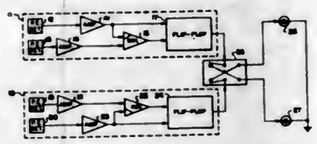
suppression resistor shading network. The delay line is sequentially supplied with samples of the output signals of the plurality of staves, which samples advance therethrough at a selected clock pulse rate so that the output signal from the summation amplifier is a sequence of consecutively ordered summed beam samples.

3,370,268
METHOD OF PROCESSING GEOLOGICAL AND GEOPHYSICAL DATA
Milton B. Dobrin, Pasadena, Calif., and Arthur L. Ingalls, Ann Arbor, Mich.; said Dobrin assignor, by mesne assignments, to United Geophysical Corporation, Pasadena, Calif., and said Ingalls assignor to Conductron Corporation, Ann Arbor, Mich., both corporations of Delaware
Filed June 24, 1964, Ser. No. 377,668
23 Claims. (Cl. 340—15.5)



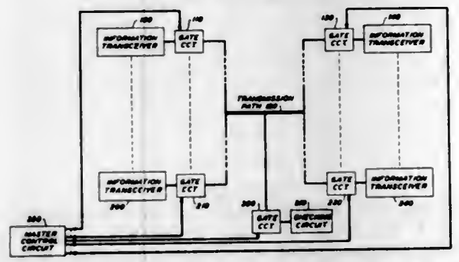
1. A method of processing seismic data to isolate information on stratification of the earth which comprises, recording waves reflected from such stratification, such waves being generated by a series of energy sources spaced at intervals along a line at the earth's surface, incorporating the signals from these reflected waves on a transparency to create a series of seismic signals delineated by light and dark lines, utiliizng said transparency as a diffraction source in a two-dimensional optical system, utilizing a spatial filter in said optical system to suppress components having unwanted frequencies and unwanted directions of alignment in the transparency on which the seismic signals are recorded in said system, and reconstructing the diffraction plane into an image carrying components having the frequencies and directions which remain subsequent to filtering.

3,370,269
LASER NAVIGATIONAL AID
Norman H. Jasper, Panama City, Fla., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 20, 1964, Ser. No. 361,620
7 Claims. (Cl. 340—29)



A navigation system having a laser which directs its beam down a course intended to be traveled by a vehicle. A sensing and data processing apparatus located on said vehicle senses said laser beam and determines and indicates the direction and distance said vehicle deviates therefrom, as it travels down its intended course.

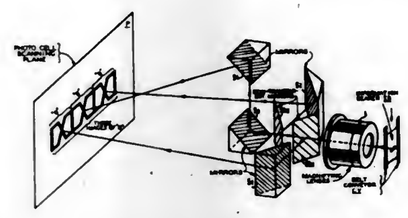
3,370,270
INFORMATION CHECKING SYSTEM
Orfeo Cesareo, Washington Township, Bergen County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 10, 1963, Ser. No. 272,110
12 Claims. (Cl. 340—146.1)



1. Apparatus for supplying signals from a transmitter at certain specified intervals to one at a time of a plurality of receivers, said apparatus comprising a transmission path having one end connected to said transmitter and having the other end connectable to said receivers one at a time, a single circuit for checking but not adding in any way to the signals supplied from said transmitter to any of said receivers, and means for coupling only the input of said circuit to said path during a checking interval in which signals are not being supplied from said transmitter to any of said receivers, said means for coupling being adapted to directly connect said circuit in sequence to those receivers to which signals have been supplied from said transmitter thereby to determine whether or not signals registered in said receivers are accurate representations of the signals transmitted thereto.

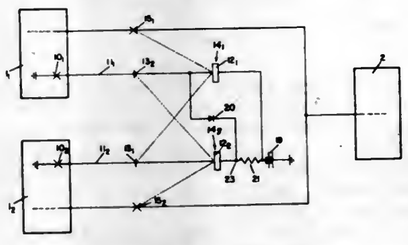
3,370,271
READING-DEVICE FOR AN INFORMATION BEARER
Christiaan Johannes van Dalen, Leidschendam, and Hendrik Cornelis Anthony van Duuren, Wassenaar, Netherlands, assignors to De Staat der Nederlanden, ten deze vertegenwoordigd door de Directeur-Generaal der Posterijen, Telegrafie en Telefonie, The Hague, Netherlands
Filed Nov. 1, 1962, Ser. No. 234,745
Claims priority, application Netherlands, Nov. 3, 1961, 271,032
13 Claims. (Cl. 340—146.3)

The invention relates to a reading-device for an information bearer provided with rows of characters having code-elements arranged in n rows and m columns, in which the information bearer moves with respect to the scanners in the direction of said rows, the scanning, at



least of the elements in one column, occurring simultaneously and with a tolerance in the direction of the columns.

3,370,272
RELAY DIODE PREFERENCE LOCK-OUT CIRCUIT
Robert Kenedi, Ottawa, Ontario, Canada, assignor to Northern Electric Company, Limited, Montreal, Quebec, Canada
Filed Oct. 29, 1963, Ser. No. 319,886
6 Claims. (Cl. 340—147)

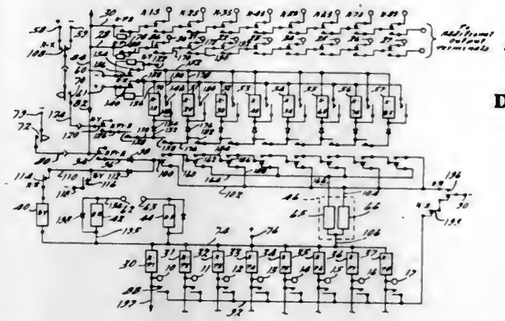


1. A circuit for connecting one of a first and second terminals to a common terminal, wherein said first and second terminals develop a reference potential when requesting connection to said common terminal, which comprises, a relay for each said first and second terminals, a first pair of contacts operated by each respective relay for connecting the respective terminals to said common terminal, a current source for energizing each said relay upon establishment of said reference potential by its respective terminal, and priority establishing means for one of said first and second terminals comprising, reference potential shunting means for inhibiting current supply by said current source to the relay of the terminal of lower priority when said terminal of higher priority is developing its reference potential.

3,370,273
SINGLE RELAY PROGRAMMER
Helmut Falk, Lake Orion, Mich., assignor, by mesne assignments, to Dura Corporation, a wholly owned subsidiary of Walter Kidde & Company, Inc., Oak Park, Mich., a corporation of New York
Continuation of application Ser. No. 351,450, Mar. 12, 1964. This application June 13, 1966, Ser. No. 562,055
8 Claims. (Cl. 340—168)

1. A stepping control system comprising:
a plurality of two position stepping relay means **50–57** arranged in succession,
a plurality stepping circuit means **20–27** controllable by said stepping relay means and each stepping circuit means providing a plurality of selectable programs,

a plurality of program relay means 30–37 for providing input signals to said control system to select one of the plurality of selectable programs,

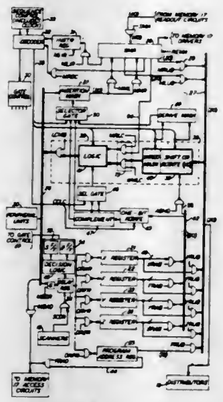


and control circuit means for successively actuating a series of said stepping relay means from one position to the other position and maintaining the actuated ones of said stepping relay means in the one position during the subsequent completion of the selected programs as a condition precedent to the actuation of successive ones of said stepping relay means.

3,370,274
DATA PROCESSOR CONTROL UTILIZING TANDEM SIGNAL OPERATIONS

Arthur W. Kettley, Middletown, and William B. Macurdy, Fair Haven, N.J., and David Muir III, and Uberto K. Stagg, Jr., Columbus, Ohio, assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 30, 1964, Ser. No. 422,313
25 Claims. (Cl. 340—172.5)

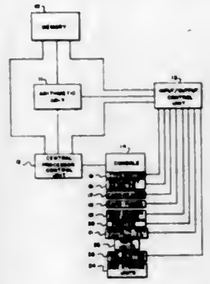


Plural processing operations are performed in tandem, in bit-parallel fashion, on a multibit electric signal, in a single pass through a common, multibit, signal transmission circuit. The processor includes arrangements for modifying the characteristics of the plural tandem operations in accordance with a predetermined program of instruction. Multiple general purpose registers are selectably connectable to either the input or the output of the transmission circuit to provide temporary storage during data processing operations. Details of shifting, masking, and logic circuits for use in tandem operations, as well as a mask deriving circuit, are indicated.

3,370,275
APPARATUS FOR SELECTIVE PROCESSING OF INFORMATION CHARACTERS IN A DATA PROCESSING SYSTEM

David E. Keefer, Scottsdale, Ariz., assignor to General Electric Company, a corporation of New York

Filed Apr. 15, 1965, Ser. No. 448,541
9 Claims. (Cl. 340—172.5)

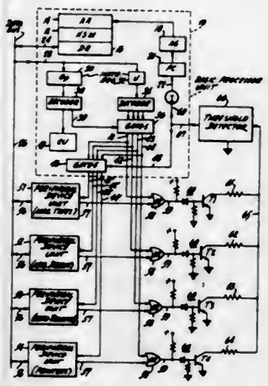


Apparatus is provided for processing characters in a word-organized data processing system which includes the isolation of one character of a word or the collection of a number of characters from a corresponding number of words into a single word by executing a single instruction. Words or data entities are transferred from specified locations to other specified locations according to the predetermined significance of each word or data entity.

3,370,276
COMPUTER PERIPHERAL DEVICE CONTROL

James J. Schell, Jr., N. Palm Beach, Fla., assignor to Radio Corporation of America, a corporation of Delaware

Filed May 5, 1965, Ser. No. 453,254
7 Claims. (Cl. 340—172.5)

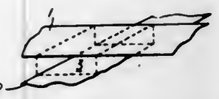


1. The combination of
a threshold detector circuit,
a plurality of peripheral device units,
an analog circuit for each of said peripheral device units, each analog circuit when energized having an output signal amplitude coupled to said threshold detector circuit which is indicative of the speed of operation of the corresponding peripheral device unit,
means to energize each analog circuit when the corresponding peripheral device unit is active and when the corresponding peripheral device is desired to be made active, and
means under control of said threshold detector circuit conditionally to inhibit activation of a peripheral device unit desiring to be made active.

3,370,277
INFORMATION STORAGE DEVICE

Jan Van Goethem, Antwerp, Belgium, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 9, 1959, Ser. No. 845,362
Claims priority, application Belgium, Nov. 24, 1958, 573,237
5 Claims. (Cl. 340—173)

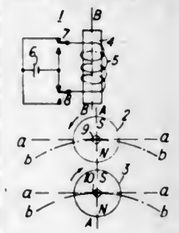


1. An information storage device comprising a first set of substantially parallel electrical conductors, a second set of substantially parallel electrical conductors, arranged substantially at right angles to said first set so as to form a coordinate array of crosspoints, each crosspoint containing one conductor of said first set and one conducor of said second set, a plurality of removable units, there being one for each row of crosspoints, said removable units being insertable between the conductors of each crosspoint in the associated row, said unit being positioned closely spaced from said crosspoint conductors, means on each of said units cooperating with at least some of the crosspoints in the row associated with that unit for altering the capacity between the conductors at those crosspoints so that the effective capacitive coupling of each crosspoint will assume one or the other of two substantially distinct values, the units for altering the capacity of the said crosspoints comprising a plate of dielectric material and a common electrode mounted on the removable units.

3,370,278
MAGNETIC BISTABLE DEVICE AND CONTROL SYSTEM USING SUCH DEVICES

Franciscus J. J. Hendrickx, Antwerp, Belgium, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 23, 1963, Ser. No. 318,270
Claims priority, application Netherlands, Nov. 12, 1962, 285,390
7 Claims. (Cl. 340—174)

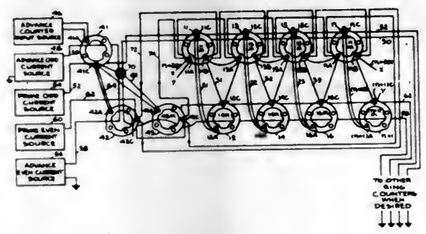


1. A magnetic device comprising
a permanent magnetic element having at least two poles,
a magnetic source having two possible conditions of magnetization,
means supporting said element for rotation relative to a given axial reference on said supporting means,
further supporting means supporting said element and said supporting means for coupling said element to said magnetizing source to situate said element in an angular position determined by the state of magnetization of said source, and
holding means mounted on said further supporting means for cooperating with said magnetic element to stably retain the latter in said position determined by said source, said holding means comprising an auxiliary rotatably mounted magnetic element which is a permanent magnet having at least two poles and which is mounted in close proximity to the main magnetic element.

3,370,279
MULTIAPERTURE CORE RING COUNTER

William K. English, Menlo Park, Calif., assignor to AMP Incorporated, Harrisburg, Pa.

Filed Nov. 12, 1963, Ser. No. 322,760
9 Claims. (Cl. 340—174)



1. Apparatus for operating a plurality of ring counters individually while employing a single set of drive current sources for said ring counter comprising for each ring counter, a plurality of register stages, each stage including two magnetic cores each of which has a one representative state of magnetic remanence and a zero representative state of magnetic remanence, one core in each stage being designated as an odd core and the other core in each stage being designated as an even core, in each stage a transfer winding means coupling said odd core to said even core for transferring the state of remanence of said odd core to said even core, in each stage a second transfer winding means coupling each even core to the odd core in its stage and to the odd core in the succeeding stage for transferring the state of remanence of said even core to said odd core, first inhibit means actuatable for preventing the transfer of the state of magnetic remanence by said second transfer winding means to a succeeding stage odd core, and second inhibit means for inhibiting the transfer by said second transfer winding means to an odd core in the same register stage.

3,370,280
INFORMATION SHIFTING REGISTERS

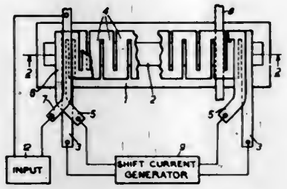
Andrew C. Tickle, Stevenage, England, assignor to International Computers and Tabulators Limited

Filed Jan. 28, 1964, Ser. No. 340,622
Claims priority, application Great Britain, Feb. 6, 1963, 4,817/63
2 Claims. (Cl. 340—174)

An information shifting register consists of a strip of thin anisotropic magnetic film having a preferred direction of magnetisation aligned with the length of the strip to which two shift conductor patterns are coupled. Information items are entered into the register by switching an area of the film. The two conductor patterns are energised alternately to produce a magnetic field pattern which

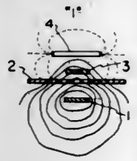
causes the switched area to shift along the strip of film.

A biasing field tending to reset the film to its initial state is applied to the strip of film so that a resultant field of greater magnitude is applied to the trailing edge



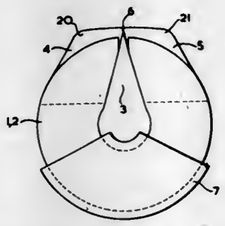
of the switched area to ensure that the film is reset as the area is shifted while the resultant field, due to the shifting field opposed by the biasing field, acting on the leading edge of the area of smaller magnitude is insufficient to create unwanted switched areas.

3,370,281
SEMI-PERMANENT MEMORY DEVICE
Susumu Seki, Kitatama-gun, Tokyo-to, Japan, assignor to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan
Filed June 9, 1964, Ser. No. 373,754
Claims priority, application Japan, June 12, 1963, 38/30,022
1 Claim. (Cl. 340—174)



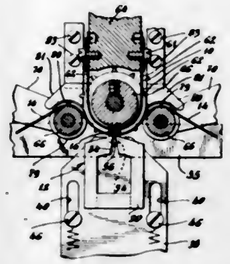
A semi-permanent memory device which comprises an electroconductive film having a magnetic saturation characteristic inserted between word drive lines and digit lines for shielding the electromagnetic coupling of each intersection of both lines, and permanent magnet pieces arranged above the intersections of both lines in accordance with information to be stored so as to greatly reduce the shielding effect of the film.

3,370,282
ABRASION RESISTANT MAGNETIC HEAD
John Lewis Edwin Baldwin, Croydon, Surrey, and Peter William Blaxtan, Bexley, Kent, England, assignors to Rank-Bush Murphy Limited, London, England, a company of Great Britain
Filed Jan. 3, 1964, Ser. No. 335,527
Claims priority, application Great Britain, Jan. 7, 1963, 673/63
5 Claims. (Cl. 340—174.1)



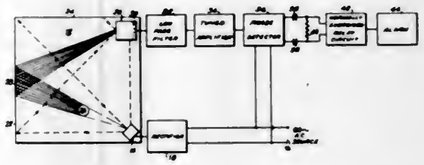
A magnetic transducer head formed by two annular ferromagnetic circuits each interrupted by a gap of given length and pole pieces of hard highly permeable material disposed between said circuits. The pole pieces define a working gap which is shorter than the gaps defined by the circuits and aligned therewith and which has on at least one of its faces a layer of non-magnetic material. The winding coil of the head is positioned about the circuits, generally diametrically opposite to the gaps therein.

3,370,283
TAPE TRANSPORT FOR AN INCREMENTAL TAPE RECORDER
John R. Montgomery, Trumbull, Conn., assignor to Wiltek, Inc., a corporation of Connecticut
Filed Mar. 4, 1964, Ser. No. 349,350
6 Claims. (Cl. 340—174.1)



An incremental tape recorder is disclosed having a positive tape drive, preferably a sprocket wheel for engaging sprocket holes along both edges of a magnetic tape, with a magnetic transducer head positioned tangential to the tape drive wheel at the point at which driving force is applied to the tape. A low mass spring loaded pressure pad is mounted within an annular recess in the tape drive wheel to press the tape against the transducer at the tangential point of contact. A reversible stepping motor operates the drive wheel to move the tape by discrete increments in either direction. Movable tension sensing rollers positioned on either side of the tape drive wheel operate a pair of electrical switches to control the rates of tape feed and take-up, to maintain tape tension within predetermined limits.

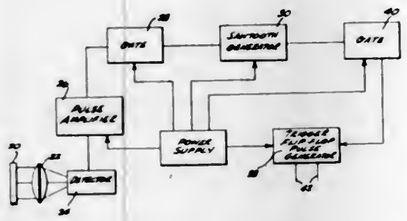
3,370,284
OPTICAL SPACE ALARM
Samuel M. Bagno, 18 Columbus Ave., Belleville, N.J. 07109
Filed Jan. 21, 1965, Ser. No. 426,757
15 Claims. (Cl. 340—258)



1. A system for detecting a moving intruder in a protected space with the aid of illumination and photosensors, comprising means to illuminate the space, means to modulate the illumination at a characteristic frequency different from that of ordinary AC, means to divide the protected space into zones which are successively of

opposite electrical phase, a tuned amplifier acting as a selector means to select the output of a photosensor to the aforesaid characteristic modulation frequency and thereby rejecting the effect of other illumination, said output from the selector means being modulated in response to motion of an intruder from one zone to a next zone, and a phase amplitude detector to demodulate the said selector output and said detector being a balanced detector providing a push pull output, a very low frequency low pass filtered amplifier, capacitors for capacity coupling the said detector to the said low pass filtered amplifier, a full wave rectifier for rectifying the output of the low pass filtered amplifier in order to provide a DC output in response to motion of an intruder, and an alarm circuitry responsive to the said DC output.

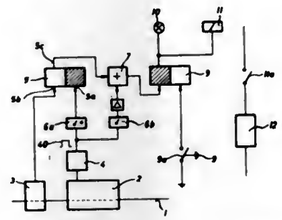
3,370,285
DETECTION SYSTEM
Philip M. Cruse, Norman B. Stevens, and Robert M. Talley, Santa Barbara, Calif., assignors to Santa Barbara Research Center, Goleta, Calif., a corporation of California
Filed Apr. 6, 1966, Ser. No. 540,733
10 Claims. (Cl. 340—258)



The detection system disclosed employs a solid state infrared radiation emitter. Specifically, a power supply drives an appropriate oscillator capacitor via an appropriate gate to pulse the solid state emitter in a determined time pattern and with a determined intensity. A receiver is positioned in optical alignment and spaced relation to the transmitter and comprises a solid state detector, broad band pulse amplifier, a first gate, a sawtooth generator, a second gate and a trigger. An appropriate power supply is provided for the receiver. The transmitter pulses radiation in a narrow invisible spectral band with pulses of high broad band frequency and intensity. The receiver upon continued reception of the pulses operates in a first mode to periodically discharge the sawtooth generator to prevent transmission of a signal from the generator through the second gate to the trigger. Upon lack of reception of a determined number of pulses in the receiver the sawtooth generator is allowed to charge to a voltage level exceeding level or threshold of the gate downstream thereof. The downstream gate opens and energizes the trigger which in turn initiates an alarm indicating intrusion, that is, interruption of the invisible beam between the transmitter and receiver.

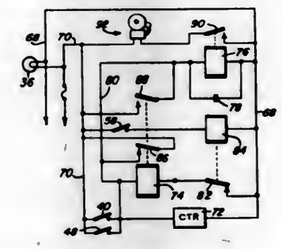
3,370,286
APPARATUS FOR MONITORING THE FEEDING OF TAPELIKE RECORD CARRIERS
Focke Gerd Buss, Gleeselhorst, Germany, assignor to Olympia Werke A.G., Wilhelmshaven, Germany
Filed Mar. 22, 1965, Ser. No. 441,803
Claims priority, application Germany, May 12, 1964, O 10,135
5 Claims. (Cl. 340—259)

Apparatus for monitoring the movement of a record carrier in which a first impulse is developed by the feed mechanism for the carrier while a second impulse is developed in accordance with the movement of the carrier, which second impulse normally occurs before the first



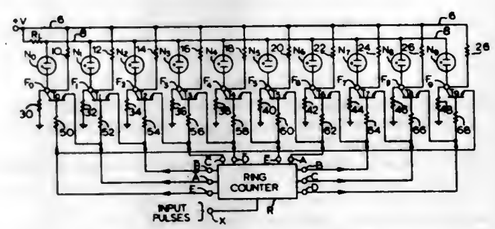
impulse from the feed mechanism is terminated, together with a signalling device which is energized if the impulses do not coincide.

3,370,287
ANTI-CHEAT DEPOSIT CHUTE
Joshua W. Gore, Jr., 8557 Forum Drive, Houston, Tex. 77055
Filed June 1, 1965, Ser. No. 460,068
8 Claims. (Cl. 340—281)



Unauthorized removal of items through a deposit chute from a depository is discouraged by an alarm. The alarm is triggered by sensing of articles passing from one location to another within the chute during an interval exceeding a delay period. The delay period is established when the article is sensed by one of a plurality of microswitches to cancel operation of the alarm if another switch is actuated before the delay period is terminated.

3,370,288
DECODING CIRCUIT
John T. Winkler, Orlando, Fla., and Edwin F. Smith, Jr., Sierra Vista, Ariz., assignors to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland
Filed May 1, 1964, Ser. No. 364,261
5 Claims. (Cl. 340—347)



1. A decoding circuit for use with counting means having a series of outputs which have high and low output voltages thereon to collectively represent any one of a

finite number of digits contained in said counting means, said decoding circuit comprising, in combination:

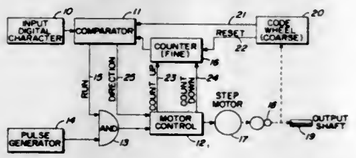
(a) a plurality of three terminal active devices corresponding in number to the finite number of digits contained in said counting means;

(b) each of said devices having two distinct conductivity states, with each device being in its first conductivity state when its first terminal is at a voltage level equal to or less than the voltage level on its second terminal, and in its second conductivity state when its first terminal is at a voltage level greater than the voltage level on its second terminal;

(c) said first and second terminals of each of said devices being connected to respective pairs of outputs of the counting means so that only one device of said plurality of devices will be in its second conductivity state when said counting means is collectively representing any one of the finite number of digits contained in the counting means; and

(d) a plurality of output means respectively associated with the third terminals of said devices, said output means being respectively operative only when its corresponding device is in its second conductivity state, thereby indicating said one digit contained in the counting means.

3,370,289
DIGITAL-TO-ANALOG CONVERTER SYSTEM
Wendell T. Hedgcock, Cedar Rapids, and Charles E. Kress, Marion, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Feb. 26, 1965, Ser. No. 435,520
12 Claims. (Cl. 340—347)



7. Digital-to-analog converting means comprising:

step motor means having an output shaft;

energizing means constructed, when energized, to cause said step motor to step;

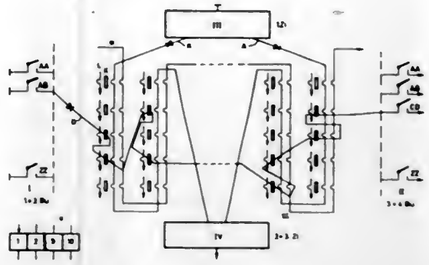
shaft position indicating means including mechanical means coupled to said output shaft and counting means responsive to output signals from said energizing means for producing first coded signals indicative of the angular position of said output shaft;

input means for supplying second coded signals indicative of the new angular position to which said output shaft is to be rotated;

comparator means responsive to said first and second coded signals to produce a first control signal to cause energization of said energizing means.

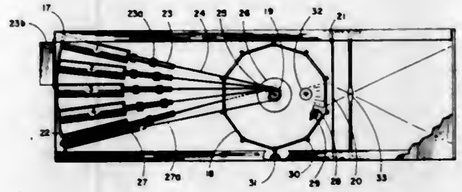
3,370,290
MEANS FOR CONVERTING A FIRST INFORMATION INTO AN UNEQUIVOCAL SECOND INFORMATION
Heinz Mertel, Hohenschaftlarn, and Hartmut Gebhardt, Grosshesselohe, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Continuation of abandoned application 304,148, Aug. 23, 1963. This application Nov. 15, 1966, Ser. No. 594,631
Claims priority, application Germany, Aug. 30, 1962, S 81,176
3 Claims. (Cl. 340—347)

This invention relates to means for the translation of a first information, represented by always 1 of *m* information elements in *x* groups, into a second information. When practicing the invention this can be done, for example, when using magnetic core storage by reversing the magnetization of a core combination in a magnetic



core array by means of wires threaded through the array, which wires during the translation operation are always individually controlled. The hysteresis loop of the material of the magnetic cores is preferably rectangular.

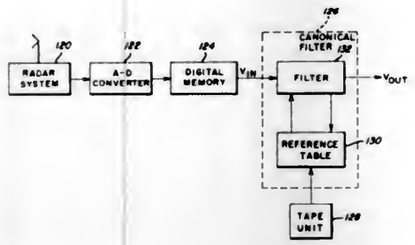
3,370,291
INDICIA WHEEL DISPLAY DEVICE HAVING A SELECTIVELY ROTATED WHEEL SHAFT
Paul Brunette, Otterburn Heights, Quebec, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed June 3, 1965, Ser. No. 461,104
7 Claims. (Cl. 340—378)



1. A display device comprising a frame, a shaft rotatably journalled on the frame, a wheel secured to the shaft and having characters spaced around its periphery, a wall mounted on the frame adjacent the wheel periphery and having a window therein, and means for rotating the wheel to selectively position the characters at said window, said means comprising an elongated flexible member for each character having one end secured to the shaft and being wound thereon, and separate pulling means for each flexible member mounted on the frame, each member being attached at its other end to the respective pulling means, said pulling means being selectively operable to unwind the flexible member from the shaft predetermined differential amounts whereby the wheel is rotated to position the respective character at the window.

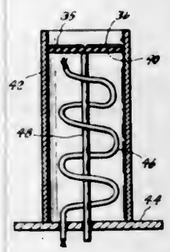
3,370,292
DIGITAL CANONICAL FILTER
Alan J. Deerfield, Burlington, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Jan. 5, 1967, Ser. No. 607,562
15 Claims. (Cl. 343—5)

A digital canonical filter employing a reference storage table into which values are fed for weighting entering digital signals according to the desired characteristics of the filter, together with feedback and feed forward delay



registers and summing devices for providing a combined output indicative of whether or not the entering digital signals are within values defined by the filter.

3,370,293
DIRECTION FINDER
Milton Green, 926 Buddington Road, Groton, Conn. 06340
Filed Feb. 2, 1966, Ser. No. 524,980
5 Claims. (Cl. 343—119)

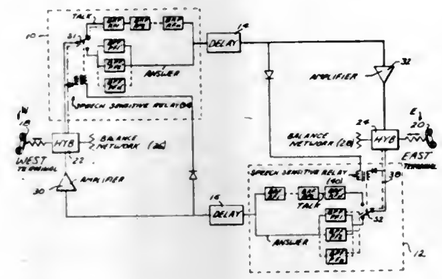


Four circularly arranged sensors responsive to a particular kind of energy and a cylinder are supported coaxially. With respect to energy incident to the sensors from a direction at an angle to the axis, at least one of the sensors is in the shadow of the cylinder and reflective surface area of the cylinder redirects incident energy to the opposite sensor. The intensities of irradiation of opposite sensors are compared and servomechanisms operate to change the orientation of the axis defined by sensors and cylinder to minimize the difference in intensities of irradiation of the sensors.

3,370,294
COMMUNICATIONS ECHO SUPPRESSION
Leonard R. Kahn, 81 S. Bergen Place, Freeport, N.Y. 11520
Filed May 13, 1964, Ser. No. 367,085
7 Claims. (Cl. 343—180)

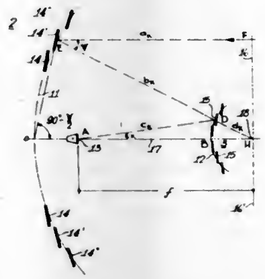
1. In a two-way speech communications system involving substantial transmission times between communications terminals, and wherein respective signal transmission and signal receiving paths are associated with said communications terminals with such respective signal paths being nominally isolated from each other by respective hybrid coils in circuit with said terminals, the improvement in echo suppression circuitry, comprising; signal level responsive switching means associated with each

said terminal establishing its signal path in a transmit condition when the signal generated at said terminal is stronger than the signal received at said terminal and in a receive condition when such received signal is the stronger, each said signal path in its transmit condition at all times including signal passband limiting means passing from about 80% to about 95% of the frequency components of the speech signal applied thereto and blocking the balance of the applied signal frequency components, and each said signal path in its receive condition at all times including passband limiting means passing about 20% to about 5% of the frequency components of the speech signal applied thereto and blocking the balance



of the applied signal frequency components, the signal components passed by each signal path in its transmit condition being essentially the signal components blocked by each signal path in its receive condition.

3,370,295
DOUBLY REFLECTING LATTICED ANTENNA
Ernest S. Kelsey, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Mar. 29, 1965, Ser. No. 443,555
5 Claims. (Cl. 343—781)



1. A doubly reflecting antenna comprising

a plurality of main reflector lattice elements, spaced from one another, positioned symmetrically with respect to a common axis at different distances, therefrom and positioned so that each element is intersected substantially along its centerline by a first positioning surface,

the surface of each of said main reflector lattice elements defining a cone making with said axis a conical angle,

each said main reflector lattice element having a conical angle providing on said axis a first common focus for rays parallel to said axis,

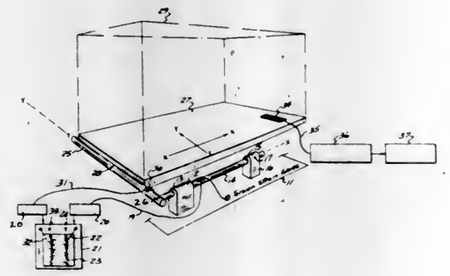
a sub-reflector lattice element for each main reflector lattice element each spaced from one another, positioned symmetrically with respect to said axis and positioned so that each element is intersected substantially along its centerline by a second positioning surface,

the surface of each of said sub-reflector lattice element defining a cone making with said axis a conical angle,

each said sub-reflector lattice element being positioned between a respective main reflector lattice element and said first common focus, and having a conical angle orienting the reflecting surface thereof for reflecting rays reflected by said respective main reflector lattice element from axially parallel rays to a second common focus on said axis, and antenna feed means positioned at said second focus,

said first and second surfaces being so shaped that the length of each doubly reflected ray path between said antenna feed means and a plane normal to said axis is a constant.

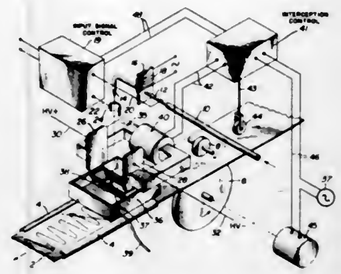
3,370,296
ANIMAL ACTIVITY RECORDER
Samuel W. Greenberg 19225 Woodbine, Detroit, Mich. 48219
Filed Feb. 23, 1967, Ser. No. 618,112
3 Claims. (Cl. 346—14)



The present animal activity recorder incorporates a cage having a floor mounted on one of a pair of right angular related inter-connected torsion bars the other of which is mounted and anchored in such a manner that movement of the animal over the cage floor with respect to X and Y coordinates will produce various torsional stresses in the said torsion bars which mount strain gauges thus converting the animal's movements to electrical analogues controlling a chart recorder and with the floor of the cage serving as a variable length lever so that as the animal moves further from the respective torsion bar axes the torque applied to the bar increases, causing a corresponding change in the respective strain gauges thus registering the animal's position as a continuous variable with respect to a recording device.

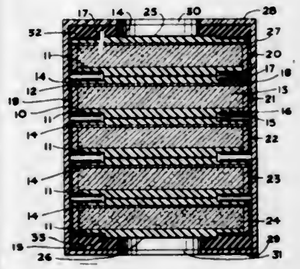
3,370,297
INK DROPLET RECORDER WITH DROPLET INTERCEPTION CONTROL
Lockwood D. Burton, Collingswood, N.J., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Apr. 9, 1965, Ser. No. 446,961
7 Claims. (Cl. 346—75)

1. A direct writing recorder comprising means for forming a discontinuous stream of writing fluid in the form of a succession of discrete droplets and projecting said droplets toward a moving record member, means for electrostatically charging said discrete droplets in accordance with the instantaneous value of an input signal, electrostatic deflecting means arranged to deflect said droplets along a normal recording path in accordance with the charge carried by said droplets, magnetic field producing means arranged to subject said droplets to a



magnetic field extending parallel to said recording path and selectively actuated means responsive to the operation of said record member and operative to energize said field producing means upon an improper operation of said record member whereby to produce a movement of said droplets induced by said magnetic field away from said normal recording path.

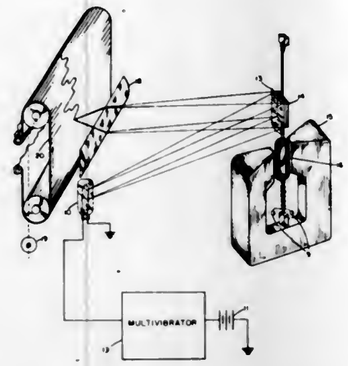
3,370,298
DRY CELL BATTERY OF FLAT CONFIGURATION
Rodolfo Rodriguez Balaguer, Fort Lauderdale, Fla., assignor, by mesne assignments, to Patent Holdings Corporation, Fort Lauderdale, Fla., a corporation of Florida
Filed June 2, 1965, Ser. No. 460,635
12 Claims. (Cl. 136—100)



1. A dry cell battery, comprising a hollow container made of electrically insulating material, a first electrically conductive, green carbon member contacting said container at one end thereof and serving as a closure for said one end of said container, a metallic member contacting the other end of said container and serving as a closure for said other end of said container, a second electrically conductive, green carbon member overlying said metallic member and being in electrical and physical contact therewith, battery mix substantially filling the space in said container between the inner surfaces of said first green carbon member and said metallic member, a bibulous covering on the inner surface of said metal disc preventing direct contact between said mix and said metal, said

first green carbon member and said metallic member serving as cathode and anode electrodes, respectively, for said cell, and means to retain said members and said container assembled.

3,370,299
PULSED LIGHT WRITING SYSTEM
Gardner P. Wilson, Pasadena, Calif., assignor to Clevite Corporation, a corporation of Ohio
Filed Aug. 23, 1965, Ser. No. 481,868
7 Claims. (Cl. 346—109)



1. A light system for the direct recording of data comprising, in combination:

direct writing light sensitive paper,

means steadily moving said paper in a given direction,

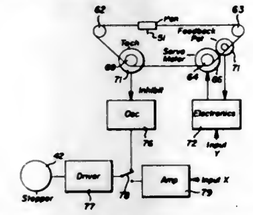
a light source,

means including a mirror and optical element means for focusing light from said source as a light spot on said moving paper,

means for vibrating said mirror in accordance with a signal to be recorded to cause said light spot to move across said paper in accordance with the data to be recorded,

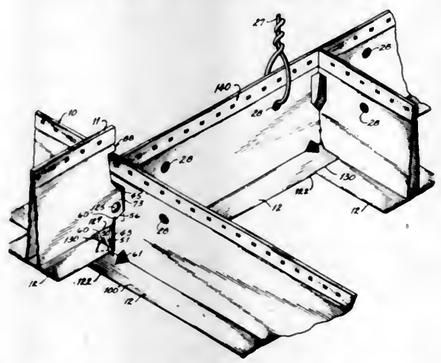
and circuit means for energizing said light source including means for pulsing said light source at a substantially constant on-off repetition rate whereby there is recorded on the paper a series of closely spaced but distinct dots substantially evenly spaced along the direction of motion of the paper, and whereby the dots are of substantially equal recorded density.

3,370,300
STRIP CHART RECORDER
Paul Anthony Gilovich, Santa Clara, and Clair Eugene Miller, Palo Alto, Calif., assignors to Dohrmann Instruments Company, San Carlos, Calif., a corporation of California
Filed May 4, 1966, Ser. No. 547,497
9 Claims. (Cl. 346—113)



Strip chart recorder having convenient chart loading arrangement and having internally generated X input events which are inhibited while the marking pen is moving.

3,370,301
CEILING SUSPENSION MEMBER AND SYSTEM
Robert L. Harlan, Geneva, Ill., assignor to Jim Walter Corporation, Tampa, Fla., a corporation of Florida
Filed Apr. 14, 1966, Ser. No. 542,523
8 Claims. (Cl. 287—189.36)

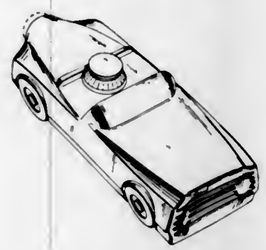


A ceiling suspenison system having an inverted V-shaped configuration and slots cut in sides thereof and oriented transversely with respect to the length of the member. The slots being so adapted as to permit easy formation of extensions for the connection of cross-members in slots of main members.

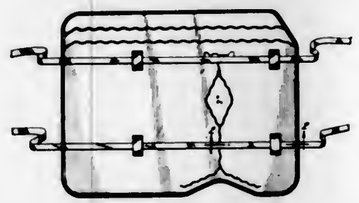
DESIGNS

FEBRUARY 20, 1968

210,189
BOTTLE
Richard L. Weckman, Perrysburg, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed Apr. 10, 1967, Ser. No. 6,612
Term of patent 14 years
(Cl. D9—25)



210,190
SPORTSMAN'S LEG PROTECTOR
Richard J. Garcia, Torrance, Calif. (16281 Serenade Lane, Huntington Beach, Calif. 92647)
Filed Nov. 30, 1966, Ser. No. 4,865
Term of patent 14 years
(Cl. D2—27)



210,191
BOTTLE
James E. Plummer, Toledo, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed Apr. 10, 1967, Ser. No. 6,593
Term of patent 14 years
(Cl. D9—90)



210,192
BOTTLE
George W. Worthington, Castro Valley, Calif., assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed Dec. 20, 1965, Ser. No. 243
Term of patent 14 years
(Cl. D9—95)



210,193
MERCHANDISING CONTAINER OR THE LIKE
Anthony Paul Limbach, Somerset, N.J., assignor to Mobil Oil Corporation, a corporation of New York
Filed May 2, 1966, Ser. No. 2,093
Term of patent 14 years
(Cl. D9—225)



210,194
MERCHANDISING CONTAINER OR THE LIKE
Anthony Paul Limbach, Somerset, N.J., assignor to Mobil Oil Corporation, a corporation of New York
Filed May 2, 1966, Ser. No. 2,094
Term of patent 14 years
(Cl. D9—225)



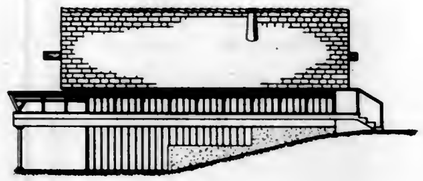
210,195
MERCHANDISING CONTAINER OR THE LIKE
Anthony Paul Limbach, Somerset, N.J., assignor to Mobil Oil Corporation, a corporation of New York
Filed May 2, 1966, Ser. No. 2,095
Term of patent 14 years
(Cl. D9—225)



210,196
CLOSURE FOR PAILS OR THE LIKE
Morris Greitzer, Los Angeles, and Simon Greitzer, Inglewood, Calif., assignors to Industrial Container Corp., Los Angeles, Calif., a corporation of California
Filed May 29, 1967, Ser. No. 7,295
Term of patent 14 years
(Cl. D9—254)

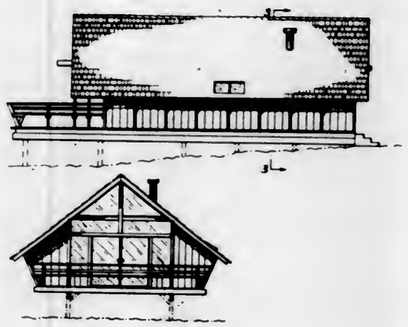


210,197
CABIN
Einar Svensson, 2248 NW. 190th Place, Seattle, Wash. 98177
Filed Oct. 3, 1966, Ser. No. 4,123
Term of patent 14 years
(Cl. D13—1)

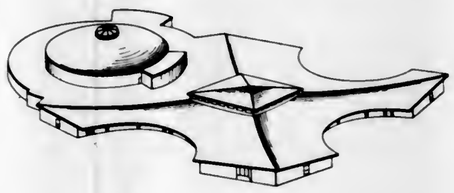




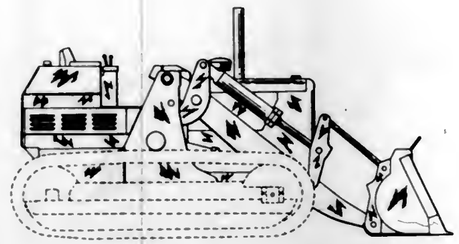
210,198
CABIN
Einar Svensson, 2248 NW. 190th Place, Seattle, Wash. 98177
Continuation of design applications Ser. No. 83,043, Dec. 15, 1964, and Ser. No. 4,124, Oct. 3, 1966. This application Feb. 27, 1967, Ser. No. 6,472
Term of patent 14 years
(Cl. D13—1)



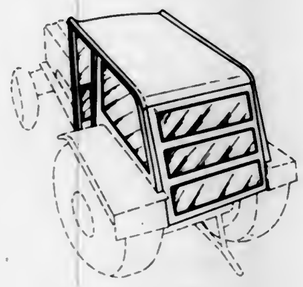
210,199
BUILDING
Joe M. Cox, 316½ E. Main St., P.O. Box 828, Johnson City, Tenn. 37601
Filed Sept. 21, 1967, Ser. No. 8,682
Term of patent 14 years
(Cl. D13—1)



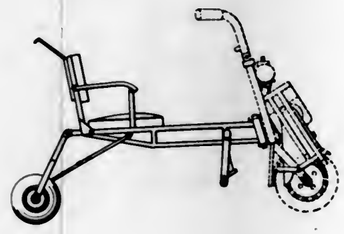
210,200
CRAWLER TRACTOR LOADER
Herbert W. Borer, Naperville, and Max E. Butterfield and Barry L. Zaues, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Sept. 22, 1966, Ser. No. 3,958
Term of patent 14 years
(Cl. D14—3)



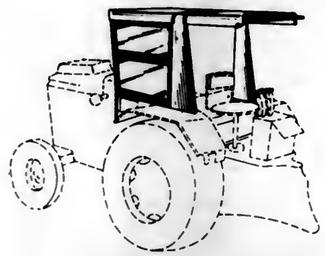
210,201
TRACTOR CABIN
Ernest Hofmann-Igl, Mitterfeld, Germany, assignor to Firma Fritzmeier, Georg KG, Grosshelfendorf uber Munich, Germany
Filed Oct. 17, 1966, Ser. No. 4,293
Claims priority, application Germany Apr. 19, 1966
Term of patent 14 years
(Cl. D14—3)



210,202
SULKY FOR A FOLDABLE GOLF CART
Robert W. Stuart, 955 Caniff Road, Columbus, Ohio 43221
Filed Dec. 19, 1966, Ser. No. 5,105
Term of patent 7 years
(Cl. D14—3)

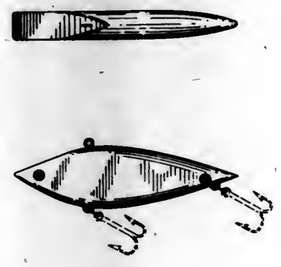


210,203
EQUIPMENT OPERATOR'S CABIN
Ernest Hofmann-Igl, Mitterfeld, Germany, assignor to Firma Georg Fritzmeier KG., Grosshelfendorf, uber Munich, Germany
Continuation-in-part of design application Ser. No. 4,271, Oct. 13, 1966. This application Feb. 13, 1967, Ser. No. 5,798
Claims priority, application Germany Apr. 15, 1966
Term of patent 14 years
(Cl. D14—3)

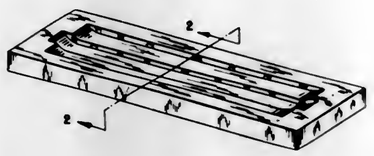


210,204
FLY SWATTER
William F. Vernon, 905 S. 6th Ave. W., Newton, Iowa 50208
Filed May 18, 1967, Ser. No. 7,183
Term of patent 14 years
(Cl. D22—20)

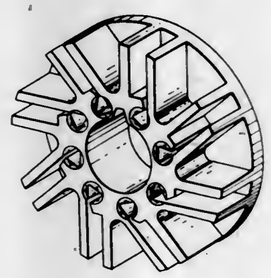
210,205
FISHING LURE
Carl R. Cordell, Jr., 1211 Richard St., Hot Springs, Ark. 71901
Filed July 21, 1967, Ser. No. 7,943
Term of patent 14 years
(Cl. D22—27)



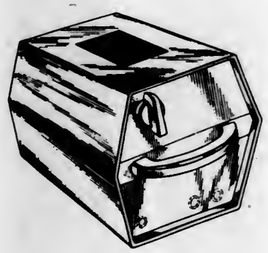
210,206
VISUAL MOTOR COORDINATION TRAINING DEVICE
Bernice J. Mayhew, Cleveland Heights, Ohio (263 Dover Center Road, Bay Village, Ohio 44140)
Filed Nov. 2, 1966, Ser. No. 4,519
Term of patent 7 years
(Cl. D25—1)



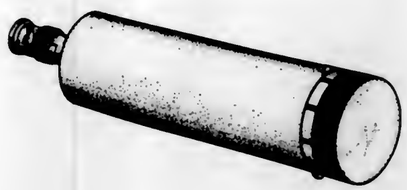
210,207
ELECTRON TUBE SOCKET
Armand Rene De Lyon, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed June 15, 1966, Ser. No. 2,692
Term of patent 14 years
(Cl. D26—1)



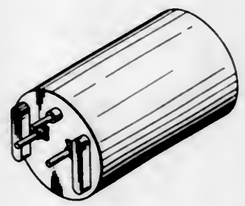
210,208
PORTABLE WELDING TRANSFORMER
Bert Fritiof Esbjorn Frelin, Vasteras, Sweden, assignor to Elektriska Svetsningsaktiebolaget, Goteborg, Sweden, a corporation of Sweden
Filed Sept. 6, 1966, Ser. No. 3,743
Term of patent 14 years
(Cl. D26—1)



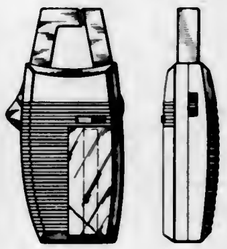
210,209
SELF-CONTAINED PORTABLE ELECTRIC SIGNAL GENERATOR
Theodore W. Fischer, Dayton, Ohio, assignor to Dayton Electronic Products Company, Inc., Dayton, Ohio, a corporation of Ohio
Filed Sept. 22, 1966, Ser. No. 3,955
Term of patent 14 years
(Cl. D26—1)



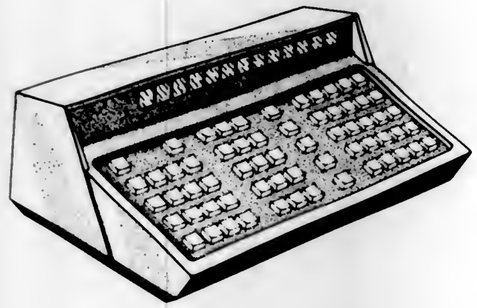
210,210
HOUSING FOR A CAPACITOR DEVICE
Jerry Braiman and Edwin W. Shieh, Indianapolis, Ind., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Nov. 21, 1966, Ser. No. 4,743
Term of patent 14 years
(Cl. D26—1)



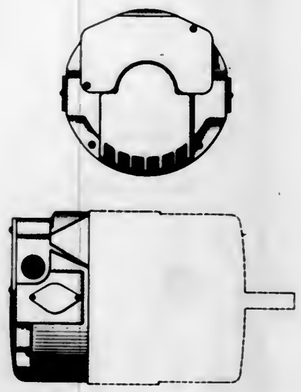
210,211
CLAMP-AROUND VOLT-AMMETER
Harvey A. Schwartz, Merrick, N.Y., assignor to Soss Manufacturing Company, Detroit, Mich., a corporation of Nevada
Filed July 11, 1967, Ser. No. 7,763
Term of patent 14 years
(Cl. D26—1)



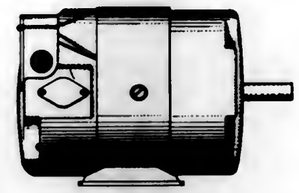
210,212
CONTROL CONSOLE FOR A NOTCHED CARD SYSTEM
Frederic R. G. Sanborn, Cincinnati, Ohio, assignor to O.K. Partnership, Cincinnati, Ohio, a limited partnership of Ohio
Filed Apr. 4, 1966, Ser. No. 1,777
Term of patent 14 years
(Cl. D26—5)



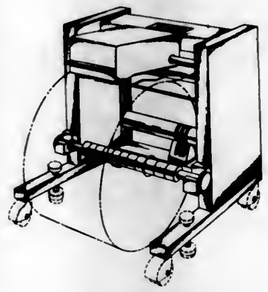
210,213
END FRAME FOR A DYNAMOELECTRIC MACHINE
Stanley E. Tomkinson, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed May 20, 1966, Ser. No. 2,366
Term of patent 14 years
(Cl. D26—5)



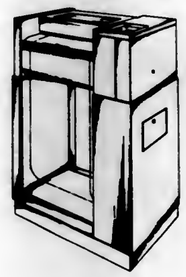
210,214
DYNAMOELECTRIC MACHINE
Stanley E. Tomkinson, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed May 20, 1966, Ser. No. 2,367
Term of patent 14 years
(Cl. D26—5)



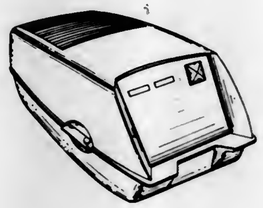
210,215
DOCUMENT ROLL INPUT UNIT
Robert V. Mallory, Kendall Park, N.J., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 14, 1966, Ser. No. 4,274
Term of patent 14 years
(Cl. D26—5)



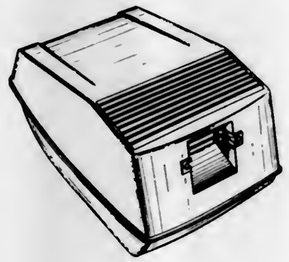
210,216
DOCUMENT CONVERTER
Robert V. Mallory, Kendall Park, N.J., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 14, 1966, Ser. No. 4,279
Term of patent 14 years
(Cl. D26—5)



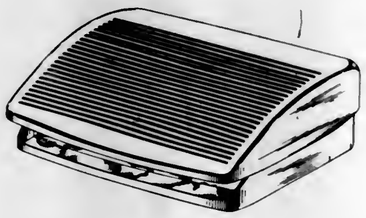
210,217
CARD READER IMPRINTER
James Russell Williams, Camp Hill, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Oct. 24, 1966, Ser. No. 4,383
Term of patent 14 years
(Cl. D26—5)



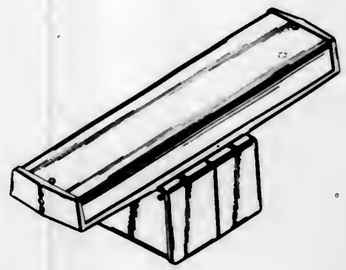
210,218
CARD READER
James Russell Williams, Camp Hill, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Oct. 24, 1966, Ser. No. 4,400
Term of patent 14 years
(Cl. D26—5)

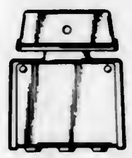


210,219
FOOT-OPERATED CONTROLLER FOR SEWING MACHINES
Henry Dreyfuss, South Pasadena, Calif, and Wesley R. Peterson, Bound Brook, N.J., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 17, 1966, Ser. No. 4,292
Term of patent 14 years
(Cl. D26—13)

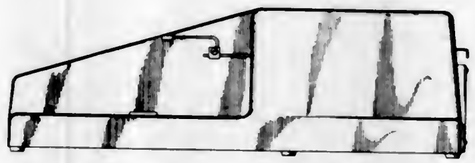


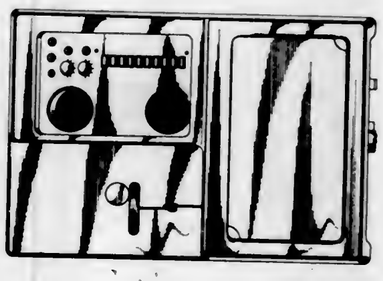
210,220
GAS LASER
Dale E. De Rousse, William M. Johnson, and Harold E. Martin, Santa Clara, and Robert W. Montgomery, Contra Costa County, Calif., assignors to Optics Technology, Inc., Palo Alto, Calif.
Filed Oct. 17, 1966, Ser. No. 4,297
Term of patent 14 years
(Cl. D26—14)



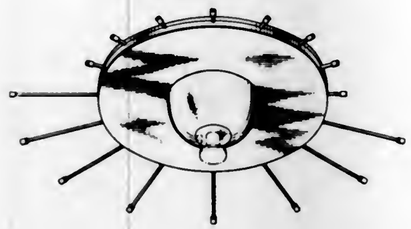


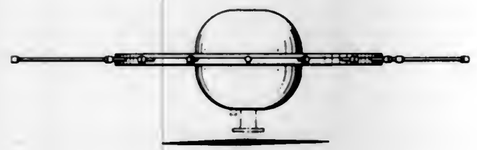
210,221
TELEPHONE ANSWERING UNIT
Alonzo T. Horton and John W. Little, Birmingham, Ala., assignors to Telescriber Corporation, Birmingham, Ala., a corporation of Alabama
Filed Nov. 16, 1966, Ser. No. 4,690
Term of patent 14 years
(Cl. D26—14)



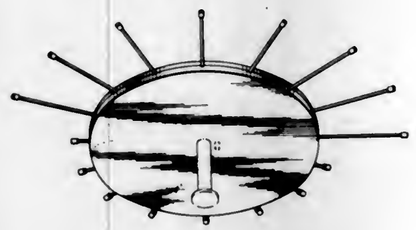


210,222
ANTENNA HOUSING
Aylwin R. Booker, 4887 Palo Drive, Tarzana, Calif. 91356
Filed Mar. 13, 1967, Ser. No. 6,186
Term of patent 14 years
(Cl. D26—14)



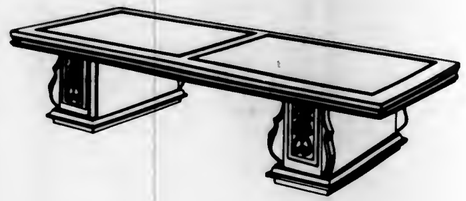


210,223
ANTENNA
Aylwin R. Booker, 4887 Palo Drive, Tarzana, Calif. 91356
Filed Mar. 13, 1967, Ser. No. 6,200
Term of patent 14 years
(Cl. D26—14)

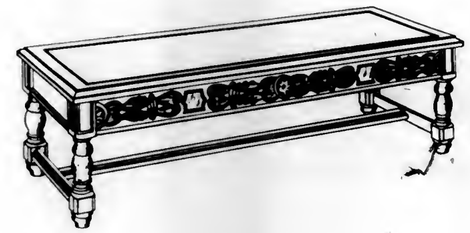




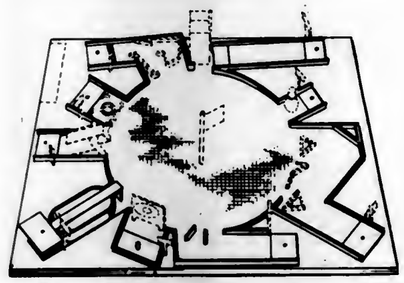
210,224
DOUBLE PEDESTAL COCKTAIL TABLE
John B. Thorn, Lynchburg, and Andre Bus, Altavista, Va., assignors to The Lane Company, Inc., Altavista, Va., a corporation of Virginia
Filed Apr. 10, 1967, Ser. No. 6,606
Term of patent 14 years
(Cl. D33—14)



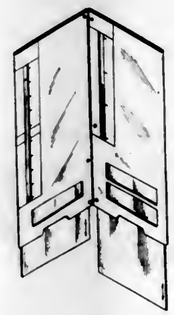
210,225
COCKTAIL TABLE
John B. Thorn, Lynchburg, and Andre Bus, Altavista, Va., assignors to The Lane Company Inc., Altavista, Va., a corporation of Virginia
Filed Apr. 10, 1967, Ser. No. 6,611
Term of patent 14 years
(Cl. D33—14)



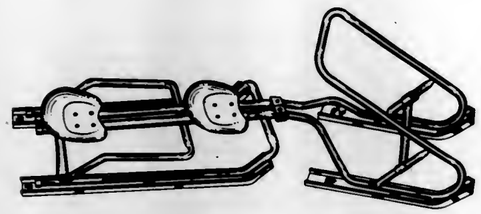
210,226
GOLF GAME BOARD OR SIMILAR ARTICLE
Barry R. Steiner and Ileane S. Steiner, both of 9115 Lamon, Skokie, Ill. 60076
Filed Apr. 24, 1967, Ser. No. 6,820
Term of patent 3½ years
(Cl. D34—5)



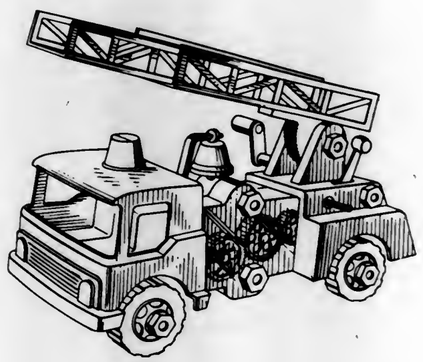
210,227
COMPOSITE BRIDGE CARD GAME SCORER
Irving Taxel, 74 Howe Court, Woodmere, N.Y. 11598
Filed Oct. 12, 1965, Ser. No. 87,442
Term of patent 3½ years
(Cl. D34—5)



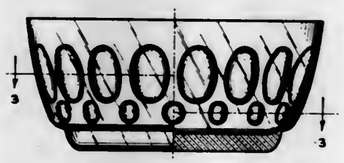
210,228
SLED OR SIMILAR ARTICLE
Earl G. Cross, Du Quoin, Ill., assignor to Turco Manufacturing Company, Du Quoin, Ill., a corporation of Missouri
Filed Apr. 24, 1967, Ser. No. 6,808
Term of patent 14 years
(Cl. D34—15)



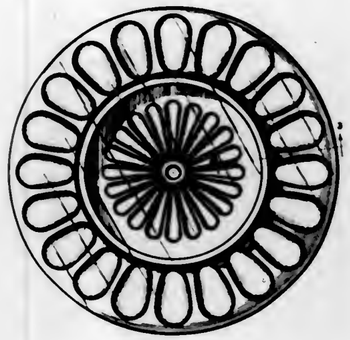
210,229
TOY FIRE LADDER ENGINE
Robert Genin, Scarsdale, N.Y., assignor to Child Guidance Toys Inc., Bronx, N.Y., a corporation of New York
Filed July 18, 1967, Ser. No. 7,850
Term of patent 14 years
(Cl. D34—15)



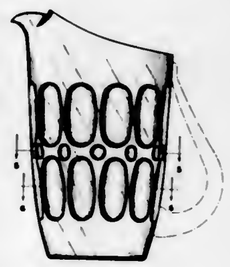
210,230
DESSERT DISH
Fernando Alvarez, Glen Dale, W. Va., assignor to Fostoria Glass Company, Moundsville, W. Va.
Filed June 26, 1967, Ser. No. 7,605
Term of patent 14 years
(Cl. D36—2)



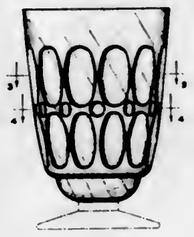
210,231
PLATE
Fernando Alvarez, Glen Dale, W. Va., assignor to Fostoria Glass Company, Moundsville, W. Va.
Filed June 26, 1967, Ser. No. 7,606
Term of patent 14 years
(Cl. D36—2)



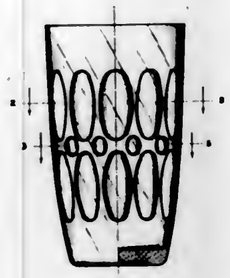
210,232
PITCHER
Fernando Alvarez, Glen Dale, W. Va., assignor to Fostoria Glass Company, Moundsville, W. Va.
Filed June 26, 1967, Ser. No. 7,608
Term of patent 14 years
(Cl. D36—2)



210,233
GOBLET
Fernando Alvarez, Glen Dale, W. Va., assignor to Fostoria Glass Company, Moundsville, W. Va.
Filed June 26, 1967, Ser. No. 7,604
Term of patent 14 years
(Cl. D36—8)



210,234
TUMBLER OR THE LIKE
Fernando Alvarez, Glen Dale, W. Va., assignor to Fostoria Glass Company, Moundsville, W. Va.
Filed June 26, 1967, Ser. No. 7,607
Term of patent 14 years
(Cl. D36—8)



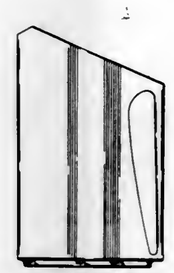
210,235
CLOCK
Benjamin Levy, Hewlett, N.Y., assignor to United Metal Goods Mfg. Co., Inc., Brooklyn, N.Y., a corporation of New York
Filed Oct. 24, 1965, Ser. No. 87,931
Term of patent 7 years
(Cl. D42—7)



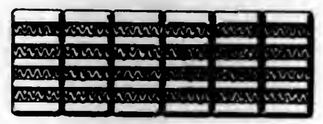
210,236
FONDUE WARMER
Victor J. Bergeron, Hillsborough, Calif., assignor to Senor Pico, Inc., San Francisco, Calif., a corporation of California
Filed May 25, 1967, Ser. No. 7,263
Term of patent 14 years
(Cl. D44—15)



210,237
PITCHER
Robert T. Mestrovic, Chicago, Ill., assignor, by mesne assignments, to Solomon A. Weisgal, Chicago, Ill., as trustee
Filed May 16, 1967, Ser. No. 7,151
Term of patent 14 years
(Cl. D44—21)



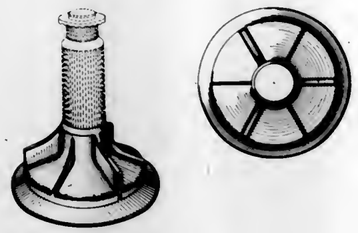
210,238
EXPANSIBLE LINK CHAIN FOR A BRACELET OR SIMILAR ARTICLE
Karl C. Augenstein, Cranston, R.I., assignor to Textron Inc., Providence, R.I., a corporation of Rhode Island
Filed Feb. 21, 1967, Ser. No. 5,896
Term of patent 14 years
(Cl. D45—4)



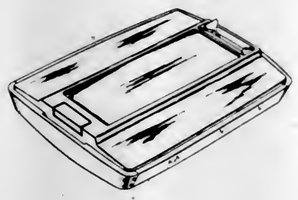
210,239
GARDEN AND WALK LIGHT
Mitchell Bobrick, Pacific Palisades, Calif., assignor to Avis Industrial Corporation, Madison Heights, Mich., a corporation of Delaware
Filed Apr. 7, 1967, Ser. No. 6,583
Term of patent 14 years
(Cl. D48—31)



210,240
WASHING MACHINE AGITATOR
Robert S. Trembath, Benton Harbor, Mich., assignor to Whirlpool Corporation, a corporation of Delaware
Filed May 29, 1967, Ser. No. 7,304
Term of patent 14 years
(Cl. D49—1)



210,241
HOUSING FOR A CARPET SWEEPER
Howard A. Anderson, Pittsburgh, Pa., assignor to Bissel Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Feb. 23, 1967, Ser. No. 5,919
Term of patent 14 years
(Cl. D49—15)



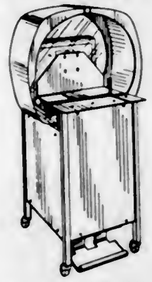
210,242
CARRIER STRIP FOR HOLDING FASTENERS
George J. Gallee, Rosemont, Allen R. Obergfell, Park Ridge, and Richard H. Doyle, Mount Prospect, Ill., assignors to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois
Filed June 19, 1967, Ser. No. 7,520
Term of patent 14 years
(Cl. 54—1)



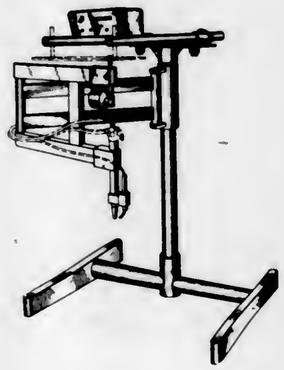
210,243
SPOON OR SIMILAR ARTICLE
Ellen B. Manderfield, Syracuse, N.Y., assignor to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed Mar. 11, 1966, Ser. No. 1,421
Term of patent 14 years
(Cl. D54—12)



210,244
TYING MACHINE WITH TWINE ARM GUARD
Robert G. Brown, Glenwood, Md., assignor to B. H. Bunn Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 18, 1966, Ser. No. 4,315
Term of patent 14 years
(Cl. D55—1)



210,245
PATTERN-CONTROLLED CUTTING MACHINE
Gary H. Johnson and Thomas M. Frisby, Fort Collins, Colo., assignors to Heath Engineering Company, Fort Collins, Colo., a corporation of Colorado
Filed Aug. 17, 1967, Ser. No. 8,295
Term of patent 14 years
(Cl. D55—1)

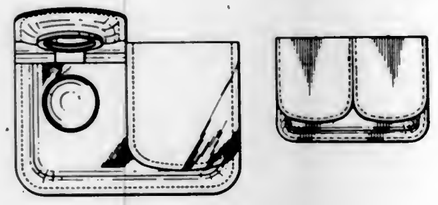


210,246
FLIGHT FOR AN ENDLESS CHAIN CONVEYOR FOR A BARN CLEANER
Paul Patz and Edward A. Graetz, both of Pound, Wis. 54161
Filed Oct. 2, 1967, Ser. No. 8,837
Term of patent 14 years
(Cl. D55—1)



210,247
MUTE
Diane M. Olson and Robert D. Olson, both of 605 West Ave., Fullerton, Calif. 92632
Filed Aug. 1, 1966, Ser. No. 3,285
Term of patent 14 years
(Cl. D56—1)

210,248
CASE FOR CONTACT LENSES AND SIMILAR ARTICLES
George Nissel, 6 Glentworth St., Baker St. London NW. 1, England
Filed Aug. 15, 1966, Ser. No. 3,476
Term of patent 7 years
(Cl. D57—1)



210,249
COMBINED BOTTLE AND CAP THEREFOR
James L. Linn, Jr., Maumee, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed Mar. 29, 1967, Ser. No. 6,432
Term of patent 14 years
(Cl. D58—6)

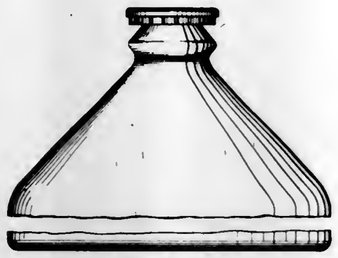


210,250
COMBINED BOTTLE AND CAP THEREFOR
James L. Linn, Jr., Maumee, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed Mar. 29, 1967, Ser. No. 6,433
Term of patent 14 years
(Cl. D58—6)

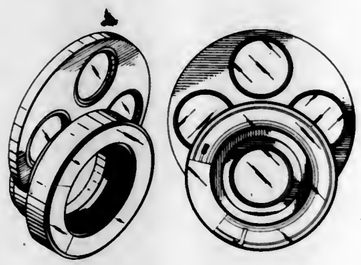
210,251
COMBINED BOTTLE AND CAP THEREFOR
James L. Linn, Jr., Maumee, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed Mar. 29, 1967, Ser. No. 6,435
Term of patent 14 years
(Cl. D58—6)



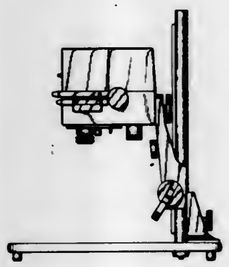
210,252
BOTTLE
Paul G. Kemp, London, Ontario, Canada
Filed Oct. 21, 1965, Ser. No. 87,707
Term of patent 14 years
(Cl. D58—8)



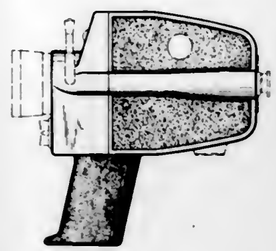
210,253
COMBINED PHOTOGRAPHIC LENS TURRET AND LIGHT SOURCE OR SIMILAR ARTICLE
Lester A. Dine, 145 Grist Mill Lane, Great Neck, N.Y. 11023, and Edward S. Lemmey, 56 Sterling Ave., Freeport, N.Y. 11520
Filed Mar. 29, 1966, Ser. No. 1,673
Term of patent 14 years
(Cl. D61—1)



210,254
PHOTOGRAPHIC ENLARGER
Gilbert Durst, Brixen, near Bozen, Italy, assignor to Durst A.G. Fabrik Fototechnischer Apparate, Bolzano-Bozen, Italy
Filed May 4, 1966, Ser. No. 2,160
Term of patent 14 years
Claims priority, application Italy Dec. 17, 1965
(Cl. D61—1)

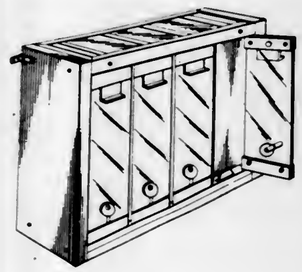


210,255
CINEMATOGRAPHIC CAMERA
Bernhard Jablonski, Musberg, Germany, assignor to Robert Bosch Elektronik und Photokino GmbH, Stutgart-Untertuerkheim, Germany
Filed June 13, 1966, Ser. No. 2,664
Term of patent 7 years
(Cl. D61—1)

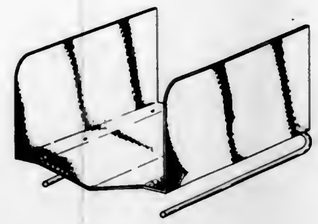


210,256
SEWING MACHINE
Marcel Fresard, Petit-Lancy, Switzerland, assignor to S. A. Mefina, Fribourg, Switzerland, a corporation of Switzerland
Filed Apr. 6, 1967, Ser. No. 6,554
Term of patent 14 years
Claims priority, application Switzerland Oct. 28, 1966
(Cl. D70—1)

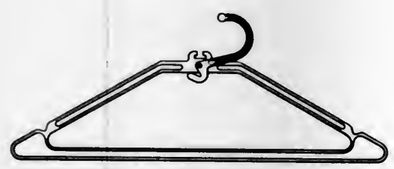
210,257
MAIL BOX UNIT
Alfonso Favaro, Via Pola 13, Turin, Italy
Filed Sept. 30, 1965, Ser. No. 87,233
Term of patent 14 years
(Cl. D74—9)



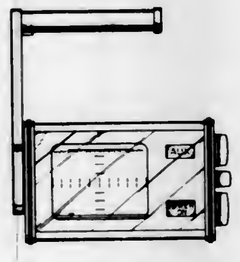
210,258
GROCERY BAG PACKER
Bernard Levitan, 50—47 Cloverdale Blvd., Bayside, N.Y. 11364
Filed June 19, 1967, Ser. No. 7,513
Term of patent 14 years
(Cl. D80—1)



210,259
HANGER FOR LUGGAGE OR THE LIKE
Samuel J. Holtzman, 8201 Symphony Drive, Baltimore, Md. 21208
Filed Mar. 31, 1967, Ser. No. 6,465
Term of patent 14 years
(Cl. D80—8)



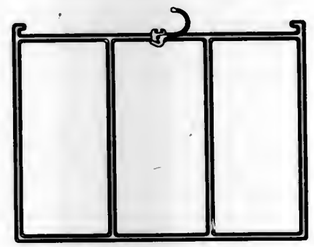
210,260
PHYSIOLOGICAL UNIT FOR MONITORING BODY FUNCTIONS
Raymond Ugo Cappelli, Hillsboro, and Jack Randolph Nelson, Beaverton, Oreg., assignors to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
Filed Mar. 20, 1967, Ser. No. 6,283
Term of patent 14 years
(Cl. D83—1)



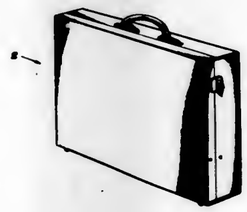
210,261
COSMETIC HOLDER OR SIMILAR ARTICLE
Richard L. Thurman, Beloit, Wis., assignor, by mesne assignments, to The Smylon Co., Hollywood, Calif., a corporation of California
Filed Oct. 28, 1964, Ser. No. 82,355
Term of patent 14 years
(Cl. D86—10)



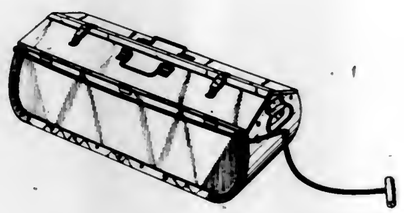
210,262
FOLLOWER FRAME FOR LUGGAGE OR THE LIKE
Samuel J. Holtzman, 8201 Symphony Drive, Baltimore, Md. 21208
Filed Mar. 31, 1967, Ser. No. 6,464
Term of patent 14 years
(Cl. D87—2)



210,263
ATTACHÉ CASE
George Rapoport, 8417 Fountain Ave., Los Angeles, Calif. 90069
Filed Aug. 1, 1966, Ser. No. 3,281
Term of patent 14 years
(Cl. D87—5)



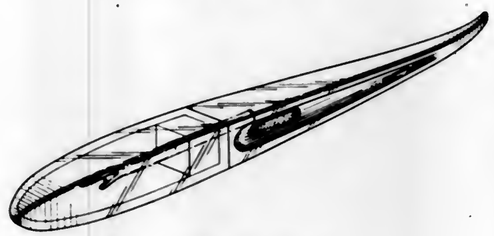
210,264
TOTE BOX FOR A POWER SAW OR THE LIKE
Sophus E. Severson, R.F.D. 3, Chetek, Wis. 54728
Filed Oct. 20, 1965, Ser. No. 87,625
Term of patent 3½ years
(Cl. D87—5)



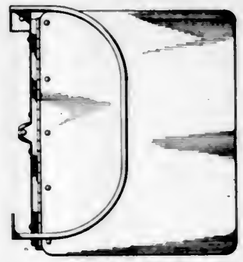
210,265
BLENDER BASE
Henry A. Dewenter, 1477 Old Mill Road, San Marino, Calif. 91108
Filed Jan. 20, 1967, Ser. No. 5,493
Term of patent 14 years
(Cl. D89—1)



210,266
SEAM RIPPER OR SIMILAR ARTICLE
Lawrence M. Dunne, Massapequa, N.Y., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 18, 1966, Ser. No. 1,539
Term of patent 14 years
(Cl. D95—1)



210,267
BINDER FOR A TELEPHONE DIRECTORY OR SIMILAR ARTICLE
Walter V. Rockwell, Montclair, N.J., assignor to American Loose Leaf Corporation, Clifton, N.J., a corporation of Delaware
Filed Feb. 15, 1967, Ser. No. 5,822
Term of patent 14 years
(Cl. D97—2)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 20TH DAY OF FEBRUARY, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACD Bedding Corp.: *See*—
Kamp, Ewald A. Re. 26,346.
Banner Metals, Inc.: *See*—
Wilson, James D. Re. 26,350.
Ciccone, Irene: *See*—
Ciccone, Jack M. Re. 26,348.
Ciccone, Jack M., deceased (by I. Ciccone, administratrix), to F. L. Smithe Machine Co., Inc. Envelope counter. Re. 26,348, 2–20–68, Cl. 93—93.
Cummings, Howard B., to Shenango Ceramics, Inc. Tile setter. Re. 26,345, 2–20–68, Cl. 264—58.
Eaton Yale & Towne Inc.: *See*—
Turkish, Michael C. Re. 26,353.
Greenfield, Charles. Apparatus and process for dehydrating waste solids concentrates. Re. 26,352, 2–20–68, Cl. 159—13.
Hose Booms, Inc.: *See*—
Sheiry, Edward S. Re. 26,351.
Jackman, John A., to Lewis Engineering Co. Electrical indicator device. Re. 26,349, 2–20–68, Cl. 340—373.
Kamp, Ewald A., to ACD Bedding Corp. Vibrating spring structure. Re. 26,346, 2–20–68, Cl. 128—33.
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Jackman, John A. Re. 26,349.
Oury Engineering Co.: *See*—
Oury, Robert F. Re. 26,347.
Oury, Robert F., to Oury Engineering Co. Concrete mix transfer apparatus. Re. 26,347, 2–20–68, Cl. 198—84.
Sheiry, Edward S., to Hose Booms, Inc. Articulated hose derrick. Re. 26,351, 2–20–68, Cl. 137—615.
Shenango Ceramics, Inc.: *See*—
Cummings, Howard B. Re. 26,345.
Smithe, F. L., Machine Co., Inc.: *See*—
Ciccone, Jack M. Re. 26,348.
Turkish, Michael C., to Eaton Yale & Towne Inc. Camshaft for internal combustion engine valve gear. Re. 26,353, 2–20–68, Cl. 123—90.
Usher, James F.: *See*—
Usher, John R., J. F., and J. A. Re. 26,354.
Usher, John A.: *See*—
Usher, John R., J. F., and J. A. Re. 26,354.
Usher, Marcella C.: *See*—
Usher, John R., J. F., and J. A. Re. 26,354.
Usher, John R., J. F., and J. A., deceased (by M. C. Usher, executrix). Collapsible structure. Re. 26,354, 2–20–68, Cl. 52—646.
Wilson, James D., to Banner Metals, Inc. Receptacle. Re. 26,350, 2–20–68, Cl. 220—97.

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AMP Inc.: *See*—
De Lyon, Armand R. 210,207.
Williams, James R. 210,217.
Williams, James R. 210,218.
Alvarez, Fernando, to Fostoria Glass Co. Dessert dish. 210,230, 2–20–68, Cl. D36—2.
Alvarez, Fernando, to Fostoria Glass Co. Plate. 210,231, 2–20–68, Cl. D36—2.
Alvarez, Fernando, to Fostoria Glass Co. Pitcher. 210,232, 2–20–68, Cl. D36—2.
Alvarez, Fernando, to Fostoria Glass Co. Goblet. 210,233, 2–20–68, Cl. D36—8.
Alvarez, Fernando, to Fostoria Glass Co. Tumbler or the like. 210,234, 2–20–68, Cl. D36—8.
American Loose Leaf Corp.: *See*—
Rockwell, Walter V. 210,267.
Anderson, Howard A., to Bissell Inc. Housing for a carpet sweeper. 210,241, 2–20–68, Cl. D49—15.
Augenstein, Karl C., to Textron Inc. Expansible link chain for a bracelet or similar article. 210,238, 2–20–68, Cl. D45—4.
Avis Industrial Corp.: *See*—
Bobrick, Mitchell. 210,239.
Bergeron, Victor J., to Senor Pico, Inc. Fondue warmer. 210,236, 2–20–68, Cl. D44—15.
Bissell Inc.: *See*—
Anderson, Howard A. 210,241.
Bobrick, Mitchell, to Avis Industrial Corp. Garden and walk light. 210,239, 2–20–68, Cl. D48—31.
Booker, Aylwin R. Antenna housing. 210,222, 2–20–68, Cl. D26—14.
Booker, Aylwin R. Antenna. 210,223, 2–20–68, Cl. D26—14.
Borer, Herbert W., M. E. Butterfield, and B. L. Zauss, to Caterpillar Tractor Co. Crawler tractor loader. 210,200, 2–20–68, Cl. D14—3.
Bosch, Robert, Elektronik und Photokino G.m.b.H.: *See*—
Jablonski, Berhard. 210,255.
Braiman, Jerry, and E. W. Shieb, to P. R. Mallory & Co., Inc. Housing for a capacitor device. 210,210, 2–20–68, Cl. D26—1.
Brown, Robert G., to B. H. Bunn Co. Tying machine with twine arm guard. 210,244, 2–20–68, Cl. D55—1.
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Brown, Robert G. 210,244.
Bus, Andre: *See*—
Thorn, John B., and Bus. 210,224.
Thorn, John B., and Bus. 210,225.
Butterfield, Max E.: *See*—
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Cappelli, Raymond U., and J. R. Nelson, to Tektronix, Inc. Physiological unit for monitoring body functions. 210,260, 2–20–68, Cl. D83—1.
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Borer, Herbert W., Butterfield, and Zauss. 210,200.
Child Guidance Toys Inc.: *See*—
Genin, Robert. 210,229.
Cordell, Carl R., Jr. Fishing lure. 210,205, 2–20–68, Cl. D22—27.
Cox, Joe M. Building. 210,199, 2–20–68, Cl. D13—1.
Cross, Earl G., to Turco Mfg. Co. Sled or similar article. 210,228, 2–20–68, Cl. D34—15.
Dayton Electronic Products Co., Inc.: *See*—
Fischer, Theodore W. 210,209.
De Lyon, Armand R., to AMP Inc. Electron tube socket. 210,207, 2–20–68, Cl. D26—1.
De Rousse, Dale E., W. M. Johnson, H. E. Martin, and R. W. Montgomery, to Optics Technology, Inc. Gas laser. 210,220, 2–20–68, Cl. D26—14.
Dewenter, Henry A. Blender base. 210,265, 2–20–68, Cl. D89—1.
Dine, Lester A., and E. S. Lemmey. Combined photographic lens turret and light source or similar article. 210,253, 2–20–68, Cl. D61—1.
Doyle, Richard H.: *See*—
Gallee, George J., Obergfell, and Doyle. 210,242.
Dreyfuss, Henry, and W. R. Peterson, to The Singer Co. Foot-operated controller for sewing machines. 210,210, 2–20–68, Cl. D26—13.
Dunne, Lawrence M., to The Singer Co. Seam ripper or similar article. 210,266, 2–20–68, Cl. D95—1.
Durst A.G. Fabrik Fototechnischer Apparate: *See*—
Durst, Gilbert. 210,254.
Durst, Gilbert, to Durst A.G. Fabrik Fototechnischer Apparate. Photographic enlarger. 210,254, 2–20–68, Cl. D61—1.
Elektriska Svetsningsaktiebolaget: *See*—
Frelin, Bert F. E. 210,208.
Fastener Corp.: *See*—
Gallee, George J., Obergfell, and Doyle. 210,242.
Favaro, Alfonso. Mail box unit. 210,257, 2–20–68, Cl. D74—9.
Fischer, Theodore W., to Dayton Electronic Products Co., Inc. Self-contained portable electric signal generator. 210,209, 2–20–68, Cl. D26—1.
Fostoria Glass Co.: *See*—
Alvarez, Fernando. 210,230.
Alvarez, Fernando. 210,231.
Alvarez, Fernando. 210,232.
Alvarez, Fernando. 210,233.
Alvarez, Fernando. 210,234.
Frelin, Bert F. E., to Elektriska Svetsningsaktiebolaget. Portable welding transformer. 210,208, 2–20–68, Cl. D26—1.
Fresard, Marcel, to Mefina, S.A. Sewing machine. 210,256, 2–20–68, Cl. D70—1.
Frisby, Thomas M.: *See*—
Johnson, Gary H., and Frisby. 210,245.
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Hofmann-Igl, Ernest. 210,201.
Hofmann-Igl, Ernest. 210,203.
Gallee, George J., A. R. Obergfell, and R. H. Doyle, to Fastener Corp. Carrier strip for holding fasteners. 210,242, 2–20–68, Cl. D54—1.
Garcia, Richard J. Sportsman's leg protector. 210,190, 2–20–68, Cl. D2—27.
General Electric Co.: *See*—
Tomkinson, Stanley E. 210,213.
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Genin, Robert, to Child Guidance Toys Inc. Toy fire ladder engine. 210,229, 2–20–68, Cl. D34—15.

Graetz, Edward A.: *See*—
Patz, Paul, and Graetz. 210,246.
Greitzer, Morris and S., to Industrial Container Corp. Closure for pails or the like. 210,196, 2–20–68, Cl. D9—254.
Greitzer, Simon: *See*—
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Heath Engineering Co.: *See*—
Johnson, Gary H., and Frisby. 210,245.
Hofmann-Igl, Ernest, to Georg Fritzmeier KG, Firma. Tractor cabin. 210,201, 2–20–68, Cl. D14—3.
Hofmann-Igl, Ernest, to Georg Fritzmeier KG, Firma. Equipment operator's cabin. 210,203, 2–20–68, Cl. D14—3.
Holtzman, Samuel J. Hanger for luggage or the like. 210,259, 2–20–68, Cl. D80—8.
Holtzman, Samuel J. Follower frame for luggage or the like. 210,262, 2–20–68, Cl. D87—2.
Horton, Alonzo T., and J. W. Little, to Telescriber Corp. Telephone answering unit. 210,221, 2–20–68, Cl. D26—14.
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Mallory, Robert V. 210,215.
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Jablonski, Berhard, to Robert Bosch Elektronik und Photokino G.m.b.H. Cinematographic camera. 210,255, 2–20–68, Cl. D61—1.
Johnson, Gary H., and T. M. Frisby, to Heath Engineering Co. Pattern-controlled cutting machine. 210,245, 2–20–68, Cl. D55—1.
Johnson, William M.: *See*—
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Kemp, Paul G. Bottle. 210,252, 2–20–68, Cl. D58—8.
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Thorn, John B., and Bus. 210,224.
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Levitan, Bernard. Grocery bag packer. 210,258, 2–20–68, Cl. D80—1.
Levy, Benjamin, to United Metal Goods Mfg., Inc. Clock. 210,235, 2–20–68, Cl. D42—7.
Limbach, Anthony P., to Mobil Oil Corp. Merchandising container or the like. 210,193, 2–20–68, Cl. D9—225.
Limbach, Anthony P., to Mobil Oil Corp. Merchandising container or the like. 210,194, 2–20–68, Cl. D9—225.
Limbach, Anthony P., to Mobil Oil Corp. Merchandising container or the like. 210,195, 2–20–68, Cl. D9—225.
Linn, James L., Jr., to Owens-Illinois, Inc. Combined bottle and cap therefor. 210,249, 2–20–68, Cl. D58—6.
Linn, James L., Jr., to Owens-Illinois, Inc. Combined bottle and cap therefor. 210,250, 2–20–68, Cl. D58—6.
Linn, James L., Jr., to Owens-Illinois, Inc. Combined bottle and cap therefor. 210,251, 2–20–68, Cl. D58—6.
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Manderfield, Ellen B., to Oneida Ltd. Spoon or similar article. 210,243, 2–20–68, Cl. D54—12.
Martin, Harold E.: *See*—
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Rockwell, Walter V., to American Loose Leaf Corp. Binder for a telephone directory or similar article. 210,267, 2–20–68, Cl. D97—2.
Sanborn, Frederic R. G., to O.K. Partnership. Control console for a notched card system. 210,212, 2–20–68, Cl. D26—5.
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Tektronix, Inc.: *See*—
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Thorn, John B., and A. Bus, to The Lane Co., Inc. Cocktail table. 210,225, 2–20–68, Cl. D33—14.
Thurman, Richard L., to The Smylon Co. Cosmetic holder or similar article. 210,261, 2–20–68, Cl. D86—10.
Tomkinson, Stanley E., to General Electric Co. End frame for a dynamoelectric machine. 210,213, 2–20–68, Cl. D26—5.
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Zauss, Barry L.: *See*—
Borer, Herbert W., Butterfield, and Zauss. 210,200.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 20TH DAY OF FEBRUARY, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

A&T Development Corp.: *See*—
Avril, Arthur C. 3,369,798.
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English, William K. 3,370,279.
Seitz, Edward L., Jr., and Travis. 3,369,277.
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Aarvik, Jon, to Norges Geologiske Undersokelse. Catalyst for the reaction between hydrocarbons and sulfur dioxide for the preparation of pure sulfur. 3,369,872, 2–20–68, Cl. 23—226.
Abbott, Thomas I., to Eastman Kodak Co. Lithographic plates sensitized with oxacarbocyanine and benzimidazole carbolyanine dyes. 3,369,902, 2–20–68, Cl. 96—76.
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Abermeth, Hubert, to Klockner-Humboldt-Deutz Aktiengesellschaft. Rotary piston internal combustion engine, especially circular piston internal combustion engine. 3,369,739, 2–20–68, Cl. 230—145.
Abermeth, Hubert, to Klockner-Humboldt-Dentz Aktiengesellschaft. Rotary piston internal combustion engine, especially circular piston internal combustion engine. 3,369,740, 2–20–68, Cl. 230—145.
Ackerman, Carl D., and W. E. Mott, to Gulf Research & Development Co. Method of detecting and/or measuring internal leakage in a process stream. 3,370,173, 2–20–68, Cl. 250—106.
Addressograph Multigraph Corp.: *See*—
Schulze, John J., and Raterman. 3,369,804.
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Baldoni, Andrew A., and S. Kimura, to Morton International, Inc. Stabilized 1-phenyl-3-pyrazolidone photographic developer system. 3,369,898, 2–20–68, Cl. 96—66.1.
Baldwin, John L. E., and P. W. Blaxtan, to Rank-Bush Murphy Ltd. Abrasion resistant magnetic head. 3,370,282, 2–20–68, Cl. 340—174.1.
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Beachem, Michael T., and J. C. Oppelt, to American Cyanamid Co. N,N'-bis (acyloxymethyl) urons as finishes for cellulosic textile materials, a textile treated therewith, and a process for manufacturing said urons. 3,369,931, 2–20–68 Cl. 117—139.4.
Beaman, Ralph G., to E. I. du Pont de Nemours and Co. Dyeable polyurethanes and polyamides containing piperazine-based modifiers in the polymer chain. 3,370,044, 2,20,68, Cl. 260—77.5.
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Bennett, Robert W., and W. S. Blanding, to Corning Glass Works. Cathode ray tube envelopes and methods of preparing parts therefore and fabricating such envelopes. 3,369,881, 2–20–68, Cl. 65—58.
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Black, William M., and J. H. Nichols, to Esso Production Research Co. Steam stimulation in-situ combustion backflow process. 3,369,604, 2–20–68, Cl. 166—40.
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Blättry, Johann, to Paul Forkardt, Kommanditgesellschaft. Method of and apparatus for actuating double-acting rotatable clamping means, especially for working spindles. 3,369,464, 2–20–68, Cl. 91—420.
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Bloch, Herman S., to Universal Oil Products Co. Hydrophilic monoolefin-conjugated cyclodiolefin condensation detergent product. 3,370,080, 2–20–68, Cl. 260—457.
Blomster, Paul R., to Bell Telephone Laboratories, Inc. Piezoelectric crystal support structure. 3,370,188, 2–20–68, Cl. 310—9.1.
Blue, Sidney D., to Reeves Brothers, Inc. Crushed polyurethane foam and method of making same. 3,370,117, 2–20–68, Cl. 264—321.
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Bond, Donald C., and G. G. Bernard, to Union Oil Co. of California. Secondary recovery method. 3,369,601, 2–20–68, Cl. 166—9.
Boone, Philip, to Polaroid Corp. Process and apparatus for making sheet material having a varying molecular orientation. 3,370.111, 2–20–68, Cl. 264—2.
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Brack, Joe B., G. R. Pennington, C. J. Johnson, and C. E. Pennington, to G. M. Turner. Horizontal earth boring method. 3,369,617, 2–20–68, Cl. 175—62.
Bradlee, Charles R., to Textron, Inc. Double strand feed press. 3,369,387, 2–20–68, Cl. 72—335.
Bradshaw, Robert S., to Burroughs Corp. Mail handling and separating apparatus. 3,369,661, 2–20–68, Cl. 209—120.
Brandt, Herbert. Axial flow regenerative heat exchangers. 3,369,593, 2–20–68, Cl. 165—10.
Brandt, Ralph H., and J. B. Schoentgen. Mounting belt for film transparencies, 3,369,451, 2–20–68, Cl. 88—26.
Braun, Robert A., to E. I. du Pont de Nemours and Co. Bicyclic fluoroacetals. 3,370,018, 2–20–68, Cl. 260—2.
Breault, Ernest R. Cargo handling and transporting vehicle. 3,369,682, 2–20–68, Cl. 214—392.
Breen, Henry D., and R. M. Loomis, to Unarco Industries, Inc. Lading separator. 3,369,502, 2–20–68, Cl. 105—376.
Bremer, John W.: *See*—
Doss, Dwight W., and Bremer. 3,370,177.
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Bricout, Pierre A. Periodic harmonic modulation of a sound source. 3,369,519. 2–20–68, Cl. 116—27.
Briggs, Gifford G., to United States of America, Atomic Energy Commission. Preparation of dense thoria and sulfate containing thoria from an aqueous thorium nitrate solution. 3,370,016, 2–20–68, Cl. 252—301.1.
Briggs, Norman H., C. M. Burton, and G. W. Greene, to United States of America, Atomic Energy Commission. Temperature-gradient-insensitive resistance-type liquid metal level detector. 3,369,401, 2–20–68, Cl. 73—304.
Brighton, John C., and G. E. Scheitlin, to Arvin Industries, Inc. Remote controlled mirror. 3,369,427, 2–20–68, Cl. 74—501.
Brill, David D. Electrically lighted implement holder. 3,370,163. 2–20–68, Cl. 240—6.46.
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Halverson, Phillip C., and Preston. 3,370,180.
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Walley, Gerald D., Smith, and Wilson. 3,369,771.
British Petroleum Co. Ltd., The: *See*—
Tupman, Kenneth, and Irving. 3,369,995.
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Brockmuller, Friedrich F., to Windmoller & Holscher. Squarebottom bag of weldable material. 3,369,731, 2–20–68, Cl. 229—62.5.
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Brola, Gabriel. Boilers. 3,369,527. 2–20–68, Cl. 122—410.
Brooks, Simmie. Lady's shoe. 3,369,309, 2–20–68, Cl. 36—2.5.
Brouwer, Frans, to Stewart-Warner Corp. Pantograph type pattern contour tracing system. 3,369,301, 2–20–68, Cl. 33—23.
Brower, Harley P., and D. F. Hennessey, to Collins Radio Co. FM system using crystal oscillator. 3,370,255, 2–20–68, Cl. 332—26.
Brown, David A. Toy glider with automatic wing converging means. 3,369,319, 2–20–68, Cl. 46—80.
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Hochner, Walter L., Lawrence, and Brown. 3,369,962.
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Brown, Robinson W., to Bessinger Tool Co. Pressure control device. 3,369,619, 2–20–68, Cl. 175—319.
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Brownell, Nathan C., to Brownell & Co. Synthetic fishnet construction. 3,369,317, 2–20–68, Cl. 43—7.
Brunette, Paul, to Northern Electric Co. Ltd. Indicia wheel display device having a selectively rotated wheel shaft. 3,370,291, 2–20–68, Cl. 340—378.
Bowman, Richard V. Container for sheets of carbon and typewriting paper. 3,369,730. 2–20–68, Cl. 229—44.
Buccicone, Dario, to Buccicone Engineering Co., Inc. Sheet piling machine with scissors-type lift. 3,369,675, 2–20–68, Cl. 214—6.
Buccicone, Dario, to Buccicone Engineering Co., Inc. Sheet piler with stagger piling mechanism. 3,369,806, 2–20–68, Cl. 271—68.
Buccicone Engineering Co., Inc.: *See*—
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Buccicone, Dario. 3,369,806.

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Buell Engineering Co., Inc.: *See*—
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Bunch, Harry J. Bell-crank spring-suspension system for wheeled vehicles. 3,369,824, 2–20–68, Cl. 280—104.5.

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Burch, Lyndon W. and H. K. Condition detecting control with means to enable the system to return to its first position upon a slight change of condition. 3,370,142, 2–20–68, Cl. 200—122.

Burdst, Ernest. Musical score, and means for reading this score, particularly designed for teaching a musical instrument. 3,369,439, 2–20–68, Cl. 84—483.

Burg, Raymond H., K. H. Doeringsfeld, and R. L. Holland, to Honeywell Inc. Impact sensor device. 3,369,520, 2–20–68, Cl. 116—114.

Burgess, Frank H., to The Morningstar Corp. Reel case with gasket support for reel. 3,369,654, 2–20–68, Cl. 206—52.

Burns, Frederick B., G. C. D'Ercoli, and A. A. Miachnik, to E Z Paintr Corp. Paint applying tool. 3,369,268, 2–20–68, Cl. 15—210.

Burns, Joel A. Rotary locking seat belt retractor. 3,369,768, 2–20–68, Cl. 242—107.4.

Burns, Joel A. Rotary-inertia locking seat belt retractor. 3,369,769, 2–20–68, Cl. 242—107.4.

Burr, Harvey, to Anaconda Wire and Cable Co. Stranding apparatus and method and cable made thereby. 3,369,355, 2–20–68, Cl. 57—34.

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Bushmeyer, Richard W., to J. I. Case Co. Flow control valve for concrete pump. 3,369,496, 2–20–68, Cl. 103—170.

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Buss, Focke G., to Olympia Werke AG. Apparatus for monitoring the feeding of tapelike record carriers. 3,370,286, 2–20–68, Cl. 340—259.

Butement, William A. S., E. S. Shire, and A. F. H. Thomson, to United States of America, Navy. Proximity fuzes for projectiles. 3,369,487, 2–20–68, Cl. 102—70.2.

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Buzenberg, Robert J., and P. C. De Graff, to Viking Mfg. Co. Mobile feed grinding and mixing and distributing apparatus. 3,369,762, 2–20–68, Cl. 241—63.

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Callahan, William H., and R. F. Smith, to Lektro-Vend Corp. Coin handling and changing device. 3,369,641, 2–20–68, Cl. 194—2.

Callaghan, William I. Coating cartridge holder. 3,369,474, 2–20–68, Cl. 95—89.

Campbell, Charles, to Morganite Research and Development Ltd. Bearings. 3,370,006, 2–20–68, Cl. 252—12.

Campbell, James S. Internal combustion engine. 3,369,530, 2–20–68, Cl. 123—46.

Campbell, James S., to Free Piston Development Co., Ltd. Engine-compressor type machine. 3,369,733, 2–20–68, Cl. 230—56.

Campbell, James S., to Quality Casting Systems. Sharp cut-off in pressure pour apparatus. 3,369,717, 2–20–68, Cl. 222—399.

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Cannelongo, Joseph F., to American Cyanamid Co. Flame-retardant compositions for plastics. 3,370,030, 2–20–68, Cl. 260—28.5.

Caparone, Michael J., and T. J. Dykzeul, to Robertshaw Controls Co. Pressure regulator. 3,369,562, 2–20–68, Cl. 137—505.38.

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Caretto, Antoni C., and F. W. Koepke, Jr., to Ajem Laboratories, Inc. Article feeding apparatus. 3,369,650, 2–20–68, Cl. 198—219.

Carle, Ross G., to The Buckeye Steel Castings Co. Hydraulic cushioning device for railway vehicles. 3,369,674, 2–20–68, Cl. 213—43.

Carlin, Edgar M., and D. A. Dean, to Exotronic Systems Ltd. Hydraulic muscle strength developing apparatus. 3,369,403, 2–20–68, Cl. 73—379.

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Caroselli, Remus F., and J. J. Dillon, to Owens-Corning Fiberglas Corp. Method for rendering fabrics resistant to wrinkling and weave slippage and article produced thereby. 3,369,957, 2–20–68, Cl. 161—93.

Carpenter, Clifford L., and R. P. de Filippi, to Abcor, Inc. Isothermal-liquid-liquid permeation separation systems. 3,370,102, 2–20–68, Cl. 260—674.

Carrier Corp.: *See*—
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Keating, Thomas F. 3,369,783.
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Carroll, Robert G., to Profair Corp. Process for producing a tobacco substitute. 3,369,552, 2–20–68, Cl. 131—2.

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Carter, J. C., Co., The: *See*—
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Carter, James C., to The J. C. Carter Co. Submerged pumping system. 3,369,715, 2–20–68, Cl. 222—333.

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Casson, Ernest H. Material handling method. 3,369,681, 2–20–68, Cl. 214—152.

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Cesareo, Orfeo, to Bell Telephone Laboratories, Inc. Information checking system. 3,370 270. 2–20–68, Cl. 340—146.1.

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Chang, Wen-Hsuan, to Pittsburgh Plate Glass Co. Method of killing nematodes with 6,9-dioxa-1-spiro[4,4]nonenes. 3,369,966, 2–20–68, Cl. 167—33.

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Stutz, Robert E., and Chapman. 3,369,921.

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Chen, William K.-W., to American Machine & Foundry Co. Electrodialytic treatment of tea. 3,369,900, 2–20–68, Cl. 99—77.

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Chrietzberg, Bill G., and F. V. Newell, to Best Stamp & Mfg. Co. Sign construction. 3,369,312, 2–20–68, Cl. 40—140.

Christensson, Od W. Method and apparatus for vacuum testing plastic lined card-board cartons. 3,369,392, 2–20–68, Cl. 73—49.2.

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Tarkan, Stuart E., and Ellis. 3,369,891.

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Cichy, Daniel R., J. L. Denniston, and J. K. L. MacKay, to North American Rockwell Corp. Aircraft flight control system. 3,369,781, 2–20–68, Cl. 244—90.

Cinkutis, Robert J., and S. R. Kuczynski, to Philco-Ford Corp. Control mechanism. 3,369,409, 2–20–68, Cl. 74—10.

Ciscel, Benjamin H. Automatic pilots. 3,369,778, 2–20–68, Cl. 244—77.

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Clark, George B., and S. Manjikian, to Universal Water Corp. Reverse osmosis apparatus having feed recirculation means. 3,369,667, 2–20–68, Cl. 210—137.

Clark, Sidney G., and H. E. Feierstein, to Monsanto Co. Stabilization of water soluble surface active agents. 3,369,304, 2–20–68, Cl. 34—9.

Claus, Gordon J. Dispensing container having discharge openings with variable closure means. 3,369,709, 2–20–68, Cl. 222—107.

Clayton, John, Jr., to Waters Mfg., Inc. Bushing stop mechanism. 3,369,410, 2–20–68, Cl. 74—10.2.

Clement, William H., and C. M. Selwitz, to Gulf Research & Development Co. Oxidation of olefinically unsaturated hydrocarbons to carbonyl compounds. 3,370,073, 2–20–68, Cl. 260—406.

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Cobey, Herbert T. Compost turner and windrow forming machine. 3,369,797, 2–20–68, Cl. 259—28.

Cockerell, Christopher S., to Hovercraft Development Ltd. Vehicle for operation over fluid surfaces. 3,369,514, 2–20–68, Cl. 114—67.

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Coffman, J. D., and W. G. Brown, to Worthington Corp. Measuring chamber bridge for use in water meters. 3,369,399, 2–20–68, Cl. 73—272.

Cohlan, Bernard F. Drag free spacecraft. 3,369,770, 2–20–68, Cl. 244—1.

Colding, Bertil, to Diadur Aktiebolag. Cutting insert for chip cutting machining and means for manufacturing such cutting inserts. 3,369,283, 2–20–68, Cl. 29—95.

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Coleman, Ralph F., to Worthington Corp. Forced ventilation for motor cooling on enclosed motor driven compressor unit. 3,369,736, 2–20–68, Cl. 230—117.

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Cook, Lucien H., to Chemical Construction Corp. Urea synthesis process. 3,370,090, 2–20–68, Cl. 260—555.

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Corran, John A., to Imperial Chemical Industries Ltd. Process for producing pentachloropyridine. 3,370,062, 2–20–68, Cl. 260—290.

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Cottle, John E., to Phillips Petroleum Co. Recovery of organic material by adsorption and desorption from an adsorbent. 3,370,002, 2–20–68, Cl. 208—310.

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Craig, Joseph F. M., and E. L. Falconer, to Canadian Industries, Ltd. Explosive composition containing an inorganic oxidizer salt, a soluble lignosulphonate, and mutual solvent therefore. 3,369,945, 2–20–68, Cl. 149—39.

Crane, Burke J., D. J. Walker, and G. H. Myers, to Whirlpool Corp. Electronic control circuit for direct drive automatic. 3,369,381, 2–20–68, Cl. 68—12.

Crockford, Joseph R., to Kimberly-Clark Corp. Catamenial tampon. 3,369,544, 2–20–68, Cl. 128—285.

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Cross, Earl G., to Turco Mfg. Co. Diagonal-printing screening machine. 3,369,484, 2–20–68, Cl. 101—38.

Crowley, Carolyn E., to R. E. Crowley. Eyeglass case. 3,369,651, 2–20–68, Cl. 206—5.

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Cruse, Clyde L., Jr., to Armco Steel Corp. Treatment and reduction of pelletized iron ores. 3,369,888, 2–20–68, Cl. 75—34.

Cruse, Philip M., N. B. Stevens, and R. M. Talley, to Santa Barbara Research Center. Detection system. 3,370,285, 2–20–68, Cl. 340—258.

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Curran, Charles A. Teaching machine and method. 3,369,308, 2–20–68, Cl. 35—35.

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Curtis, Russell R., and C. D. McGinnis, to Curtis Dyna-Products Corp. Plural source cleaning apparatus having fluid actuated diaphragm-type proportioning valve. 3,369,705, 2–20–68, Cl. 222—57.

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Da Rold, James J., and R. F. Trevisin, to American Bosch Arma Corp. Object detector and control system employing same. 3,370,166, 2–20–68, Cl. 246—182.

Dacquay, Henri. Photographic reproducing apparatus. 3,369,448, 2–20–68, Cl. 88—24.

Dahan, Paul C., to Mobil Oil Corp. Apparatus and process for confining floating liquid products. 3,369,664, 2–20–68, Cl. 210—83.

Dalton, Robert H., and F. W. Martin, to Corning Glass Works. Radiation-resistant metal sealing glass. 3,369,961, 2–20–68, Cl. 161—196.

Dancik, Paul J., to The Boeing Co. Aircraft blade folding mechanism. 3,369,610, 2–20–68, Cl. 170—135.25.

Darby, Vene L., and E. E. Hatter, to Hi-Shear Corp. Blind nut assembly joint. 3,369,442, 2–20–68, Cl. 85—70.

Dasta, Anthony G., and Edward L. Curran. Head-positioning device for X-ray photography. 3,369,787, 2–20–68, Cl. 248—118.

Davidoff, Charles, and S. Bitko. Apparatus for periodically supplying make-up material to an electrochemical bath. 3,369,987, 2–20–68, Cl. 204—275.

Davidse, Pieter D., and L. I. Maissel, to International Business Machine Corp. Apparatus for cathode sputtering including a shielded RF electrode. 3,369,991, 2–20–68, Cl. 204—298.

Davis, Calvin M., and R. L. Davies, to General Electric Co. Power bulk breakdown semiconductor devices. 3,370,209, 2–20–68, Cl. 317—235.

Davis, David R. Disposable air filter bag. 3,369,348, 2–20–68, Cl. 55—374.

Davis, Elwood T., to Leeds & Northrup Co. Electrical control network. 3,369,750, 2–20–68, Cl. 236—68.

Davis, Everett R., E. W. Merrill, and D. D. Hundt, to W. R. Grace & Co. Side seam seal for metal containers. 3,369,568, 2–20–68, Cl. 138—168.

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Davis, John W., to Dunlop Rubber Co. Ltd. Vehicle anti-skid braking system. 3,369,635, 2–20–68, Cl. 188—181.

Davis, Paul K., to First Western Bank and Trust Co. Pipe cutoff control apparatus. 3,369,432, 2–20–68, Cl. 82—53.1.

Davison, Bartholomew J., to United Aircraft Corp. Percent rate of change pressure sensor. 3,369,404, 2–20–68, Cl. 73—407.

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Dean, Douglas A.: *See*—
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De Biasi, Charles P. Auto kinetic wheel or fluid motor. 3,369,461, 2–20–68, Cl. 91—73.

Debrotnic, John S., V. B. Orn, and W. E. Young, to Technical Research Co. Identification tag implanting machine. 3,369,525, 2–20–68, Cl. 119—3.

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De Castelbajac, Henri. Planting apparatus. 3,369,507, 2–20–68, Cl. 111—89.

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Dedow, Joachim, to Apparatebau Rothemuhle Brandt & Kritzler. Regenerator for a regenerative heat exchanger. 3,369,592, 2–20–68, Cl. 165—10.

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Hubbard, Arthur L. 3,369,352.
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Deiters, Wilhelm, to Inventa AG Fuer Forschung und Patentverwertung. Process for recovering ammonia from ammonia-containing gas by means of sulfuric acid. 3,369,869, 2–20–68, Cl. 23—193.

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Bonanno, Joseph L. 3,369,535.

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Demrick, Carl J. Apparatus for making steel wool scouring pad. 3,369,282, 2–20–68, Cl. 29—4.52.

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Dix, Cyril H., to The M-O Valve Co. Ltd. Travelling wave tubes. 3,370.197, 2–20–68, Cl. 315—3.5.

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Downey, Rogers B., to Polaroid Corp. Camera apparatus. 3,369,470, 2–20–68, Cl. 95—13.

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Klimstra, Paul D., and R. E. Counsell, to G. D. Searle & Co. [N-alkyl-17-(dialkylaminoalkyl)amino] androst-4-en-3-ones. 3,370,070, 2–20–68, Cl. 260—397.3.
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Knightly, William B., to Atlas Chemical Industries, Inc. Preparation of yeast-raised baked products employing a blend of a monoglyceride and a lower monocarboxylic acid ester of a polyhydric alcohol. 3,369,907, 2–20–68, Cl. 99—91.
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Kohl, Douglas A., to Litton Systems, Inc. Optical alignment ascertaining device and process for elimination of refractive effects. 3,369,445, 2–20–68, Cl. 88—14.

Kohn, David H., A. Schwarz, and K. S. Spiegler, to Technion Research and Development Foundation, Ltd. Sulfonic acid cation exchangers containing amine groups. 3,370,021, 2–20–68, Cl. 260—2.2.
Komoda, Tsutomu, to Kabushiki Kaisha Hitachi Seisakusho. Anode aperture plate for a television camera tube in an electron microscope comprising a stainless steel foil. 3,370,168, 2–20–68, Cl. 250—49.5.
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Kornicker, Walter A., E. P. Benzing, and E. Perry, to Monsanto Co. Polymerization process employing transition metal compounds as catalysts. 3,370,041, 2–20–68, Cl. 260—67.
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Livengood, Samuel M., and R. J. Scott, to Union Carbide Corp. Self-propelling food mixture. 3,369,913, 2–20–68, Cl. 99—189.

Livingston, William L., to Combustion Engineering, Inc. Method of furnace supervision. 3,369,588, 2–20–68, Cl. 158—117.5.

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Lourigan, George H., and C. A. Dupraz, to Union Carbide Corp. Magnesium fluoborate as cellulose-carbamate reaction catalyst. 3,369,858, 2–20–68, Cl. 8—116.3.

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Lowe, Edwin C., to Robbins Aviation, Inc. Corrugating method. 3,370,118, 2–20–68, Cl. 264—325.

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Martinsen, Lyle J. Credit card pocketbook. 3,369,585, 2–20–68, Cl. 150—39.

Marty, Robert S., and J. H. Fabricius, to Sprague Electric Co. Electrical resistor. 3,370,262, 2–20–68, Cl. 338—309.

Marshall, Keith W., to Chebite Corp. Tool for assembling bushings. 3,369,286, 2–20–68, Cl. 29—235.

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Matt, Joseph Z., to Velsicol Chemical Corp. Polymeric compositions prepared from a hydrocarbon fraction composed substantially of dimers and codimers of conjugated dienes. 3,370,027, 2–20–68, Cl. 260—22.

Matteucci, Luigi, to S.p.A. Officine Meccaniche Fratelli Daldi & Matteucci. Electroerosive burr-removing method and apparatus. 3,370,146, 2–20–68, Cl. 219—68.

Mattingly, Denis A. E., to The Klinger Mfg. Co. Ltd. False twisting apparatus. 3,369,356, 2–20–68, Cl. 57—77.45.

Mattox, William J., and E. M. Gladrow, to Esso Research and Engineering Co. Process for ion exchanging crystalline zeolites. 3,369,865, 2–20–68, Cl. 23—112.

Matulaitis, Victor E., to Ex-Cell-O Corp. Overriding control means for a servo control system on an electrical discharge apparatus. 3,370,147, 2–20–68, Cl. 219—69.

Matz, Allen S., Jr., to Telefex, Inc. Plastic-lined conduit. 3,369,426, 2–20–68, Cl. 74—501.

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Mavilor Manufacture de Vilebrequins de Lorette: *See*—
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May, Frank H., to American Potash & Chemical Corp. Method of producing potassium sulfate. 3,369,867, 2–20–68, Cl. 23—121.

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Robinson, Morris D. Stowable lift apparatus. 3,369,679, 2–20–68, Cl. 214—77.

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Rossi, Alessandro. Articulated locomotive drive means. 3,369,500, 2–20–68, Cl. 105—49.

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170—135.25: 3,369,610
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198–203	3,369,649	219–302	3,370,153	241– 63	3,369,762	260– 67.5	3,370,042	272– 1	3,369,808	321– 11	3,370,217
219	3,369,650	309	3,370,154	293	3,369,763	75	3,370,043	79	3,369,809	322– 15	3,370,218
200– 19	3,370,136	406	3,370,155	242– 26.3	3,369,764		3,370,045	273– 50	3,369,810	28	3,370,219
42	3,370,137	540	3,370,156	55.01	3,369,765	77.5	3,370,044	135	3,369,811	40	3,370,220
47	3,370,138	220– 4	3,369,691	56	3,369,766	78	3,370,046	181	3,369,812	44	3,370,221
51.1	3,370,139	48	3,369,692	107	3,369,767	.5	3,370,047	274– 4	3,369,813	323– 4	3,370,222
	3,370,140	54	3,370,169	.4	3,369,768	79.3	3,370,048	10	3,369,814	22	3,370,223
115.5	3,370,141	63	3,369,693		3,369,769	.5	3,370,049		3,369,815	75	3,370,224
122	3,370,142	67	3,369,694	244– 1	3,369,770	80.81	3,370,050	24	3,369,816	324– 32	3,370,225
166	3,370,143	86	3,369,695		3,369,771	86.1	3,370,051	277– 11	3,369,817	54	3,370,226
202–236	3,369,976	97	Re.26,350	3.2	3,369,772	88.2	3,370,052	105	3,369,818		3,370,227
203– 11	3,369,977	102	3,369,696	12	3,369,773	93.7	3,370,053	178	3,369,819	60	3,370,229
204– 64	3,369,978	221– 9	3,369,697	31	3,369,774	123	3,370,054	279– 4	3,369,820	68	3,370,228
162	3,369,979	48	3,369,698	41	3,369,775	158	3,370,055	280– 11.13	3,369,821		3,370,230
	3,369,980		3,369,699	53	3,369,776	209	3,370,056	80	3,369,822		3,370,231
165	3,369,981	63	3,369,700	59	3,369,777	236	3,370,057	103	3,369,823	73	3,370,232
168	3,369,982	147	3,369,701	77	3,369,778	239	3,370,058	104.5	3,369,824	158	3,370,233
181	3,369,983	211	3,369,702	85	3,369,779	247.1	3,370,059	407	3,369,825		3,370,234
195	3,369,984	222– 1	3,369,703	87	3,369,780	.7	3,370,060	285– 47	3,369,826	325– 4	3,370,235
213	3,369,985	30	3,369,704	90	3,369,781		3,370,061	68	3,369,827	16	3,370,236
243	3,369,986	57	3,369,705	117	3,369,782	290	3,370,062	119	3,369,828	328– 41	3,370,237
275	3,369,987	82	3,369,706	246–182	3,370,166	294	3,370,063	227	3,369,829	57	3,370,238
279	3,369,988	83	3,369,707	248– 19	3,369,783	307	3,370,064	287– 20	3,369,830	155	3,370,239
298	3,369,989	85	3,369,708	27	3,369,784	314.5	3,370,065	.92	3,369,831	329–112	3,370,240
	3,369,990	107	3,369,709	68	3,369,785	340.5	3,370,066	189.36	3,370,301	200	3,370,241
	3,369,991	109	3,369,710	118	3,369,786	346.1	3,370,067	292– 78	3,369,832	330– 9	3,370,242
206– 5	3,369,651	177	3,369,711		3,369,787	374	3,370,068	268	3,369,833	21	3,370,243
7	3,369,652	182	3,369,712	221	3,369,788	396	3,370,069	294– 50.9	3,369,834	23	3,370,244
52	3,369,653	193	3,369,713	245	3,369,789	397.3	3,370,070	54	3,369,835	30	3,370,245
	3,369,654	327	3,369,714	250– 41.9	3,370,171	.4	3,370,071	296– 78.1	3,369,836	102	3,370,246
56	3,369,655	333	3,369,715	49.5	3,370,167	.45	3,370,072	97	3,369,837	109	3,370,247
	3,369,656	373	3,369,716		3,370,168	406	3,370,073		3,369,838	149	3,370,248
63.2	3,369,657	399	3,369,717	65	3,370,170	413	3,370,074	297–150	3,369,839	331– 11	3,370,249
65	3,369,658	481.5	3,369,718	83.3	3,370,172	429.7	3,370,075	303	3,369,840	18	3,370,252
	3,369,660	498	3,369,719	106	3,370,173	448.2	3,370,076	361	3,369,841	49	3,370,250
72	3,369,659	517	3,369,720	211	3,370,174	453	3,370,077	389	3,369,842	55	3,370,251
208– 14	3,369,992	224– 2	3,369,721	217	3,370,175		3,370,078	301– 63	3,369,843	94.5	3,370,253
26	3,369,993	4	3,369,722	219	3,370,176	455	3,370,079	84	3,369,844	117	3,370,254
58	3,369,994	5	3,369,723	251– 78	3,369,790	457	3,370,080	303– 21	3,369,845	332– 26	3,370,255
111	3,369,995	48	3,369,724	170	3,369,791	465	3,370,081	22	3,369,846	333– 31	3,370,256
120	3,369,996	228– 50	3,369,725	252– 8.5	3,370,004	.3	3,370,083	70	3,369,847	33	3,370,257
139	3,369,997	229– 5.5	3,369,726	.57	3,370,005	.8	3,370,082	307–221	3,370,177	335–216	3,370,258
210	3,369,998	17	3,369,727	12	3,370,006	473	3,370,084	223	3,370,178	336– 20	3,370,259
254	3,370,000	23	3,369,728	21	3,370,007	476	3,370,085	235	3,370,179	338–196	3,370,260
264	3,369,999	41	3,369,729	46.6	3,370,008	479	3,370,086	238	3,370,180	198	3,370,261
	3,370,001	44	3,369,730	56	3,370,009	486	3,370,087	247	3,370,181	309	3,370,262
310	3,370,002	62.5	3,369,731	59	3,370,010	517	3,370,088	252	3,370,182	339– 5	3,370,263
351	3,370,003	68	3,369,732	62.61	3,370,011	551	3,370,089	264	3,370,183	217	3,370,264
209–120	3,369,661	230– 56	3,369,733	63.7	3,370,012	555	3,370,090	303	3,370,184	256	3,370,265
403	3,369,662	69	3,369,734	68	3,370,013	570	3,370,091	309	3,370,185	340– 3	3,370,266
210– 78	3,369,663	95	3,369,735	90	3,370,014	.6	3,370,092	308– 71	3,369,848	6	3,370,267
83	3,369,664	117	3,369,736	137	3,370,015	611	3,370,093	181	3,369,849	15.5	3,370,268
94	3,369,665	127	3,369,737	301.1	3,370,016		3,370,094	206	3,369,850	29	3,370,269
130	3,369,666	145	3,369,738	309	3,370,017	614	3,370,095	237	3,369,851	146.1	3,370,270
137	3,369,667		3,369,739	253– 39.1	3,369,792	619	3,370,097	243	3,369,852	.3	3,370,271
222	3,370,144		3,369,740	254– 30	3,369,793	648	3,370,096	310– 8.2	3,370,186	147	3,370,272
345	3,369,668	228	3,369,741	88	3,369,794	654	3,370,098	9.1	3,370,187	168	3,370,273
411	3,369,669	233– 20	3,369,742	169	3,369,795	666	3,370,099		3,370,188	172.5	3,370,274
212– 55	3,369,670	235– 58	3,369,743	258– 1.2	3,369,796	668	3,370,100	49	3,370,189		3,370,275
59	3,369,671	60	3,369,744	259– 28	3,369,797	671	3,370,101	70	3,370,190		3,370,276
69	3,369,672	61.11	3,370,157	148	3,369,798	674	3,370,102	168	3,370,191	173	3,370,277
71	3,369,673	78	3,369,745	154	3,369,799	680	3,370,103	313– 46	3,370,192	174	3,370,278
213– 43	3,369,674	94	3,369,746	260– 2	3,370,018	837	3,370,104	54	3,370,193		3,370,279
214– 6	3,369,675	133	3,369,747		3,370,019	880	3,370,105	92	3,370,194		3,370,280
10.5	3,369,676	159	3,370,158		3,370,020	897	3,370,106	162	3,370,196		3,370,281
17	3,369,677	184	3,370,159	.2	3,370,021	901	3,370,107	204	3,370,195	.1	3,370,282
77	3,369,678	236– 15	3,369,748	.5	3,370,022	943	3,370,108	315– 3.5	3,370,197		3,370,283
	3,369,679		3,369,749	3	3,370,023	968	3,370,109	111	3,370,198	258	3,370,284
145	3,369,680	68	3,369,750	.5	3,370,024	978	3,370,110	130	3,370,199		3,370,285
152	3,369,681		3,369,751	15	3,370,025	261– 88	3,369,800	317– 4	3,370,200	259	3,370,286
392	3,369,682	238–243	3,369,752	17	3,370,026	264– 2	3,370,111	13	3,370,201	281	3,370,287
454	3,369,683	283	3,369,753	22	3,370,027	22	3,370,112	101	3,370,202	347	3,370,288
515	3,369,684	239– 8	3,369,754	23	3,370,028	29	3,370,113		3,370,203		3,370,289
518	3,369,685	126	3,369,755	28.5	3,370,029	58	Re.26,345		3,370,204		3,370,290
768	3,369,686	338	3,369,756		3,370,030	77	3,370,114	123	3,370,205	373	Re.26,349
215– 10	3,369,687	355	3,369,757	29.6	3,370,031	94	3,370,115	140	3,370,206	378	3,370,291
	3,369,688	380	3,369,758	31.6	3,370,032	292	3,370,116	234	3,370,207	343– 5	3,370,292
39	3,369,689	471	3,369,759	33.6	3,370,033	321	3,370,117		3,370,208	119	3,370,293
100	3,369,690	513	3,369,760	45.75	3,370,035	325	3,370,118	235	3,370,209	180	3,370,294
219– 10.55	3,370,145	240– 3	3,370,160	.8	3,370,034	266– 22	3,369,801		3,370,210	781	3,370,295
68	3,370,146	6.46	3,370,161	.85	3,370,036	267– 1	3,369,802	254	3,370,211	346– 14	3,370,296
69	3,370,147		3,370,163	47	3,370,037	271– 10	3,369,803	262	3,370,212	75	3,370,297
75	3,370,148	7.1	3,370,162		3,370,038	21	3,369,804	318–513	3,370,213	109	3,370,299
97	3,370,149	147	3,370,164		3,370,039	62	3,369,805	320– 2	3,370,214	113	3,370,300
125	3,370,150		3,370,165	63	3,370,040	68	3,369,806	321– 4	3,370,215	350–214	3,369,853
131	3,370,151	241– 33	3,369,761	67	3,370,041	69	3,369,807	8	3,370,216	401–119	3,369,854
146	3,370,152										

CLASSIFICATION OF DESIGNS

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D 9– 25	210,189	D14– 3	210,200		210,213	D34– 5	210,226	D48– 31	210,239	D70– 1	210,256
63	210,249		210,201		210,214		210,227	D49– 1	210,240	D74– 9	210,257
	210,250		210,202		210,215	15	210,228	15	210,241	D80– 1	210,258
	210,251		210,203		210,216		210,229	D54– 1	210,242	8	210,259
90	210,191	D22– 20	210,204		210,217	D36– 2	210,230	12	210,243	D83– 1	210,260
95	210,192	27	210,205		210,218		210,231	D55– 1	210,244	D86– 10	210,261
99	210,252	D25– 1	210,206	13	210,219		210,232		210,245	D87– 2	210,262
225	210,193	D26– 1	210,207	14	210,220	8	210,233		210,246	5	210,263
	210,194		210,208		210,221		210,234	D56– 1	210,247		210,264
	210,195		210,209		210,222	D42– 7	210,235	D57– 1	210,248	D89– 1	210,265
254	210,196		210,210		210,223	D44– 15	210,236	D61– 1	210,253	D95– 1	210,266
D13– 1	210,197		210,211	D33– 14	210,224	21	210,237		210,254	D97– 2	210,267
	210,198										

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(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

(NOTE.—CODES ARE CHANGED AS OF JANUARY 1, 1967)

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Alaska	2	Louisiana	22	Pennsylvania	42
American Samoa	3	Maine	23	Puerto Rico	43
Arizona	4	Maryland	24	Rhode Island	44
Arkansas	5	Massachusetts	25	South Carolina	45
California	6	Michigan	26	South Dakota	46
Canal Zone	7	Minnesota	27	Tennessee	47
Colorado	8	Mississippi	28	Texas	48
Connecticut	9	Missouri	29	Utah	49
Delaware	10	Montana	30	Vermont	50
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Georgia	13	New Hampshire	33	Washington	53
Guam	14	New Jersey	34	West Virginia	54
Hawaii	15	New Mexico	35	Wisconsin	55
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(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

PATENTS

1	3,370,140	6	3,369,649	6	3,370,175	9	3,370,105	13	3,369,809	17	3,369,668
	3,370,264		3,369,667		3,370,180		3,370,133	16	3,369,475		3,369,689
4	3,369,688		3,369,669		3,370,184		3,370,141		3,369,616		3,369,701
	3,369,702		3,369,678		3,370,191		3,370,150	17	Re.26,346		3,369,708
	3,370,177		3,369,679		3,370,201		3,370,161		Re.26,347		3,369,718
	3,370,256		3,369,680		3,370,222		3,370,189		Re.26,354		3,369,720
	3,370,275		3,369,681		3,370,224		3,370,207		3,369,264		3,369,724
5	3,370,125		3,369,682		3,370,237		3,370,223		3,369,273		3,369,760
6	Re.26,350		3,369,685		3,370,245		3,370,283		3,369,278		3,369,767
	3,369,259		3,369,715		3,370,260		3,370,293		3,369,301		3,369,784
	3,369,262		3,369,717		3,370,266	10	3,369,280		3,369,308		3,369,787
	3,369,271		3,369,719		3,370,267		3,369,318		3,369,322		3,369,802
	3,369,279		3,369,734		3,370,268		3,369,907		3,369,327		3,369,804
	3,369,288		3,369,737		3,370,279		3,369,910		3,369,330		3,369,811
	3,369,289		3,369,758		3,370,285		3,369,948		3,369,332		3,369,832
	3,369,293		3,369,770		3,370,299		3,369,959		3,369,342		3,369,837
	3,369,296		3,369,774		3,370,300		3,369,962		3,369,371		3,369,879
	3,369,309		3,369,775	8	3,369,335		3,370,012		3,369,381		3,369,882
	3,369,316		3,369,776		3,369,492		3,370,017		3,369,407		3,369,898
	3,369,348		3,369,794		3,369,683		3,370,018		3,369,420		3,369,917
	3,369,349		3,369,808		3,369,761		3,370,053		3,369,433		3,369,922
	3,369,365		3,369,829		3,369,805		3,370,106		3,369,443		3,369,956
	3,369,368		3,369,831		3,369,843	11	3,369,978		3,369,460		3,369,997
	3,369,370		3,369,836		3,369,861		3,370,039		3,369,462		3,370,003
	3,369,382		3,369,860	9	Re.26,349	12	3,369,258		3,369,463		3,370,010
	3,369,404		3,369,867		3,369,266		3,369,267		3,369,477		3,370,027
	3,369,417		3,369,875		3,369,285		3,369,551		3,369,484		3,370,042
	3,369,432		3,369,884		3,369,302		3,369,552		3,369,489		3,370,049
	3,369,438		3,369,932		3,369,314		3,369,556		3,369,490		3,370,070
	3,369,442		3,369,936		3,369,317		3,369,696		3,369,496		3,370,080
	3,369,446		3,369,937		3,369,360		3,369,709		3,369,502		3,370,096
	3,369,447		3,369,939		3,369,362		3,369,722		3,369,503		3,370,098
	3,369,451		3,369,989		3,369,379		3,369,785		3,369,506		3,370,108
	3,369,455		3,369,994		3,369,383		3,369,822		3,369,545		3,370,135
	3,369,485		3,370,000		3,369,387		3,369,844		3,369,555		3,370,137
	3,369,491		3,370,024		3,369,461		3,369,938		3,369,559		3,370,169
	3,369,493		3,370,067		3,369,611		3,369,964		3,369,568		3,370,190
	3,369,518		3,370,072		3,369,643		3,370,019		3,369,577		3,370,192
	3,369,531		3,370,101		3,369,690		3,370,163		3,369,578		3,370,194
	3,369,546		3,370,110		3,369,704		3,370,228		3,369,597		3,370,217
	3,369,562		3,370,112		3,369,736		3,370,269		3,369,601		3,370,236
	3,369,564		3,370,113		3,369,747		3,370,276		3,369,621		3,370,242
	3,369,573		3,370,118		3,369,845		3,370,288		3,369,628		3,370,301
	3,369,576		3,370,120		3,369,906		3,370,298		3,369,632	18	3,369,270
	3,369,591		3,370,132		3,369,919	13	3,369,440		3,369,633		3,369,329
	3,369,604		3,370,139		3,369,935		3,369,509		3,369,637		3,369,340
	3,369,612		3,370,153		3,369,960		3,369,540		3,369,640		3,369,361
	3,369,613		3,370,154		3,369,985		3,369,652		3,369,641		3,369,373
	3,369,622		3,370,158		3,370,020		3,369,656		3,369,659		3,369,375
	3,369,634		3,370,164		3,370,026		3,369,779		3,369,666		3,369,386

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Design Patents

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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
February 20, 1968 Volume 847 Number 3

TRADEMARKS
NOTICES

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Edu-Tek, Incorporated, St. Louis, Mo., Reg. No. 737,919, Canc. No. 9016.

Nell Products Inc., Santa Monica, Calif., Reg. No. 503,828, Canc. No. 9028.

Jacob Anthes, d.b.a. American Research Laboratories, Fort Atkinson, Wis., Reg. No. 740,652, Canc. No. 9039.

Mrs. Stevens Candies, Inc., assignee of Candy Lane, Inc., Los Angeles, Calif., Reg. No. 524,571, Canc. No. 9061.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

CONDITION OF TRADEMARK APPLICATIONS AS OF DECEMBER 31, 1967

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	17,288
Date of oldest new application	Dec. 19, 1966
Date of oldest amended application (filing date)	Aug. 20, 1964

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	3-21-67	4-8-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	4-6-67	8-20-64
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	2-13-67	11-5-64
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	12-19-66	5-25-65
Renewals (All Classes)	12-4-67	.....
Sec. 12(c) Publications (All Classes)	12-11-67	.....

Applications filed during the month of December 1967—2,073

Registrations Issued ..... 451—No. 844,334 to No. 844,784
Renewals Issued 60

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 230,926. Societa Metallurgica Italiana, Florence, Italy. Filed Oct. 21, 1965.

S
SMI
I

Owner of Italian Reg. No. 89,260, dated June 30, 1949.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Kettles, Frying Pans, Saucepans, Casseroles, and Kitchen Vessels.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Forks, Spoons, and Knives of Metal for Kitchen Use.

SN 241,110. Waverly Screw & Hardware, Inc., Philadelphia, Pa., assignee, by mesne assignment, of Wimbi Products Corporation, Brooklyn, N.Y. Filed Mar. 15, 1966.

WIMBI

The applicant disclaims the words "Hardware Specialties" when used apart from the mark as shown. The lining appearing in the mark in the drawing is a part of the mark, and is not for the purpose of indicating a particular color.

Class 2—Receptacles

For Wrought Iron Mail Boxes.
First use Sept. 21, 1964.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Towel Rings.
First use on or about Oct. 25, 1964.

Class 21—Electrical Apparatus, Machines, and Supplies

For Switch Plates.
First use on or about Oct. 25, 1964.

SN 242,626. Midwesco-Enterprise, Inc., d.b.a. Aqua-Care, Chicago, Ill. Filed Apr. 4, 1966.

AQUA-CARE

Class 6—Chemicals and Chemical Compositions

For Chemicals for Treatment of Mechanical Industrial Systems Using Flowing Water—Namely, Corrosion Inhibitor, Scale Inhibitor, Algae Inhibitor, Microorganism Controller, Foam Controller.
First use Feb. 25, 1966.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Valved Chemical Feeders.
First use Feb. 26, 1966.

Class 103—Construction and Repair

For Maintenance of Efficiency of Mechanical Systems Using Flowing Water, Including Closed Systems Such as Boilers and Open Systems Such as Chillers and Cooling Towers.
First use Feb. 26, 1966.

SN 242,627. Midwesco-Enterprise, Inc., d.b.a. Aqua-Care, Chicago, Ill. Filed Apr. 4, 1966.

aqua-care

Class 6—Chemicals and Chemical Compositions

For Chemicals for Treatment of Mechanical Industrial Systems Using Flowing Water—Namely, Corrosion Inhibitor, Scale Inhibitor, Algae Inhibitor, Microorganism Controller, Foam Controller.
First use Feb. 25, 1966.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Valved Chemical Feeders.
First use Feb. 26, 1966.

Class 103—Construction and Repair

For Maintenance of Efficiency of Mechanical Systems Using Flowing Water, Including Closed Systems Such as Boilers and Open Systems Such as Chillers and Cooling Towers.
First use Feb. 26, 1966.

SN 247,313. Best Quality Plastics, Inc., Denver, Colo. Filed June 6, 1966.

BEST WORLD

Owner of Reg. No. 809,572.

Class 2—Receptacles

For Manufactured Articles of Thermoplastic Synthetic Resin Consisting of Stacking Carriers and Decorative Fruit Containers.

Class 50—Merchandise Not Otherwise Classified

For Window Well Covers.

First use May 20, 1966.

SN 248,094. American Filtrona Corporation, Richmond, Va. Filed June 15, 1966.

TRANSTUBE

Class 31—Filters and Refrigerators

For Hollow Fibrous Cylindrical Structures in the Nature of Cartridges for Filtration Use.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Fibrous Wicks for Feeding Oil to Bearings.

First use Apr. 28, 1966.

SN 248,280. Industrial-Automotive, Inc., Newark, Ohio. Filed June 17, 1966.

I-A
INC.

The term "Inc." is disclaimed part from the mark as shown.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Fork Lift Trucks.

Class 32—Furniture and Upholstery

For Inventory or Stock Control Systems—Namely, Metal Tables, Stock Control Trays, Stock Control Cards, Metal Tab Dividers and Sub-Dividers, Sold as a Unit.

First use June 1, 1960.

SN 249,795. J. F. Pritchard and Company, Kansas City, Mo. Filed July 7, 1966.

J.F. Pritchard & Co.

The drawing is lined for the color green.

Class 100—Miscellaneous

For Engineering and Design Services in the Field of Plant Construction.

Class 103—Construction and Repair

For Construction Services in the Field of Plant Construction.

First use Jan. 27, 1964.

SN 250,291. Munck International A/S, Bergen, Norway. Filed July 14, 1966.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Motors.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Electric Wire Rope Hoists, Electric Chain Hoist, Electric Overhead Travelling Cranes, Manually Operated Overhead Travelling Cranes, Rotating Stacker Cranes, and Deck Mounted Cargo Handling Cranes.

First use May 1950; in commerce May 1956.

SN 251,034. Stone & Webster, Incorporated, New York, N.Y. Filed July 26, 1966.

The drawing is lined for the color orange, but no claim is made to color.

Class 100—Miscellaneous

For Design and Engineering Services in Connection With Power Plants, Dams and Industrial, Petroleum, Chemical, Paper and Pharmaceutical Projects; the Preparation of Engineering Reports, Business Examinations and Appraisals; the Production, Purchasing, Transporting and Distributing of Natural Gas.
First use at least as early as 1911.

Class 101—Advertising and Business

For Business and Management Consulting Services.
First use at least as early as 1911.

Class 102—Insurance and Financial

For Comprehensive Financial Services to Issuers of Securities and to Investors; Underwriting and Distributing, at Wholesale and at Retail, Corporate Government and Municipal Bonds as Well as Preferred and Common Stock.
First use at least as early as 1926.

Class 103—Construction and Repair

For Construction of Power Plants, Dams and Industrial, Petroleum, Chemical, Paper and Pharmaceutical Projects.
First use at least as early as 1911.

SN 254,211. Diversified Products Corporation, Opelika, Ala. Filed Sept. 12, 1966.

dp

Owner of Reg. No. 776,117.

Class 19—Vehicles

For Boat Anchors.

Class 22—Games, Toys, and Sporting Goods

For Barbells, Dumbbells, Bars, Weights, and Replacement Parts for Barbells; Exercise Shoes, Hand Exercises, Head Exercises, Shot Putts, Horse-Shoe Game Sets, Table Tennis Tables, and Body Exercising Cycles.

Class 32—Furniture and Upholstery

For Display Racks for Exercise Equipment.

Class 38—Prints and Publications

For Instruction Books for Exercise Equipment.

First use on or about Aug. 1, 1966.

SN 258,340. Halliburton Company, Duncan, Okla. Filed Nov. 10, 1966.

INJECTROL

Class 6—Chemicals and Chemical Compositions

For Water Control Materials—Namely, Sodium Silicate and Hydrochloric Acid.
First use on or about Oct. 26, 1966.

Class 103—Construction and Repair

For Water Control Service and Particularly for a Chemical Service Employing a Silicic Acid Solution for Alteration of the Permeability Profile of Wells.
First use on or before Nov. 30, 1965.

SN 259,784. Hudson National, Inc., d.b.a. Hudson Vitamin Products, New York, N.Y. Filed Dec. 1, 1966.

HVP

Owner of Reg. No. 734,452.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Apparatus—Namely, Desk Lamps.
First use as early as Jan. 2, 1960.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Electrical Carving Knives.
First use at least as early as May 7, 1964.

Class 29—Brooms, Brushes, and Dusters

For Electrical Toothbrushes.
First use at least as early as May 7, 1964.

SN 260,244. Facelle Company Limited, Toronto, Ontario, Canada. Filed Dec. 7, 1966.

Saneen

The stippling on the drawing is intended merely to show shading.

Class 37—Paper and Stationery

For Facial Tissues, Wiping Tissues, Paper Towels, Paper Sheets, and Paper Bed Pan Drapes.
First use on or about Jan. 26, 1965; in commerce on or about Aug. 16, 1966.

Class 39—Clothing

For Diapers and Paper Gowns.
First use on or about Jan. 26, 1965; in commerce on or about May 5, 1966.

SN 261,262. Countess Mara, Inc., New York, N.Y. Filed Dec. 22, 1966.

Owner of Reg. Nos. 380,728, 633,241, and others.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Tie Racks, Cravat Cases.
First use Oct. 1, 1955.

Class 28—Jewelry and Precious-Metal Ware

For Cuff Links, Tie Clasps, and Tie Tacks.
First use May 1, 1959.

Class 39—Clothing

For Neckties, Bowties, Men's Dress Shirts, Men's Casual Shirts, Men's Knitted Shirts, Men's Socks, Suspenders, Gloves, Scarves, Handkerchiefs, Robes, Sweaters, Pajamas, Sport Jackets, Slacks, and Ascots.
First use Nov. 25, 1937.

Class 51—Cosmetics and Toilet Preparations

For Cologne, Shaving Lotion, Personal Deodorant.
First use Oct. 1, 1955.

Class 52—Detergents and Soaps

For Toilet Soap.
First use Oct. 1, 1955.

SN 261,696. VWR United Corporation, Seattle, Wash. Filed Dec. 30, 1966.

PARSTAR

Class 6—Chemicals and Chemical Compositions

For Inedible Starch for Laundry and General Industrial Uses.

Class 46—Foods and Ingredients of Foods

For Edible Starch.

First use about April 1966.

SN 265,945. United Silver and Cutlery Company, Los Angeles, Calif. Filed Mar. 6, 1967.

VIKING

Class 2—Receptacles

For Tableware—Namely, Salt and Pepper Containers and Servers, and Dishes, Trays, and Bowls Made of Wood.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Holloware, Dishes, Trays, and Bowls Made of Non-Precious Metal.

First use April 1962.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 257,197. Sculpting Products Inc., Houston, Tex. Filed Oct. 25, 1966.

CLAYCRETE

For Clay-Like Molding Material for Molding Ornamental and Decorative Objects.
First use Feb. 25, 1965.

SN 257,198. Sculpting Products Inc., Houston, Tex. Filed Oct. 25, 1966.

SCULPTAMOLD

For Paper-Based Molding Composition for Modeling and Molding Ornamental and Decorative Objects and Repairing Cracks and Holes in Walls and Ceilings.
First use Dec. 15, 1964.

SN 265,106. Neil B. Riekse, d.b.a. Service Tool Sales, Los Angeles, Calif. Filed Feb. 20, 1967.

SERVITHANE

For Urethane Rubber.
First use at least as early as October 1966.

SN 267,134. E-Z Machine Corp., Hicksville, N.Y. Filed Mar. 20, 1967.

E-Z BOND

For Plastic Materials for Molding and Forming.
First use June 15, 1965.

SN 267,431. International Paper Company, New York, N.Y. Filed Mar. 23, 1967.

SUPERCELL AO-2

Owner of Reg. No. 364,126.
For Wood Pulp.
First use Jan. 31, 1960.

SN 267,905. Armour and Company, Chicago, Ill. Filed Mar. 30, 1967.

WHIPLASH

For Upper Leather.
First use Oct. 20, 1966.

SN 268,327. Paxton Processing Co., Inc., Paxton, Ill. Filed Apr. 4, 1967.

STER-I-CEL

For Laboratory Animal Bedding.
First use Jan. 9, 1967.

SN 268,648. Aurora Metal Company, Aurora, Ill. Filed Apr. 10, 1967.

FASKURE

Owner of Reg. No. 714,526.
For Resin Coated Sand for Shell Cores and Molds.
First use Dec. 15, 1958.

SN 268,773. Standard Oil Company, Flemington, N.J. Filed Apr. 10, 1967.

VISTALON

For Synthetic Rubber and Rubber Substitutes.
First use Feb. 15, 1967.

SN 268,973. Martinsburg Forest Products, Inc., Martinsburg, W. Va. Filed Apr. 12, 1967.

BJ's

For Hickory Chips.
First use Apr. 27, 1966.

SN 269,053. Armour and Company, Chicago, Ill. Filed Apr. 13, 1967.

BOMAK

For Leather.
First use on or prior to Mar. 15, 1967.

SN 269,054. Armour and Company, Chicago, Ill. Filed Apr. 13, 1967.

MARQUIS

For Leather.
First use on or prior to Feb. 20, 1967.

SN 269,274. American Cyanamid Company, Wayne, N.J. Filed Apr. 17, 1967.

AEROTRU

For Synthetic Resin.
First use Mar. 31, 1967.

SN 285,787. American Poly-Plastics Laboratories, Inc., d.b.a. General Laboratories Division, Arlington, Mass. Filed Nov. 29, 1967.

MOCK-UP

For Lightweight Epoxy Derivative Cellular Material in Block Form.
First use May 26, 1964.

SN 285,788. Beaunit Corporation, New York, N.Y. Filed Nov. 29, 1967.

VYCRON

Owner of Reg. Nos. 711,387, 834,185, and others.
For Polyester Fiber and Tow.
First use on or about Apr. 10, 1959.

Class 2—Receptacles

SN 256,659. Fritz Busche Druckereigesellschaft m.b.H., Dortmund, Germany. Filed Oct. 18, 1966.

PLUS PACK

Applicant disclaims the word "Pack" apart from the mark as a whole. Owner of German Reg. No. 772,094, dated Jan. 25, 1963.
For Packing Cartons and Folding Boxes; Carton and Folding Box Blanks—Namely, Carriers for Cans or Bottles Made of Paper and Cardboard.

SN 260,731. Coulter Electronics, Inc., Hialeah, Fla. Filed Dec. 14, 1966.

COULTER COUNTER

Owner of Reg. No. 679,591.
For Plastic Vials for Holding Sample Solutions for Use With Electronic Particle Analyzing Apparatus.
First use in or about May 1966.

SN 261,994. No-Nail Boxes Limited, Saltney, Chester, England. Filed Jan. 5, 1967.



Priority claimed under Sec. 44(d) on British Reg. Nos. 896,883 and 896,884, dated July 6, 1966. Applicant disclaims the words "No-Nail Boxes" apart from the mark as shown.
For Containers Made of Fibreboard and Wood.

SN 264,559. Lion Packaging Products Co., Inc., Hicksville, N.Y. Filed Feb. 13, 1967.

LION

For Continuous Roll Polyethylene Plastic Bags.
First use July 1955.

SN 264,560. Lion Packaging Products Co., Inc., Hicksville, N.Y. Filed Feb. 13, 1967.



For Continuous Roll Polyethylene Plastic Bags.
First use July 1955.

SN 269,295. The Cornelius Company, Anoka, Minn. Filed Apr. 17, 1967.

REDGUARD

For Portable Pressurizable Tanks for Beverages and Their Ingredients.
First use Jan. 18, 1966.

SN 269,709. Valve Corporation of America, Bridgeport, Conn. Filed Apr. 20, 1967.

VCA

For Dispenser Devices in the Nature of Pressurized and Pump Type Cans.
First use Apr. 13, 1967.

SN 269,790. Raymond Swing, d.b.a. Raymond Swing Associates, Seattle, Wash. Filed Apr. 12, 1967.

MAGNETAX

For Magnetized State Sales Tax Card Holders.
First use Apr. 30, 1961.

SN 270,374. General American Transportation Corporation, Chicago, Ill. Filed May 1, 1967.

POLY-KOOP

For Plastic Crates.
First use Apr. 7, 1967.

SN 271,453. Margaret V. Dinges, Leawood, Kans. Filed May 15, 1967.

GRAB BAGS

Applicant disclaims the word "Bags."
For Polyethylene Bags.
First use Feb. 17, 1967.

SN 273,029. CTP Industries Inc., Brooklyn, N.Y. Filed June 5, 1967.

GRIP-R-ZIP-R

For Plastic Bags.
First use Apr. 10, 1967.

SN 273,030. CTP Industries Inc., Brooklyn, N.Y. Filed June 5, 1967.

ZIP-R-GRIP-R

For Plastic Bags.
First use Apr. 10, 1967.

Class 4—Abrasives and Polishing Materials

SN 249,635. General Cable Corporation, New York, N.Y. Filed July 6, 1966.

CHORE SPONGE

No claim is made to the word "Sponge" apart from the mark as shown. Owner of Reg. Nos. 163,807 and 510,341.
For Abrasive Pot and Pan Cleaners.
First use October 1965; Jan. 11, 1938, as to "Chore Sponge."

SN 249,636. General Cable Corporation, New York, N.Y. Filed July 6, 1966.

CHORE GIRL

Owner of Reg. No. 280,422.
For Abrasive Pot and Pan Cleaners.
First use September 1965; about May 1927 as to "Chore Girl."

SN 249,637. General Cable Corporation, New York, N.Y. Filed July 6, 1966.

GOLDEN FLEECE

Owner of Reg. Nos. 399,714 and 623,793.
For Abrasive Pot Cleaners and Scouring Cloths.
First use March 1966; July 14, 1942, as to "The Golden Fleece."

SN 250,978. Kozak Auto Drywash, Inc., Batavia, N.Y. Filed July 25, 1966.

THE FURNITURE FACIAL

The words "The Furniture" are disclaimed except when used in connection with the word "Facial."
For Furniture Cleaning and Polishing Cloths Impregnated With Cleaning and Polishing Ingredients.
First use June 28, 1965.

SN 268,497. International Products and Services, Inc., Cleveland, Ohio. Filed Apr. 6, 1967.

CONTINENTAL SIX

For Liquid Floor Wax.
First use in or about November 1961.

SN 270,634. Western Zone Sales Company, Los Angeles, Calif. Filed May 3, 1967.

Crete-Nu

For Chemical Cleaner for Removing Grease, Oil, and Alkali Deposits, and for Etching Cement and Concrete Surfaces and the Like.
First use July 19, 1958.

SN 270,864. Harry E. Cohen, d.b.a. Homemakers Club, Atlantic City, N.J. Filed May 8, 1967.

SUPERBA

For Polish and Wax and Cleaner for Automobiles, Metals, Household Appliances, and Other Hard Surfaces.
First use Aug. 3, 1966.

Class 5—Adhesives

SN 270,810. Pyroil Company, Inc., La Crosse, Wis. Filed May 5, 1967.

FLEX-O-FIX

For Plastic Rubber Material for Mending and Waterproofing Rubber, Leather, Cloth, etc., and for Making Molds, Packing, Insulation, and the Like.
First use July 20, 1954.

SN 270,995. Wilton Corporation, Schiller Park, Ill. Filed May 8, 1967.

WILTAPE

For Pressure Sensitive Sealing Tapes.
First use Mar. 21, 1967.

Class 6—Chemicals and Chemical Compositions

SN 260,944. The Mearl Corporation, Ossining, N.Y. Filed Dec. 16, 1966.

TIMICA

For Nacreous Pigments.
First use Nov. 11, 1966.

SN 265,800. Colorcon, Inc., West Point, Pa. Filed Mar. 2, 1967.

OPACOAT

Owner of Reg. No. 753,628.
For Color Coating for Pharmaceuticals and Confectionery.
First use Feb. 19, 1962.

SN 265,802. Colorcon, Inc., West Point, Pa. Filed Mar. 2, 1967.

OPASPRAY

Owner of Reg. No. 753,628.
For Color Coating for Pharmaceuticals and Confectionery.
First use Oct. 10, 1966.

SN 267,408. The Drackett Company, Cincinnati, Ohio. Filed Mar. 23, 1967.

PLEASCENT

For Air Freshener.
First use Dec. 7, 1966.

SN 273,021. Avon Products, Inc., New York, N.Y. Filed June 5, 1967.

JAMAICAN WATERFALL

For Room Freshener.
First use Apr. 28, 1967.

SN 284,339. Air Products and Chemicals, Inc., Allentown, Pa. Filed Nov. 8, 1967.

HOUDRY

For Catalysts.
First use on or about June 30, 1946.

SN 284,459. Faultless Starch Company, Kansas City, Mo. Filed Nov. 9, 1967.

FLATTER

For Wrinkle Removing Agent for Textiles.
First use Oct. 26, 1967.

Class 7 — Cordage

SN 278,614. George L. Soreghen, d.b.a. Diamond Whip Co., Chicago, Ill. Filed Aug. 18, 1967.

DIAMOND BRAND

No claim is made to the exclusive use of the word "Brand," apart from the mark as shown. Owner of Reg. No. 412,669.
For Lariat Rope, Rope Lariats, and Fittings Therefor.
First use about 1878.

SN 278,616. George L. Soreghen, d.b.a. Diamond Whip Co., Chicago, Ill. Filed Aug. 18, 1967.

DIAMOND BRAND PRODUCTS

No claim is made to the exclusive use of the words "Brand" and "Products," apart from the mark as shown. Owner of Reg. No. 412,669.
For Lariat Rope, Rope Lariats, and Fittings Therefor.
First use about 1942; about 1878 as to "Diamond Brand."

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 267,700. James L. Wade, d.b.a. Wade Tri-Test Munitions Company, Mundelein, Ill. Filed Mar. 27, 1967.

TRI-TEST

For Rifle, Shotgun, and Pistol Ammunition.
First use on or about Aug. 28, 1961.

SN 269,940. Stoeger Arms Corporation, South Hackensack, N.J. Filed Apr. 24, 1967.

ZEPHYR

For Shotguns, Rifles, Pistols, Revolvers, Other Small Arms, and Small Arms Ammunition.
First use May 21, 1936.

SN 271,242. Entertainment Associates, Inc., Saginaw, Mich. Filed May 11, 1967.

NATIONWIDE

For Fireworks.
First use Apr. 22, 1967.

SN 271,691. Coast Fuse, Inc., Livermore, Calif. Filed May 17, 1967.

T-LINE

For Detonating Fuse.
First use Apr. 3, 1967.

Class 10 — Fertilizers

SN 269,768. The Mead Corporation, Dayton, Ohio. Filed Apr. 21, 1967.

BRING THE FLOOR OF THE FOREST TO YOUR SOIL

Owner of Reg. No. 801,166.
For Mulch and Soil Conditioner.
First use as early as Apr. 16, 1957.

Class 11 — Inks and Inking Materials

SN 265,894. Fukui & Company, Ltd., Higashi-ku, Osaka, Japan. Filed Mar. 3, 1967.

DELICA

For Various Inks, Ink Solutions, Inked Products—Namely, Printing Inks, e.g. Ink Solutions for Application to Printing Plates, Ink Solutions Having a Gum Consistency, Lithographic Inks; Inked Papers (Carbon Paper); Inked Ribbons (Typewriter Ribbons); Stamp Pad Inks, Washable Inks; Permanent Inks; and Fixers for Permanentizing Inks.
First use no later than Feb. 22, 1935; in commerce Mar. 15, 1966.

Class 12 — Construction Materials

SN 249,315. Evon Industries, Inc., Newark, N.J. Filed June 30, 1966.

EVON

For Trim for Dry Walls in Building Structures—Namely, Studs; Ceiling Runners; Floor Runners; Channel Strips; Angle Runners; Furring Strips; Core Board Runners; Edging Strips; Corner Beads; Expanded Corner Metal Beads; Roll-On Corner Tapes; Edge Straighteners; and Trim Tapes.
First use 1958.

SN 256,421. Armstrong Paint & Varnish Works, Inc., Chicago, Ill. Filed Oct. 14, 1966.

REPUBLIC

For Bituminous Coating for Black Top and Traffic Surfaces; Bituminous Foundation Coating; Caulking Compounds; Roof Coating; Glazing Compound.
First use 1915.

SN 260,167. Mark Tool Company, Inc., Lafayette, La. Filed Dec. 6, 1966.

Splash-Cote

For Resin Epoxy Reinforced With Ground Synthetic Rubber Used for Patching or Reinforcing Any Physical Damage Which Occurs to Synthetic Rubber Sheathing.
First use on or about Sept. 15, 1966.

SN 268,750. Lub-O-Seal Company, Inc., Houston, Tex. Filed Apr. 10, 1967.

THERM-O-KOTE NO. 75

For Sealing Compound for Pipe Joints.
First use Nov. 23, 1966.

SN 270,166. Telrex, Inc., Asbury Park, N.J. Filed Apr. 27, 1967.

"MONO-POLE"

For Antenna Masts.
First use November 1966.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 239,466. Trefileries Leon Bekaert, Zwevegem, Belgium. Filed Feb. 23, 1966.

CASANET

Owner of Belgian Reg. No. 3,563, dated Apr. 5, 1963.
For Wire Netting and Wire Mesh.

SN 250,633. Black, Sivalls & Bryson, Inc., Kansas City, Mo. Filed July 20, 1966.

LO-TO-FLO

For Safety Head (One-Shot Safety Valve).
First use before July 2, 1965.

SN 250,678. Penn-Western Electric Corporation, Hawthorne, Calif., assignee of Penn-Union Electric Corporation, Erie, Pa. Filed July 20, 1966.

ANSOFLEX

For Valve Stops, Flexible Copper Tubing, Escutcheons, and Fittings for Supplying Water to Fixtures.
First use Apr. 29, 1966.

SN 264,508. Black, Sivalls & Bryson, Inc., Kansas City, Mo. Filed Feb. 13, 1967.

RB-90

For Safety Valve.
First use Apr. 1, 1966.

SN 268,007. Bliss & Laughlin Industries Incorporated, Oak Brook, Ill. Filed Mar. 31, 1967.

HARDWARE COORDINATES

The term "Hardware" is disclaimed apart from the mark as shown.
For Builders' Hardware.
First use July 1, 1966.

SN 269,873. Ethyl Corporation, Richmond, Va. Filed Apr. 24, 1967.

ETHYL

Owner of Reg. Nos. 187,410, 399,427, and others.
For Polyvinyl Chloride Pipe and Pipe Fittings.
First use Aug. 28, 1964.

SN 270,207. A.P.M. Corporation, Englewood, N.J. Filed Apr. 28, 1967.

SPRING SKREWS

For Screws Having a Non-Rectilinear Axis.
First use Sept. 20, 1966.

SN 272,684. American Cast Iron Pipe Company, Birmingham, Ala. Filed May 31, 1967.

AMERICAN DUALIFE

Owner of Reg. Nos. 651,382, 792,469, and 799,032.
For Cast Iron Pipe.
First use May 11, 1967.

Class 14 — Metals and Metal Castings and Forgings

SN 285,505. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Nov. 24, 1967.

INFILTRON

Owner of Reg. No. 836,988.
For Iron-Copper Powder Used in the Manufacture of Molded Powder Metallurgy Parts.
First use Oct. 13, 1967.

Class 15—Oils and Greases

SN 250,098. Robert L. Lenz, d.b.a. Lenz Manufacturing Co., Castro Valley, Calif. Filed July 12, 1966.

FERRO SLICK

For Cleaning and Lubricating Preparation for Use on Wire Being Fed Into Automatic Machinery.
First use Jan. 3, 1966.

Class 16—Protective and Decorative Coatings

SN 236,153. The Selig Chemical Industries, Inc., Atlanta, Ga. Filed Jan. 10, 1966.

POLY-GLAZE

For Waxless Water Emulsion Floor Finish.
First use Apr. 1, 1957.

SN 254,794. Mobile Paint Mfg. Co., Inc., Mobile, Ala. Filed Sept. 20, 1966.

MoPaCote

Owner of Reg. No. 392,063.
For Acrylic House Paint.
First use Dec. 5, 1955.

SN 257,213. United States Rust Control Corporation, Miami, Fla. Filed Oct. 25, 1966.

XP-700A RUST GRIP

For Rust and Corrosion Protective Coating.
First use Sept. 9, 1964.

SN 257,218. United States Rust Control Corporation, Miami, Fla. Filed Oct. 25, 1966.

XP-500

For Rust and Corrosion Protective Vehicle Undercoating.
First use July 24, 1963.

SN 262,123. Cal Corporation, Ferndale, Mich. Filed Jan. 9, 1967.

VYN-TOP

For Spray-On Vinyl Paints for Automobile Roofs.
First use on or about Dec. 1, 1966.

SN 267,654. Nu-Brite Chemical Company, Inc., Taunton, Mass. Filed Mar. 27, 1967.

Brentwood

For Interior and Exterior Oil and Latex Base Paints and Enamels, Vinyl and Latex Paint Primers, and Synthetic Enamel for Shutters and Trim.
First use in or about March 1966.

Class 17—Tobacco Products

SN 276,858. The Pinkerton Tobacco Co., Toledo, Ohio. Filed July 26, 1967.

BIG NINE

For Chewing Tobacco.
First use Aug. 1, 1913.

SN 280,541. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed Sept. 18, 1967.

AU NATUREL

Owner of Reg. Nos. 774,402 and 781,643.
For Cigars.
First use June 9, 1967.

SN 280,793. P. Lorillard Company, New York, N.Y. Filed Sept. 20, 1967.

WARWICK

For Cigarettes.
First use Sept. 13, 1967.

SN 280,794. P. Lorillard Company, New York, N.Y. Filed Sept. 20, 1967.

SPA

For Cigarettes.
First use Sept. 13, 1967.

SN 280,795. P. Lorillard Company, New York, N.Y. Filed Sept. 20, 1967.

HIGH TIME

For Cigarettes.
First use Sept. 13, 1967.

SN 280,796. P. Lorillard Company, New York, N.Y. Filed Sept. 20, 1967.

DEFENDER

For Cigarettes.
First use Sept. 13, 1967.

SN 280,797. P. Lorillard Company, New York, N.Y. Filed Sept. 20, 1967.

TIME OUT

For Cigarettes.
First use Sept. 13, 1967.

SN 280,798. P. Lorillard Company, New York, N.Y. Filed Sept. 20, 1967.

ASPEN

For Cigarettes.
First use Sept. 13, 1967.

SN 282,133. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed Oct. 9, 1967.

BRASS RAIL

For Chewing Tobacco.
First use Sept. 27, 1967.

Class 18—Medicines and Pharmaceutical Preparations

SN 233,660. Arnaldo L. Vargas, d.b.a. Tropical Pharmaceutical Lab., Santurce, Puerto, Rico. Filed Nov. 30, 1965.

BRAVO

For Liniment for External Use.
First use Oct. 11, 1959.

SN 233,662. Arnaldo L. Vargas, d.b.a. Tropical Pharmaceutical Lab., Santurce, Puerto Rico. Filed Nov. 30, 1965.

BABYCIDIN

For Baby Aspirin Preparation Used as an Analgesic and Antipyretic.
First use Oct. 21, 1958.

SN 246,892. Dermal Laboratories Limited, London, England. Filed May 31, 1966.

EXOLAN

Owner of British Reg. No. 883,941, dated Sept. 7, 1965.
For Preparations for the Treatment of Psoriasis.

SN 251,661. Taisho Pharmaceutical Co., Ltd., Toshimaku, Tokyo, Japan. Filed Aug. 3, 1966.

VERNASE

Owner of Japanese Reg. No. 419,868, dated Dec. 18, 1952.
For Acid-Stable Digestive Multienzyme Preparation.

SN 252,439. Witco Chemical Company, Inc., New York, N.Y. Filed Aug. 15, 1966.

ERVOL

For Medicinal White Mineral Oil.
First use Mar. 1, 1933.

SN 253,465. Wolo A.-G. (Wolo Ltd.), Zurich, Switzerland. Filed Aug. 30, 1966.

LACPININ-BALSAM

Owner of U.S. Reg. No. 208,552; and Swiss Reg. No. 204,011, dated May 23, 1964.
For Bath Preparation of Green Pine Needles for Application in the Following Instances: Physical and Mental Overwork; Neurasthenia Assimilation Diseases, Such as Gout, Rheumatism, and Heart Diseases; and Also as an Essence for Use in Cosmetics and Perfumery.

SN 254,166. Hoffmann-La Roche Inc., Nutley, N.J. Filed Sept. 9, 1966.

QUALITY GOES IN BEFORE THE NAME GOES ON

For Medicated Feed Additives and Vitamin Feed Additives.
First use Aug. 26, 1966.

SN 257,762. Bristol-Myers Company, New York, N.Y. Filed Nov. 2, 1966.

bidCAPS

For Antibiotic in Capsule Form.
First use Apr. 1, 1966.

SN 268,166. The Dow Chemical Company, Midland, Mich. Filed Apr. 3, 1967.

PROSERUM

For Normal Serum Albumin for Intravenous Use.
First use Jan. 11, 1967.

SN 270,235. The Dow Chemical Company, Midland, Mich. Filed Apr. 28, 1967.

TORELLE

For Anthelmintic for Animal Use.
First use Apr. 17, 1967.

SN 270,271. Rexall Drug and Chemical Company, d.b.a. Rexall Drug Company, Los Angeles, Calif. Filed Apr. 28, 1967.

REXAMYCIN

For Antibiotics—Namely, Tetracycline Hydrochloride.
First use Feb. 17, 1967.

SN 270,349. Breon Laboratories Inc., New York, N.Y. Filed May 1, 1967.

BREON

For Line of Pharmaceutical and Medicinal Products.
First use at least as early as January 1948.

SN 270,700. Ortho Pharmaceutical Corporation, Raritan, N.J. Filed May 4, 1967.

MONISTAT

For Fungicidal Agents in the Form of Suppositories and Creams.
First use Apr. 3, 1967.

SN 284,862. American Home Products Corporation, New York, N.Y. Filed Nov. 15, 1967.

PRAXITEN

For Medicinal Preparation in the Nature of a Psychotropic Agent.
First use Sept. 28, 1967.

Class 19—Vehicles

SN 237,978. Kelsey-Hayes Company, Romulus, Mich. Filed Feb. 3, 1966.

MAG Star I

The word "Mag" is disclaimed apart from the mark as shown. The drawing is lined for the color red, but is not intended to be limited to the use of a particular color.
For Automotive Wheels.
First use on or about Sept. 15, 1965.

SN 243,500. Toro Manufacturing Corporation, Minneapolis, Minn. Filed Apr. 14, 1966.

PARKMASTER

For Automotive Vehicles—Namely, Turf Tractors.
First use at least as early as 1934.

SN 251,868. Aloha Trailer Co., Beaverton, Oreg. Filed Aug. 8, 1966.



The term "Beaverton, Oregon" is disclaimed apart from the mark as shown. The drawing is lined for the colors red and green.
For Mobile Homes.
First use Jan. 1, 1960.

SN 266,432. Load King Trailer Company, Elk Point, S. Dak. Filed Mar. 10, 1967.

POWER-FOLD

For Front Load Low Bed Trailers.
First use Feb. 10, 1967.

SN 267,206. Versa*Camp, Inc., Missoula, Mont. Filed Mar. 20, 1967.

VERSA★CAMP

For Canopy Bodies for Pick-Up Trucks.
First use Dec. 8, 1966.

SN 268,746. Lips N.V., Drunen, Netherlands. Filed Apr. 10, 1967.

CUNIAL

Owner of Dutch Reg. No. 116,700, dated Sept. 30, 1953.
For Screw Propellors Made From an Alloy of Copper, Nickel, and Aluminum.

SN 272,639. Smith Brothers, Geneva, Ala. Filed May 29, 1967.

SMITH CRAFT

The word "Craft" is disclaimed apart from the mark as shown.
For Boats.
First use Apr. 1, 1953.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 252,063. Allis-Chalmers Manufacturing Company, Milwaukee, Wis. Filed Aug. 10, 1966.

SRCE MAKER

For Electric Motor Controls and Contactors.
First use Apr. 4, 1961.

SN 253,755. Harnischfeger Corporation, West Milwaukee, Wis. Filed Sept. 2, 1966.

ELECTROTORQUE

For Electrical Control Systems for Material Handling Machines.
First use on or about July 19, 1966.

SN 257,975. Mepco, Inc., Morristown, N.J. Filed Nov. 4, 1966.



For Resistors.
First use March 1966.

SN 260,112. Waste King Corporation, Los Angeles, Calif. Filed Dec. 5, 1966.

SANI-HEAT

For Water Temperature Control Incorporated as an Integral Part of an Automatic Electric Dishwasher.
First use Oct. 24, 1966.

SN 261,067. General RF Fittings, Inc., Boston, Mass. Filed Dec. 19, 1966.

General RF

No registration rights are claimed for the term "RF" apart from the mark as shown, but the applicant waives none of its common law rights in the mark shown or in any feature thereof.
For Coaxial Transmission Line Apparatus, Parts and Components—Namely, Connectors, Plugs, Receptacles, Caps, Adapters, Line Sections, Terminations, Shorts, Attenuators, Couplers, Cable Assemblies, Collet Clamps, and Crimps.
First use in or before December 1956.

SN 266,688. Quartz Radiation Corp., Fairfield, N.J. Filed Mar. 14, 1967.

M35

Owner of Reg. No. 760,934.
For Metal Vapor Lamps.
First use Oct. 3, 1964.

SN 267,687. The Tappan Company, Mansfield, Ohio. Filed Mar. 27, 1967.

SPEED FLEX

For Sheathed Resistance Elements in Coiled Form, Particularly Designed for Use in Cooking Tops and Electric Ranges.
First use Mar. 10, 1967.

SN 267,803. The Budd Company, Philadelphia, Pa. Filed Mar. 29, 1967.



The drawing is lined for red.
For Printed Circuit Boards.
First use at least as early as Dec. 1, 1961.

SN 270,068. LPF Plastics Corporation, Kansas City, Mo. Filed Apr. 26, 1967.

SPINFIN

Owner of Reg. No. 814,972.
For Magnetic Stirring Bars.
First use on or about Nov. 1, 1966.

SN 270,074. On-Guard Corporation of America, New York, N.Y. Filed Apr. 26, 1967.

ANNOUNC-A-MAT

For Kit for Assembling a Tread Controlled, Electrically Operated Sound Signal System Consisting of a Mat, Transformer and Chime, and Connecting Wires and Plug.
First use on or about Nov. 15, 1965.

SN 270,304. The J. B. Williams Company, Inc., Thomaston, Conn. Filed Apr. 28, 1967.

LITTLE ROYAL

For Electrically Operated Table Lamps.
First use on or about May 17, 1966.

SN 270,606. Margaret E. Muns, d.b.a. Printz Electric Company, Detroit, Mich. Filed May 3, 1967.

RED HEAD

For Magnetic Chucks, Magnetic Parallels, Electric Demagnetizers, and Electric Etchers.
First use Dec. 1, 1934.

SN 271,245. The Firestone Tire & Rubber Company, Akron, Ohio. Filed May 11, 1967.

FALCON

Owner of Reg. Nos. 693,860, 785,610, and others.
For Automobile Storage Batteries and Parts Thereof.
First use Jan. 19, 1967.

SN 271,738. Trojan Battery Company, Los Angeles, Calif. Filed May 17, 1967.

the Work Horse

For Electric Storage Batteries.
First use Oct. 3, 1966.

SN 271,919. Carol Wire & Cable Corp., Pawtucket, R.I. Filed May 19, 1967.

POWR-FOAM

For Television Transmission Cable.
First use on or about Apr. 26, 1967.

SN 271,920. Carol Wire & Cable Corp., Pawtucket, R.I. Filed May 19, 1967.

ULTRAFOAM

For Television Transmission Cable.
First use on or about Apr. 26, 1967.

SN 272,026. Dazey Products Company, Kansas City, Mo. Filed May 22, 1967.

STOW-AWAY

For Electric Broilers.
First use May 10, 1967.

SN 272,252. Antenna Designs, Inc., Burlington, Iowa. Filed May 24, 1967.

MINI-TENNA

For Antennas.
First use May 16, 1967.

SN 272,762. Tyco Laboratories, Inc., Waltham, Mass. Filed May 31, 1967.

DYNALUX

For Solid State Electronic Battery Chargers.
First use Nov. 7, 1966.

SN 273,591. Beacon Electric Manufacturing Co., d.b.a. American Christmas Lighting Associates, Boston, Mass. Filed June 12, 1967.

ACLA

For Electrified Christmas Tree Outfits, Electrified Candoliers, and Other Electrified Christmas Decorations.
First use at least as early as May 1967.

SN 273,692. The Ruby Lighting Corporation, New York, N.Y. Filed June 12, 1967.

CHANGELIER

For Electrical Lighting Fixtures.
First use on or about May 1, 1967.

SN 273,708. Westinghoues Electric Corporation, Bloomington, Ind. Filed June 12, 1967.

DYNA-VAC

For Power Capacitors.
First use on or about Apr. 14, 1967.

SN 273,844. Anzac Industries, Inc., Cleveland, Ohio. Filed June 14, 1967.

"GRIP-STICK"

For Antennas.
First use Apr. 12, 1967.

SN 284,864. Fedtro, Inc., Rockville Centre, N.Y. Filed Nov. 15, 1967.

PLUG-O-MATIC

For Dry Cell Battery Chargers.
First use Oct. 24, 1967.

Class 22 — Games, Toys, and Sporting Goods

SN 253,217. The A. C. Gilbert Company, New Haven, Conn. Filed Aug. 26, 1966.

MOON MCDARE

For Toys—Namely, Dolls, Clothes for Dolls, Model Figures of Space Men, and Space Travel Accessories.
First use Feb. 21, 1966.

SN 254,732. Sportsways, Inc., Paramount, Calif. Filed Sept. 19, 1966.

ULTRA-LITE

For Golf and Ski Equipment.
First use 1963.

SN 257,993. Springbok Editions, Inc., New York, N.Y. Filed Nov. 4, 1966.



Applicant disclaims the terms "Puzzle" and "Collection," and the representation of the puzzle pieces apart from the mark as shown. Owner of Reg. Nos. 823,328, 823,610, and 823,611.
For Jigsaw Puzzles.
First use Sept. 30, 1966.

SN 264,655. De Luxe Topper Corporation, Elizabeth, N.J. Filed Feb. 14, 1967.

MR. PIERRE

For Toy Hair Styling Equipment, Dolls, and Accessories.
First use Jan. 30, 1967.

SN 265,447. True Temper Corporation, Cleveland, Ohio. Filed Feb. 24, 1967.



Owner of Reg. Nos. 708,047, 801,202, and others.
For Sleds.
First use Jan. 5, 1967.

SN 265,448. True Temper Corporation, Cleveland, Ohio. Filed Feb. 24, 1967.

SNO SURFER

No claim is made to the exclusive use of the term "Sno" apart from the mark as shown.
For Sleds for Amusement and Sports Purposes, Skis, Ski Poles, Ski Pole Baskets, Ski Bindings, and Parts Therefor.
First use Jan. 5, 1967.

SN 265,932. T. J. Thomas Co., Inc., Brooklyn, N.Y. Filed Mar. 3, 1967.

SLENDER CYCLE

The word "Cycle" is disclaimed apart from the mark as shown. Owner of Reg. No. 775,705.
For Electric Bicycle Type Exercising Machines.
First use on or about Feb. 1, 1967.

SN 265,934. T. J. Thomas Co., Inc., Brooklyn, N.Y. Filed Mar. 3, 1967.

ELECTRO CYCLE

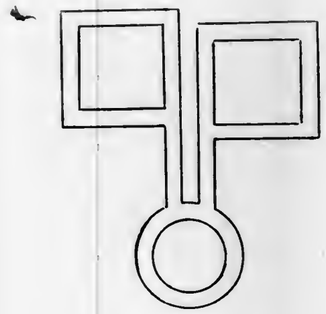
The word "Cycle" is disclaimed apart from the mark as shown. Owner of Reg. No. 775,705.
For Electric Bicycle Type Exercising Machines.
First use on or about Feb. 1, 1967.

SN 267,736. Dunlop Tire and Rubber Corporation, Buffalo, N.Y. Filed Mar. 28, 1967.

DUNLOP 65

Owner of Reg. Nos. 520,146 and 635,123.
For Golf Clubs.
First use Mar. 29, 1965.

SN 271,865. Wilson Sporting Goods Co., River Grove, Ill., assignee of Wilson Sporting Goods Co., River Grove, Ill. Filed May 18, 1967.



Owner of Reg. No. 637,105.
For Golf Clubs.
First use 1933.

SN 272,426. J. Swedlin, Inc., d.b.a. Gund Manufacturing Company, Brooklyn, N.Y. Filed May 25, 1967.

MERI

For Dolls.
First use May 12, 1967.
Subj. to Intf. with SN 284,777.

SN 277,711. Harvey Ronald Saunders, Norfolk, Va. Filed Aug. 7, 1967.

BELLYBALL

For Equipment (or Apparatus) Sold as a Unit for Playing a Body Manipulated Board Game.
First use July 20, 1967.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 244,737. Premium Corporation of America, Inc., Minneapolis, Minn. Filed May 2, 1966.

TIP TOP

For Pallet Unloading Apparatus of the Nature of a Ramp Provided With Stands for Adjustably Supporting Said Ramp at a Number of Locations Intermediate Its Ends.
First use Oct. 25, 1965.

SN 246,766. Fichtel & Sachs Aktiengesellschaft, Schweinfurt, Germany. Filed May 27, 1966.

SAXOLIFT

Owner of German Reg. No. 812,851, dated Aug. 3, 1965.
For Pneumatic, Hydraulic, and/or hydropneumatic Cylinders With Extensible Members, With or Without Arresting Means, Useful for Imparting Motion and/or Support to Connected Objects.

SN 253,218. Guilbert, Incorporated, Philadelphia, Pa. Filed Aug. 26, 1966.

CARGOMASTER

For Conveying Mechanism for Automatically Loading and Unloading Carts and Containers From Elevators and Dumb Waiters.
First use October 1963.

SN 253,343. Sealol, Inc., Warwick, R.I. Filed Aug. 29, 1966.
Owner of Reg. No. 822,672.

CHEMPRO

For Shaft Bearings.
First use Jan. 19, 1951.

SN 255,592. Bristol Siddeley Engines Limited, Filton, Bristol, England. Filed Oct. 3, 1966.

GAMMA

Owner of British Reg. No. 889,625, dated Jan. 21, 1966.
For Jet Propulsion Engines (Not for Land Vehicles).

SN 256,308. Production Products, Inc., Minneapolis, Minn. Filed Oct. 12, 1966.



For Vacuum Forming Machine.
First use July 10, 1966.

SN 260,955. Pine Island Boats, Inc., North Fort Myers, Fla. Filed Dec. 16, 1966.



For Tank With Float Valve for Removing Water From Marine Engine Fuel Systems.
First use on or about Apr. 1, 1966.

SN 262,478. Connecticut Scientific Center, Inc., New Haven, Conn. Filed Jan. 13, 1967.

PORT-A-WINDER

For Power Operated Tape Winders and Power Operated Paper Tape Winders, for Computer Tape, Adding Machine Tape, Segmented Tape, and the Like.
First use 1966.

SN 264,310. Eaton Yale & Towne Inc., Cleveland, Ohio. Filed Feb. 9, 1967.

EATONEX

Owner of Reg. Nos. 398,796 and 822,735.
For Drive Axle Gears for Vehicles.
First use Dec. 1, 1966.

SN 265,395. Borg-Warner Corporation, Chicago, Ill. Filed Feb. 24, 1967.

HELIWIPE

For Wipers for Oil Well Drill Pipes.
First use on or prior to Jan. 6, 1967.

SN 267,229. American Technical Machinery Corp., Mount Vernon, N.Y. Filed Mar. 21, 1967.



For Machines for Manufacturing Household Brushes and Mops.
First use in or about 1960.

SN 268,384. Contender Corporation, Woodland, Calif. Filed Apr. 5, 1967.

UNDER-TAKER

For Mobile Underground Compacting Auger for Laying Cable Lines and Tubing.
First use Sept. 10, 1966.

SN 268,716. Devlieg Machine Company, Royal Oak, Mich. Filed Apr. 10, 1967.

TANO-MIL

For Metal Cutting Tools, Particularly End Mills.
First use Mar. 9, 1967.

SN 268,739. Industrial Tools Manufacturing Corporation, Pico Rivera, Calif. Filed Apr. 10, 1967.

I.T.M.

For Mechanics' Hand Tools.
First use at least as early as 1955.

SN 268,754. Metaframe Corporation, Maywood, N.J. Filed Apr. 10, 1967.



For Aquarium Air Pump.
First use Mar. 21, 1967.

SN 268,759. Pendleton Tool Industries, Inc., Los Angeles, Calif. Filed Apr. 10, 1967.



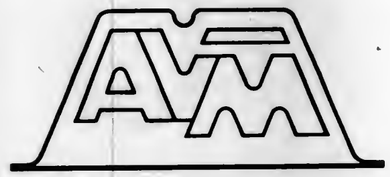
For Pliers.
First use October 1965.

SN 269,058. The Chandler & Price Company, Cleveland, Ohio. Filed Apr. 13, 1967.

TOBAMAT

For Paper Cutting Machines and Parts Therefor.
First use on or about Sept. 6, 1966.

SN 269,430. Koehler-Dayton, Inc., Dayton, Ohio. Filed Apr. 18, 1967.



For Plastic Forming and Packaging Machinery, and Parts Therefor.
First use Oct. 1, 1965.

SN 269,687. Purex Corporation, Ltd., Lakewood, Calif. Filed Apr. 20, 1967.

GUARDEX

For Swimming Pool Equipment—Namely, Pumps.
First use Jan. 20, 1967.

SN 269,912. Mobile Industrial Equipment Corp., Philadelphia, Pa. Filed Apr. 24, 1967.



For Hydraulic Hand Pallet and Platform Trucks.
First use Mar. 17, 1967.

SN 269,919. Oneida, Ltd., Oneida, N.Y. Filed Apr. 24, 1967.

INDIO

For Stainless Steel Flatware.
First use Apr. 7, 1967.

SN 269,938. Standard Sewing Equipment Corp., New York, N.Y. Filed Apr. 24, 1967.

ELGIN

Owner of Reg. No. 682,505.
For Sewing Machines and Parts and Accessories Thereof.
First use June 13, 1958.

SN 269,942. Tecumseh Products Company, Tecumseh, Mich. Filed Apr. 24, 1967.



Owner of Reg. Nos. 573,213, 660,341, and 716,430.
For Internal Combustion Engines and Parts Therefor.
First use on or about May 22, 1961.

SN 270,211. Anderson-Dunham, Inc., Minden, La. Filed Apr. 28, 1967.

LOG HOG

For Log Handling Tractor.
First use Oct. 27, 1966.

SN 270,267. Pentronix, Inc., Melvindale, Mich. Filed Apr. 28, 1967.

MULTIPAK

For Powder Material Presses and Tools.
First use July 2, 1966.

SN 270,631. Vulcan-Hart Corporation, Baltimore, Md. Filed May 3, 1967.

AUTOSAN

For Dish, Silver, and Glass Cleaning Machines.
First use 1913.

SN 271,693. Crestmont Metal Craft, Inc., Reading, Pa. Filed May 17, 1967.

CRESTCO

For Shears and Clippers, and Parts Therefor.
First use Apr. 25, 1967.

SN 272,672. Hydraulic Machinery Company, Inc., Butler, Wis. Filed May 31, 1967.

WOOD-PICKER

For Mobile Loader for Handling Pulp-Wood Logs.
First use at least as early as Apr. 18, 1967.

SN 275,582. Universal American Corporation, New York, N.Y. Filed July 10, 1967.

BUTTERWORTH

The drawing is lined for red, but color is not claimed as a feature of the mark. Owner of Reg. No. 435,441.

For Ageing Machines Used in Setting Colors After They Have Been Printed So That They Will Not Run; Atomizers Used To Dampen Cloth Before Finishing; Boiling Machines for Warps; Calenders; Cell Driers for Rubber Fabrics Used for Taking Canvas Over a Series of Cells To Dry It; Dyeing Machines; Drying Machines; Expanders; Finishing Machines for Webbing; Garment Dyeing Machines; Guiders for Guiding Cloth in and From Textile Machinery; Dye Jiggs for Dyeing Cloth; Mangles for Use in the Textile Industry for the Processing of Cloth; Mixers Used for Mixing the Various Colors To Be Used in the Printing of Goods; Package and Beam Dyeing Machines; Padding Machines for Padding Into Goods Starches, Colors, Chemicals, etc.; Pot Spinning Machines for Spinning Filament Yarn; Roll Machines, Used for Finishing Cloth; Rubber Impregnating Range, in the Nature of an Apparatus That Takes the Cloth Through a Series of Machines To Put Rubber or Latex Into the Material; Sanforizing Ranges, in the Nature of an Apparatus That Fixes Cloth So That There Is No Residual Shrinkage; Scutchers, in the Nature of Machines for Opening Cloth to Full Width From the Rope Form; Printing Machines for Printing Designs in Different Colors Upon Plain Cloth; Singeing Machines Used for Burning the Nap and Loose Ends From the Fabric; Sizing, Drying and Beaming Machines for Carpet Yarns; Skein Machines for Dyeing Wool, Worsted, Slubbing and Cotton for Bleaching Cotton, Scouring Wool and Worsted Yarn; Skein Machines for Silk, Mercerized Cotton and Artificial Silk; Sizing Machines for Warps; Soaping Machines for Warps; Strainers Used in Straining the Colors So That the Colors Are Smooth and Without Lumps; Special Machines for Sulphur Dyeing; Squeezers; Sprinkling Machines Used for Dampening Cloth Before Further Treatment and Finishing; Suction Box for Sucking Water Out of Cloth by Vacuum; Tubetex Machines Used in Finishing Tubular Knit Goods in the Circular Form; Tenters Used for Pulling Fabric Out to Width After It Has Been Treated So That It Can Be Dried at the Right Size; Washers Used To Wash Out the Cloth That Has Been Chemically Treated; and Winders Used To Wind Up the Cloth.

First use 1889.

SN 277,414. Riccar America Company, Anaheim, Calif. Filed Aug. 3, 1967.

UNI DIAL

No claim is made to the word "Dial" apart from the association shown.

For Control Dial on a Sewing Machine for Setting and Regulating Various Kinds of Sewing Stitches.

First use June 15, 1967.

SN 283,361. Robo-Wash, Inc., Kansas City, Mo. Filed Oct. 25, 1967.

ROBO

For Vehicle Washing and Waxing Apparatus.
First use Sept. 9, 1964.

SN 285,376. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Nov. 22, 1967.

PPG INDUSTRIES

For Power Driven Brushes.
First use at least as early as Feb. 10, 1967.

Class 24 — Laundry Appliances and Machines

SN 248,526. Quality Products of America, Inc., Kansas City, Mo. Filed June 20, 1966.



For Combination Ironing Board Covers and Pads.
First use Mar. 2, 1966.

Class 26 — Measuring and Scientific Appliances

SN 239,821. Gerald Barry Stillit, London, England. Filed Oct. 6, 1967.

STILLITRON

For Teaching Apparatus, Being Electrical, for Use in Connection With Programmed Teaching.
First use Dec. 1, 1965; in commerce January 1966.

SN 247,101. Ayres Corporation, Wilmington, Calif. Filed June 2, 1966.

Ayres

For Tax Computers—Namely, a Cylindrical Chart for Showing Relative Withholding Taxes.
First use June 1, 1950.

SN 250,341. Ball Brothers Research Corporation, Boulder, Colo. Filed July 15, 1966.

SLIM SENTRY

The word "Slim" is disclaimed apart from the mark as shown.

For Oil Well Temperature and Pressure Gauges.
First use on or about Aug. 6, 1965.

SN 250,342. Ball Brothers Research Corporation, Boulder, Colo. Filed July 15, 1966.

PRESSURE SENTRY

The word "Pressure" is disclaimed apart from the mark as shown.

For Oil Well Pressure Gauges.
First use on or about Nov. 1, 1961.

SN 250,343. Ball Brothers Research Corporation, Boulder, Colo. Filed July 15, 1966.

TEMPERATURE SENTRY

The word "Temperature" is disclaimed apart from the mark as shown.

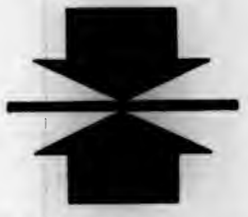
For Oil Well Temperature Gauges.
First use on or about Aug. 5, 1963.

SN 250,455. C. A. Curran, Chicago, Ill. Filed July 18, 1966.

DACTYLOCHROME TOUCH-A-COLOR

For Audio-Visual Teaching Machines.
First use June 6, 1966.

SN 251,164. Twin City Testing Corporation, Tonawanda, N.Y. Filed July 27, 1966.



For Thickness Measuring Instruments and Standards for Thickness Measuring.
First use on or about Apr. 1, 1965.

SN 251,165. Verreries de Goetzenbruck, Walter Berger & Cie, S.A., Goetzenbruck, Moselle, France. Filed July 27, 1966.

ORGALENS

Priority claimed under Sec. 44(d) on French Reg. No. 8,929, dated Mar. 4, 1966.

For Eyeglasses, Eyeglass Lenses, and Frames.

SN 251,244. Scientific Advances, Inc., Columbus, Ohio. Filed July 28, 1966.

SCIENTIFIC ADVANCES, INC

The words "Scientific Advances, Inc." are disclaimed apart from the mark as shown.

For Pressure Transducers and Associated Read-Out Components and Instruments.
First use Aug. 20, 1965.

SN 251,822. Kollsman Instrument Corporation, Elmhurst, N.Y. Filed Aug. 5, 1966.

dataScript

Owner of Reg. No. 760,322 and No. 833,246 (by a related company).

For Data Input Devices of the Type Wherein Manually and Electronically Supplied Data is Received, Compiled and Transmitted to Remote Projection Equipment.

First use June 1965.

SN 252,336. Anger International, Inc., New York, N.Y. Filed Aug. 15, 1966.



For Sunglasses.
First use on or about Mar. 1, 1966.

SN 254,230. Bolt Beranek and Newman Inc., Cambridge, Mass. Filed Sept. 12, 1966.

PLOTAMATIC

For Data Output Devices Such as X–Y Recorders, X–Y Plotters, and Point Plotting Systems.
First use Feb. 12, 1964.

SN 257,636. Kimtec, Incorporated, Houston, Tex. Filed Oct. 31, 1966.

KIMTEC

For Scientific Testing Equipment and Reagents Sold as Physical Biochemical Kits, Chromatography Kits and Dental Experimental Kits for Educational and Amusement Purposes.
First use Mar. 15, 1966.

SN 261,473. Elmwood Sensors, Inc., Cranston, R.I. Filed Dec. 27, 1966.

THERMO-STATE

For Solid-State Temperature Controller.
First use on or about Dec. 13, 1966.

SN 261,804. Canal Industrial Corporation, Rockville, Md. Filed Jan. 3, 1967.

PREP·DISC

For Protein Research Equipment—Namely, Apparatus for a High-Resolution Preparative Method for the Fractionation and Elution of High Molecular Weight Ionic Water-Soluble Materials.
First use Nov. 1, 1966.

SN 264,216. Walter Hostert, d.b.a. Hostert Automata, Am Hackenbruch, Germany. Filed Feb. 6, 1967.

HOSTERT AUTOMATA

For Photographic Laboratory Equipment for Processing, Enlarging, Printing, and Developing Film and Paper.
First use February 1956; in commerce March 1966.

SN 264,431. Matheson Scientific, Inc., Elk Grove Village, Ill. Filed Feb. 10, 1967.

WHIRLOZONE

For Laboratory Stirring Device With Motor, Support Rod, and Chuck.
First use Apr. 1, 1966.

SN 264,944. MTS Systems Corporation, Minneapolis, Minn. Filed Feb. 17, 1967.

MTS

For Testing Equipment and Complete Testing Systems for Determining Properties of Materials and Structures Including Load Frames, Specimen Grips, Test Load Programmers, Controllers and Recorders, and Hydraulic and Electro-Hydraulic Actuators for Test Systems; Hydraulic Power Supplies; Test Specimen Break Detectors; Mechanical Load Limiters for Specimen Testers and Actuators; Hydraulic Valves Suitable for Use With Testing Equipment; and Hydraulic Service Manifolds Useful for Filtration and Line Pressure Fluctuation Suppression Functions in Hydraulic Systems.
First use Oct. 25, 1966.

SN 268,292. Current Controls Corporation, Hialeah, Fla. Filed Apr. 4, 1967.

INFORMATIC

For Electronic Information Display Systems and Visual Display Units for Dynamically Displaying Printed Data Received From Program Storage Devices.
First use December 1966.

SN 270,080. The Plastic Contact Lens Company, Chicago, Ill. Filed Apr. 26, 1967.

PUPIBIFOCAL

For Contact Lenses.
First use on or about Mar. 29, 1967.

SN 271,783. Eastman Kodak Company, Rochester, N.Y. Filed May 18, 1967.

EKTAGRAPHIC

Owner of Reg. Nos. 576,840 and 578,062.
For Photographic Projectors.
First use Feb. 24, 1967.

SN 272,200. Newport Instrument Corporation, Newport Beach, Calif. Filed May 23, 1967.

QUIET-TRIM

For Potentiometers.
First use Apr. 5, 1967.

SN 272,873. United States Safety Service Co., Kansas City, Mo. Filed June 1, 1967.

POLY/SAF

Owner of Reg. Nos. 537,604, 635,543, and others.
For Lenses for Safety Spectacles and Goggles.
First use Dec. 19, 1966.

SN 272,874. United States Safety Service Co., Kansas City, Mo. Filed June 1, 1967.

SAF-I-CHIPPER

Owner of Reg. Nos. 537,604, 635,543, and others.
For Safety Goggles.
First use Jan. 18, 1967.

SN 274,241. Robertshaw Controls Company, Richmond, Va. Filed June 19, 1967.

UNI-LINE

For Temperature, Pressure, Humidity, Time, Liquid Level, and Flame Responsive Control Devices and Components Thereof of the Electric, Pneumatic, Hydraulic, Mechanical and Electronic Type for Use With Heating, Cooling and Air Conditioning Apparatus.
First use Jan. 7, 1965.

SN 285,790. Facit-Odhner, Inc., Secaucus, N.J. Filed Nov. 29, 1967.

MINI-TAPE

For Multiplying Machines.
First use Mar. 11, 1967.

Class 27 — Horological Instruments

SN 258,595. Sheffield Watch, Inc., New York, N.Y. Filed Nov. 14, 1966.

Sheffield
Never a dull moment.

For Watches and Clocks.
First use Sept. 28, 1966.

SN 271,220. Bulova Watch Company, Inc., Flushing, N.Y. Filed May 11, 1967.

CLYDESDALE

For Watches and Parts Thereof.
First use May 2, 1967.

Class 28 — Jewelry and Precious-Metal Ware

SN 212,076. Vail Associates, Inc., Vail, Colo., assignee of Vail Associates, Ltd., Vail, Colo. Filed Feb. 15, 1965.



For Lapel Pins.
First use on or about Jan. 29, 1963.

SN 212,079. Vail Associates, Inc., Vail, Colo., assignee of Vail Associates, Ltd., Vail, Colo. Filed Feb. 15, 1965.



For Lapel Pins.
First use on or about Jan. 29, 1963.

SN 272,273. Gotham Wedding Ring Co., Inc., New York, N.Y. Filed May 24, 1967.

GOTHAM

For Finger Rings Made of Precious Metal.
First use on or about May 15, 1967.

SN 274,125. Renard A. Pelloni, Great Neck, N.Y. Filed June 16, 1967.



For Jewelry.
First use May 17, 1967.

SN 274,354. Textron Inc., Providence, R.I. Filed June 20, 1967.

HIGH RIDGE

For Expansion Bracelets, Including Watch Bracelets.
First use May 23, 1967.

SN 274,356. Textron Inc., Providence, R.I. Filed June 20, 1967.

REFLECTIONS

For Expansion Bracelets, Including Watch Bracelets.
First use May 23, 1967.

SN 274,357. Textron Inc., Providence, R.I. Filed June 20, 1967.

LADY OF DISTINCTION

Owner of Reg. No. 809,547.
For Expansion Bracelets, Including Watch Bracelets.
First use May 23, 1967.

SN 274,358. Textron Inc., Providence, R.I. Filed June 20, 1967.

LADY OF VENICE

For Expansion Bracelets, Including Watch Bracelets.
First use May 23, 1967.

SN 274,467. Steele and Dolphin Limited, Rubery, Birmingham, England. Filed June 21, 1967.

S&D

For Jewelry, Including Diamond Rings.
First use 1946; in commerce May 16, 1967.

SN 274,801. Harry Winston, Inc., New York, N.Y. Filed June 26, 1967.

WINSTON

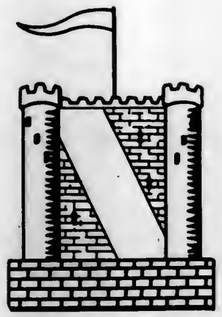
For Jewelry and Polished Diamonds.
First use January 1932.

SN 275,048. Gotham Wedding Ring Co., Inc., New York, N.Y. Filed June 29, 1967.

GOTHAM GOLD

The word "Gold" is disclaimed apart from the trademark as shown.
For Finger Rings Made of Precious Metal.
First use on or about June 12, 1967.

SN 281,420. House of Berland, Inc., New York, N.Y. Filed Sept. 29, 1967.



For Jewelry.
First use in about 1946.

Class 30—Crockery, Earthenware, and Porcelain

SN 251,148. National Potteries Corporation, Bedford, Ohio. Filed July 27, 1966.

HOLLYDAY

Owner of Reg. No. 775,107.
For Christmas Goblet-Planters, Christmas Centerpiece-Bowls, Christmas Sleigh-Planters, Christmas Candle Stands, Christmas Two-Tier Centerpiece-Planters, Christmas Holly Ring-Planters, Christmas Dinner Bell Ornaments, Christmas Bell-Shape Salt and Peppers, Christmas Tea Pots, Christmas Sugar and Creamers, Christmas Tree-Shaped Three-Compartment Serving Dishes, Christmas Mugs, and Christmas Tom and Jerry Sets, All Made of Earthenware.
First use on or about Apr. 1, 1966.

SN 277,753. General Mills, Inc., Minneapolis, Minn. Filed Aug. 8, 1967.

PATIO

For Earthenware—Namely, Cups, Dinner Plates, and Saucers.
First use May 26, 1967.

Class 31—Filters and Refrigerators

SN 253,240. Michael J. Paolercio, Jr., d.b.a. M.J.P. Construction/Investment Co., Fresno, Calif. Filed Aug. 26, 1966.

Mijit MART

Applicant disclaims the word "Mart" separate and apart from the mark as a whole.
For Refrigerated Self-Service Vending Machines.
First use Dec. 11, 1964.

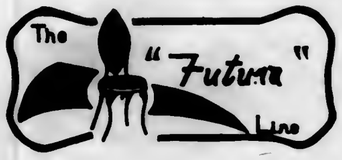
SN 265,839. Microtron Corporation, Charlotte, N.C. Filed Mar. 2, 1967.

Wind-Soc

For Air Filters for Heating, Air Conditioning, Ventilating, and Dust Collecting Systems, and the Like.
First use Feb. 8, 1967.

Class 32—Furniture and Upholstery

SN 247,282. Wrought Iron Chair Corp., Upper Darby, Pa. Filed June 3, 1966.



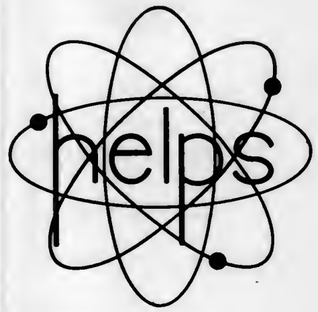
The pictorial representation of a chair and the word "Line" are disclaimed apart from the mark as shown.
For Chairs, Stools and Chair Table Sets.
First use January 1960.

SN 269,403. Cotton Belt, Inc., Pinetops, N.C. Filed Apr. 18, 1967.

EPHRAIM JAMES

The name "Ephraim James" is fictitious.
For Mattresses and Box Springs.
First use June 1965.

SN 275,522. Helps Co., Minneapolis, Minn. Filed July 7, 1967.



For Film and Tape Storage Cabinets.
First use May 8, 1967.

SN 275,877. Spartans Industries, Inc., New York, N.Y. Filed July 12, 1967.

KOR-FOAM

For Mattresses.
First use Mar. 18, 1967.

SN 276,549. Drexel Enterprises, Inc., Drexel, N.C. Filed July 21, 1967.

DREXELAIRE

Owner of Reg. Nos. 510,054, 728,305, and 748,464.
For Cushions.
First use June 1967.

SN 276,815. Burris Manufacturing Company, Incorporated, Lincolnton, N.C. Filed July 26, 1967.



BURRIS

Owner of Reg. Nos. 830,421, 831,796, and 831,797.
For Chairs, Sofas, Love Seats, End Tables, Coffee Tables, and Occasional Tables.
First use on or about June 7, 1967, on chairs; May 1, 1949, as to the mark "Burris."

SN 277,138. Bianco Manufacturing Company, St. Louis, Mo. Filed July 31, 1967.



For Chairs, Tables, and Restaurant Booths.
First use November 1965; 1940 as to the name "Bianco."

SN 277,426. Binswanger Glass Co., Richmond, Va. Filed Aug. 3, 1967.

Clarity

For Framed Mirrors.
First use June 15, 1967.

SN 278,564. American Athletic Equipment Co., Jefferson, Iowa. Filed Aug. 18, 1967.

TIP-AWAY

For Bleachers.
First use Aug. 4, 1967.

Class 33—Glassware

SN 254,186. Riekes Crisa Corporation, Laredo, Tex. Filed Sept. 9, 1966.

CAPRICE

For Crystal Stemware.
First use May 10, 1966.

SN 254,187. Riekes Crisa Corporation, Laredo, Tex. Filed Sept. 9, 1966.

DESIREE

For Crystal Stemware.
First use May 25, 1966.

SN 254,188. Riekes Crisa Corporation, Laredo, Tex. Filed Sept. 9, 1966.

MYSTIQUE GOLD

The word "Gold" is disclaimed apart from the mark as shown.
For Crystal Stemware.
First use May 10, 1966.

SN 254,805. Riekes Crisa Corporation, Laredo, Tex. Filed Sept. 20, 1966.

MYSTIQUE PLATINUM

The word "Platinum" is disclaimed apart from the mark as shown.
For Crystal Stemware.
First use May 10, 1966.

SN 266,691. Riekes Crisa Corporation, Laredo, Tex. Filed Mar. 14, 1967.

FANTASY IN WOOD

For Crystal Glassware—Namely, Beer and Ale Glasses With Wall and Table Racks Therefor, Sold in Sets; Serving Dishes and Covers, Sold in Sets With Racks or Trays Therefor; Ash Trays and Coasters, Sold in Sets With Racks Therefor; Cocktail and Brandy Sets, Namely, Pitchers With Stir Rods and Glasses, With and Without Coasters or Ash Trays, Sold in Sets With Trays Therefor, These Glasses Not of Crystal; Candy and Nut Dishes, Sold in Sets With Trays Therefor; Sugar and Cream Dishes, Sold in Sets With Trays Therefor; Large and Small Salad Bowls, Sold in Sets With Trays Therefor.
First use Mar. 14, 1966, on ashtrays and coasters, with racks.

Class 34—Heating, Lighting, and Ventilating Apparatus

SN 241,245. Duo-Matic of Canada Ltd., Waterford, Ontario, Canada. Filed Mar. 17, 1966.

ELECTR-O-MATIC

Priority claimed under Sec. 44(d) on Canadian application filed Sept. Sept. 17, 1965; Reg. No. 154,012, dated Nov. 3, 1967.
For Furnaces, Furnace Burners, Heating and Air-Conditioning Apparatuses, Specifically Electric Furnaces That Heat, Cool, Humidify, Dehumidify and Wash the Air, as Well as Parts of the Previously Mentioned Products.

SN 249,585. Seelye Plastic-Fab, Inc., Minneapolis, Minn. Filed July 5, 1966.



The word "Minneapolis" is disclaimed apart from the mark as shown.

For Electric Thermoplastic Welders and Custom Fabricated Thermoplastic Articles—Namely, Exhaust and Intake Hoods and Duct Work, Blowers and Air Washers and Scrubbers, Including Air Washers and Scrubbers Incorporating Pumps and Filters.

First use at least as early as Jan. 1, 1961.

SN 251,878. Billman-Regulator Aktiebolag, Huddinge, Sweden. Filed Aug. 8, 1966.

INDAC

Owner of Swedish Reg. No. 112,217, dated Feb. 19, 1965.

For Pneumatic Control Units for Air Conditioning and Ventilating Equipment.

SN 252,842. The Garrett Corporation, Los Angeles, Calif. Filed Aug. 22, 1966.



For Transfer Apparatus Comprising Coil, Tube, and Plate-Fin Heat Exchangers for Liquids and Gases; Gas Fired Steam Generating Plants; Steam Boilers; Steam Condensers; Engine Exhaust Heat Recuperators and Regenerators; Ventilating Apparatus Comprising Fans and Blowers and Controls Therefor; Air Conditioners and Controls Therefor; Space Capsule and Space Suit Pressurization and Ventilation Systems and Equipment and Component Parts Thereof; Carbon Dioxide and Contaminant Removal Equipment for Air and Water Purification, Odor and Water Absorption Equipment for Ventilating Air; Thermoelectric Heat Pump Systems and Components; Thermoelectric Cooling Systems and Components; Total Energy Syatems and Components for Space Heating, Lighting and Ventilating; and Portable and Transportable Systems and Components for Providing Ventilation and Heating or Cooling of Compartments of Grounded Aircraft.

First use Dec. 5, 1955.

SN 254,915. Buffalo Forge Company, Buffalo, N.Y. Filed Sept. 22, 1966.

BL-AEROFOIL

For Centrifugal Fan Units Which Include a Fan Wheel and a Casing Therefor.

Feb. 25, 1966.

SN 258,991. Federal Steel Corporation, Raritan, N.J. Filed Nov. 18, 1966.

CRESTLINE

For Outdoor Barbecue Grills and Hibachi Grills.

First use Oct. 10, 1960.

SN 261,844. Hydro Flame Corporation, Salt Lake City, Utah. Filed Jan. 3, 1967.

HYDRO FLAME

No claim is made for the word "Flame" apart from the mark as shown. Owner of Reg. No. 737,911.

For Conversion Burners, Mobile Home Conversion Burners, Industrial Burners, Camper and Trailer Furnaces.

First use in 1957, on conversion burners.

SN 265,906. Loren Cook Company, Berea, Ohio. Filed Mar. 3, 1967.

GEMINI

For Ventilating Apparatus—Namely, Electrical Fans.

First use on or about Jan. 4, 1967.

SN 265,938. Western Engineering & Mfg. Co., Venice, Calif. Filed Mar. 3, 1967.

VALKYRIE

For Fan Blades for Ventilators.

First use Jan. 17, 1967.

SN 266,156. Industrial Acoustics Company, Inc., Bronx, N.Y. Filed Mar. 7, 1967.

QUIET-FLOW

For Acoustic-Thermal Housings for Air Handling Equipment—Namely, Fan Plenums.

First use at least as early as Mar. 1, 1963.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 266,326. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Mar. 9, 1967.

RADIAL MILER

The word "Radial" is disclaimed apart from the mark as shown.

For Tires.

First use Jan. 16, 1967.

SN 269,068. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Apr. 13, 1967.

FOUR SEASONS

For Resilient Vehicle Tires.

First use Mar. 29, 1967.

SN 269,533. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Apr. 19, 1967.

PERMALON

Owner of Reg. No. 820,173.

For Tires.

First use Dec. 16, 1965.

SN 269,999. The Pep Boys, Manny, Moe & Jack, Philadelphia, Pa. Filed Apr. 25, 1967.

CORNELL XWT

Owner of Reg. Nos. 503,440 and 811,356.

For Pneumatic Tires.

First use on or about Mar. 28, 1967.

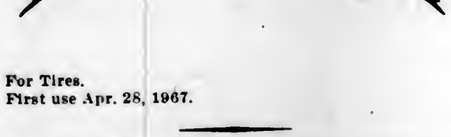
SN 270,673. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed May 4, 1967.

LIFECORD

For Tires.

First use Apr. 4, 1967.

SN 271,140. Eliminator Tire & Rubber Co., Inc., Thompsonville, Conn. Filed May 10, 1967.



For Tires.

First use Apr. 28, 1967.

SN 271,142. The Firestone Tire & Rubber Company, Akron, Ohio. Filed May 10, 1967.

POWER FALCON

Owner of Reg. Nos. 627,858, 785,610, and others.

For Resilient Vehicle Tires.

First use Feb. 1, 1967.

SN 271,457. Eliminator Tire & Rubber Co., Inc., Thompsonville, Conn. Filed May 15, 1967.



For Tires.

First use Apr. 28, 1967.

Class 36 — Musical Instruments and Supplies

SN 246,678. The Fred Gretsch Company, Inc., New York, N.Y., by assignment and change of name from The Fred Gretsch Mfg. Co., Brooklyn, N.Y. Filed May 26, 1966.



"Chet Atkins" is the name of a living individual, whose consent is of record.

For Guitars and Amplifiers Therefor.

First use Oct. 23, 1957, on guitars.

SN 248,256. Charles Frederick Stein, La Grange, Ill. Filed June 16, 1966.

SCALE BY CHARLES FREDERICK STEIN

Applicant disclaims the words "Scale By" apart from the mark as shown.

For Pianos and Piano Plates.

First use Nov. 15, 1963; Dec. 20, 1927, as to the trademark "Charles Frederick Stein."

SN 257,301. Metro Wholesale Corporation, New York, N.Y. Filed Oct. 26, 1966.



Owner of Reg. No. 728,227.

For Magnetic Recording Tape.

First use January 1964.

SN 260,767. Radio Corporation of America, New York, N.Y. Filed Dec. 14, 1966.

DURALIFE

For Styli Made From Diamonds and Used in Phonographs for the Playing of Recordings.

First use on or about June 1, 1966.

SN 264,358. The Total Sound, Inc., New York, N.Y. Filed Feb. 7, 1967.



For Phonograph Records.

First use Sept. 22, 1966.

Class 37 — Paper and Stationery

SN 270,286. Scent-sation, Inc., New York, N.Y. Filed Apr. 28, 1967.

SCENT-SATION

Owner of Reg. No. 656,214.
For Paper for Shelving.
First use September 1966.

SN 273,207. Bruno A. Puszynski, d.b.a. Frontier Products, Chicago, Ill. Filed July 6, 1967.

FRONSCO

For Protective Plastic Jackets and Covers for Various Papers and Cards.
First use May 24, 1967.

Class 38 — Prints and Publications

SN 201,099. The Christian Science Publishing Society, Boston, Mass. Filed Sept. 2, 1964.

world news in focus

Owner of Reg. No. 426,843.
For International Daily Newspaper.
First use Sept. 1, 1964.

SN 208,038. The Christian Science Publishing Society, Boston, Mass. Filed Dec. 14, 1964.

focus

Owner of Reg. No. 426,843.
For Newspaper Column in a Daily Newspaper.
First use Nov. 10, 1964.

SN 239,822. Gerald Barry Stillit, London, England. Filed Jan. 3, 1968.

STILLITRON

Owner of British Reg. No. 885,869, dated Oct. 21, 1965.
For Printed Text Books and Pamphlets; and Printed Sheets, Printed Cards, and Teaching Material for Use With Teaching Apparatus.

SN 245,281. American Society for Testing and Materials, Philadelphia, Pa. Filed May 10, 1966.

JOURNAL OF MATERIALS

Owner of Reg. No. 747,313.
For Technical Journal Published From Time to Time.
First use Apr. 6, 1966.

SN 251,676. Wisconsin Rapids Tribune Co., Wisconsin Rapids, Wis. Filed Aug. 3, 1966.



For Daily Newspaper.
First use on or about Jan. 19, 1966; about December 1962 on related goods.

SN 260,856. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Dec. 15, 1966.

CULINARY ALMANAC

For Memoranda Calendars Containing Recipes.
First use June 1, 1966.

SN 263,066. Industrial Research, Inc., Beverly Shores, Ind. Filed Jan. 23, 1967.

OCEANOLOGY INTERNATIONAL

For Periodical Magazine.
First use Oct. 15, 1966.

SN 263,143. The White Cross Hospital Association of Ohio, Columbus, Ohio. Filed Jan. 23, 1967.

RIVERSIDE REVIEW

RMH

For Newsletter Published From Time to Time.
First use July 1962.

SN 266,202. Diamond International Corporation, New York, N.Y. Filed Mar. 8, 1967.

Digest

No registration rights are claimed for the word "Digest" apart from the mark as shown, but applicant waives none of its common law rights in the mark shown or any feature thereof.
For House Organ.
First use Apr. 29, 1965.

SN 270,199. Gulfco Corporation, d.b.a. Educational Media Laboratories, Dallas, Tex. Filed Apr. 28, 1967.

eml

For Educational Material of All Kinds—Namely, Film Strips, Manuals, Pamphlets, Film Slides, Books, Charts, Motion Picture Films, and Transparencies for Overhead Projectors.
First use Feb. 3, 1967.

SN 278,780. Bodine Electric Company, Chicago, Ill. Filed Aug. 22, 1967.

MOTORGRAM

For Magazine.
First use February 1919.

Class 39 — Clothing

SN 114,607. Kay Rubber Corp., New York, N.Y., assignee of Galocha Moderna Inc., Philadelphia, Pa. Filed Feb. 28, 1961.

GALOCHA MODERNA

For Men's Overshoes.
First use January 1942.

SN 231,480. J. C. Penney Company, New York, N.Y. Filed Oct. 23, 1965.

JAMES WELLS

The name "James Wells" is fictitious. Owner of Reg. Nos. 829,127, 829,801, and 840,522.
For Men's Underwear, Dress Shirts, Sport Shirts, All Weather Coats, Shoes, Hosiery, Jackets, Neckwear, Sleepwear, Robes, Jeans, Overalls, Sport Coats, and Handkerchiefs.
First use Mar. 30, 1964, on neckwear.

SN 231,482. J. C. Penney Company, New York, N.Y. Filed Oct. 23, 1965.

JIMMY WELLS

The name "Jimmy Wells" is fictitious. Owner of Reg. Nos. 829,127, 829,801, and 840,522.
For Boys' Sport Shirts and Pants.
First use July 6, 1964.

SN 251,670. The Villager, Inc., Philadelphia, Pa. Filed Aug. 3, 1966.

SQUALL COAT

No exclusive claim is made to the word "Coat" apart from the mark as shown. Owner of Reg. No. 763,185.
For Raincoats.
First use May 18, 1966.

SN 255,331. Samuel Kassow Co., Inc., Jenkintown, Pa. Filed Sept. 28, 1966.

IRENE LEE

The name "Irene Lee" is fanciful.
For Hosiery.
First use April 1966.

SN 255,453. Picariello & Singer, Inc., East Boston, Mass. Filed Sept. 29, 1966.

John Roberts Designed by Picariello

The words "Designed By" are disclaimed apart from the mark as shown. The name "John Roberts" is fictitious.
For Men's and Youths' Suits, Coats, Slacks, Rainwear, and Overcoats.
First use 1962.

SN 255,977. The Harris Company, San Bernardino, Calif. Filed Oct. 7, 1966.

JOHN KENT

The name "John Kent" is fanciful.
For Men's Suits, Two Piece Non-Matching Suits, Sport Coats, Pants, Topcoats, and Raincoats.
First use at least as early as 1946.

SN 257,061. Little Topsy's, Inc., New York, N.Y. Filed Oct. 24, 1966.

LITTLE TOPSY'S

For Children's and Juniors' Knitted Blouses, Shirts, Skirts, Slacks, and Combinations Thereof.
First use Jan. 2, 1960.

SN 257,098. Snappi Knits, Ltd., New York, N.Y. Filed Oct. 24, 1966.

SNAPPI KNIT

The word "Knit" is disclaimed apart from the mark as shown.
For Children's and Juniors' Knitted Blouses, Shirts, Skirts, Slacks, and Combinations Thereof.
First use Dec. 1, 1965.

SN 261,856. Lord Jim, Inc., Madison, Wis. Filed Jan. 3, 1967.

Lord Jim

For Men's Suits, Sportcoats, Dress Trousers, Dress Shirts, Sport Shirts, Knit Shirts, Casual Trousers and Jeans, Jackets, Raincoats, and Other Outer Coats, Neckwear, Sweaters, Swimwear, Walking Shorts, and Hosiery.
First use Sept. 23, 1966.

SN 263,447. Bobbie Brooks, Incorporated, Cleveland, Ohio. Filed Jan. 27, 1967.

SAY HI SAY LOW

For Women's and Girls' Skirts, Sweaters, Blouses, Pants, Shorts, Culottes, and T-Shirts.
First use Nov. 3, 1966.

SN 263,782. Semiramis, Ltd., New York, N.Y. Filed Feb. 1, 1967.

semiramis new york

The geographical term "New York" is disclaimed apart from the mark as shown.
For Women's Bathing Suits and Bikinis.
First use Apr. 1, 1966.

SN 263,817. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Feb. 2, 1967.

GOTHAM

Owner of Reg. Nos. 197,024 and 802,776.
For Ladies' Hosiery.
First use Jan. 9, 1967.

SN 265,160. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Feb. 21, 1967.

HUMMINGBIRD

Owner of Reg. Nos. 137,183, 803,457, and others.
For Ladies' Briefs.
First use Feb. 2, 1967.

SN 265,868. Exmoor Knitwear Co., Inc., Haverstraw, N.Y. Filed Mar. 3, 1967.

THE WIZARD OF AH'S

For Sweaters.
First use December 1960.

SN 266,530. Garland Corporation, Brockton, Mass. Filed Mar. 13, 1967.

GARLAND

Owner of Reg. No. 529,088.
For Women's Clothing—Namely, Skirts and Suits; Pants; Shirts; Jackets; Sweaters; Hose; Skirt-and-Jacket Coordinates; Shifts; Jumpers; Blazers; Hats; and Scarves.
First use at least as early as the fall of 1937.

SN 266,536. Robert Hall Clothes, Inc., d.b.a. Robert Hall Clothes, New York, N.Y. Filed Mar. 13, 1967.

Miss Robin

Owner of Reg. No. 648,644.
For Girls' Coats, Carcoats, Jackets, Toppers, Jacket and Coat Sets, Suits, Dresses, Shifts, Jumpers, Skirts, Tops, Co-Ordinate Sets Consisting of a Skirt and Matching Top, Playsets Consisting of a Pair of Slacks and Matching Top, Slack Sets, Pedal Pushers, Shorts, Swimwear, Pajamas, Stretch Tights, Socks, Slips, and Panties.
First use on or about Feb. 23, 1967.

SN 266,614. H. Hacking Co. Ltd., Vancouver, British Columbia, Canada. Filed Mar. 2, 1967.

BASKETMASTER

Priority claimed under Sec. 44(d) on Canadian application filed Sept. 3, 1966; Reg. No. 151,143, dated June 2, 1967.
For Canvas Footwear.

SN 267,061. Ramer Industries, Inc., Brooklyn, N.Y. Filed Mar. 17, 1967.



The lining shown on the drawing is merely for the purpose of reproducing the lines shown on the specimens, and do not indicate any color.
For Footwear.
First use Feb. 18, 1967.

SN 268,607. Munsingwear, Inc., Minneapolis, Minn. Filed Apr. 7, 1967.

HOLLYWOOD Vassarette MATCHMAKERS

Owner of Reg. No. 746,676.
For Bras, Girdles, and Lingerie.
First use on or about Oct. 1, 1958.

SN 269,747. Curlee Clothing Company, St. Louis, Mo. Filed Apr. 21, 1967.

VALLEY FORGE

For Men's Suits, Topcoats, Sport Coats, and Slacks.
First use Feb. 17, 1967.

SN 269,866. Diamond Cut Lingerie Proprietary Limited, Fitsroy, Victoria, Australia. Filed Apr. 24, 1967.

DIAMOND CUT

Owner of Australian Reg. No. A193,985, dated Apr. 12, 1965.
For Women's and Girls' Slips, Halfslips, Nightdresses, Pajamas, Briefs and Panties.

SN 269,899. Interco Incorporated, St. Louis, Mo. Filed Apr. 24, 1967.

active age

For Shoes.
First use June 25, 1965.

SN 269,925. Petrie Stores Corporation, Chicago, Ill. Filed Apr. 24, 1967.

Pat Page

The name "Pat Page" is fanciful.
For Sweaters, Hosiery, and Ladies' Shirts and Blouses.
First use Aug. 24, 1945.

SN 270,011. The Strouse, Adler Company, New Haven, Conn. Filed Apr. 25, 1967.

HIDDEN PERFORMER

For Foundation Garments.
First use at least as early as Apr. 18, 1967.

SN 270,380. The Grove Company, St. Louis, Mo. Filed May 1, 1967.

BICYCLE

For Pant Dress.
First use Feb. 21, 1967.

SN 271,651. Smoler Bros., Inc., Chicago, Ill. Filed May 16, 1967.

NECESSITY OF LIFE FASHIONS

Applicant disclaims the word "Fashion" apart from the mark as shown.
For Women's and Misses' Clothing—Namely, Dresses, Robes, Housecoats, and Dusters.
First use January 1957.

SN 271,841. Rubber Corporation of Pennsylvania, West Hazelton, Pa. Filed May 18, 1967.

OGGS

For Footwear.
First use Mar. 1, 1967.

SN 273,102. Princess Peggy, Inc., Peoria, Ill. Filed June 5, 1967.

ML Mac-Lyn

For Ladies' and Children's Dresses and Sportswear—Namely, Dresses, Blouses, Halters, Briefs, Shorts, Pedalpushers, Skirts, Culottes, and Pants.
First use on or about Mar. 15, 1967.

SN 274,618. Charles Greenberg & Sons, Inc., New York, N.Y. Filed June 23, 1967.

LUCKY LAD

Owner of Reg. No. 269,471.
For Boys' Outer Shirts.
First use Feb. 4, 1926.

SN 274,876. Kimberly-Clark Corporation, Neenah, Wis. Filed June 27, 1967.

KIMLON

Owner of Reg. Nos. 672,903, 814,579, and others.
For Diapers.
First use Dec. 9, 1966.

SN 274,903. Oskar Titze, Denver, Colo. Filed June 27, 1967.

OSKAR

For Barber or Beauty Shop Sleeve Capes.
First use June 20, 1967.

SN 277,183. Kayser-Roth Corporation, New York, N.Y. Filed July 31, 1967.

PEEK-O-YELLOW

Owner of Reg. No. 520,214.
For Ladies' Hosiery.
First use June 26, 1967.

SN 280,132. Levy Bros. Frocks, Inc., New York, N.Y. Filed Sept. 12, 1967.

Sandra Lee

The mark "Sandra Lee" is fanciful and is not the name of a living individual.
For Women's Wearing Apparel—Namely, Daytime and Sun Dresses.
First use March 1944.

SN 281,160. Kayser-Roth Corporation, New York, N.Y. Filed Sept. 26, 1967.

INTERWOVEN

Owner of Reg. Nos. 49,830, 686,374, and others.
For Men's and Boys' Hosiery, Shirts, Neckwear, Slacks, Sport Coats, and Underwear.
First use Mar. 1, 1905.

SN 284,154. The Bali Company, Inc. (New York), New York, N.Y. Filed Nov. 6, 1967.

BALI

Owner of Reg. No. 553,151.
For Girdles and Panty Girdles.
First use Sept. 21, 1967.

SN 285,498. Maidenform, Inc., New York, N.Y. Filed Nov. 24, 1967.

DELICACY

Owner of Reg. Nos. 795,312 and 836,341.
For Foundation Garments and Lingerie.
First use Nov. 3, 1967.

SN 285,629. Smith Shoe Corporation, Newmarket, N.H. Filed Nov. 27, 1967.

Preps
BY Yankee

Owner of Reg. No. 438,409.
For Boys' Shoes.
First use on or about Aug. 31, 1967; on or about Dec. 31, 1950, as to "Preps" and "Yankee."

SN 285,630. Smith Shoe Corporation, Newmarket, N.H. Filed Nov. 27, 1967.

debuteens
BY Yankee

Owner of Reg. No. 438,409.
For Girls' Shoes.
First use on or about Aug. 31, 1967; on or about Dec. 31, 1950, as to "Debuteens" and "Yankee."

SN 285,631. Smith Shoe Corporation, Newmarket, N.H. Filed Nov. 27, 1967.

debuteens
by Pied Piper

Owner of Reg. No. 130,812.
For Girls' Shoes.
First use on or about Aug. 31, 1967; on or about Dec. 31, 1950, as to "Debuteens"; on or about June 9, 1919, as to "Pied Piper."

SN 285,632. Smith Shoe Corporation, Newmarket, N.H. Filed Nov. 27, 1967.

Preps
by Pied Piper

Owner of Reg. No. 130,812.
For Boys' Shoes.
First use on or about Aug. 31, 1967; on or about Dec. 31, 1950, as to "Preps"; on or about June 9, 1919, as to "Pied Piper."

SN 285,633. Smith Shoe Corporation, Newmarket, N.H. Filed Nov. 27, 1967.

Yankee

Owner of Reg. No. 438,409.
For Shoes.
First use on or about Dec. 31, 1950.

Class 41—Canes, Parasols, and Umbrellas

SN 259,602. Telesco Brophey Limited, Montreal, Quebec, Canada. Filed Nov. 28, 1966.

CHARM

Owner of Canadian Reg. No. 144,734, dated Apr. 7, 1966.
For Umbrellas.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 261,769. William Volker & Company of Missouri, Inc., Kansas City, Mo. Filed Jan. 3, 1967.

STYLEHOME

Owner of Reg. No. 567,573.
For Textile Rugs, Carpeting, and Floor Coverings.
First use Mar. 1, 1952.

SN 261,920. Coin Sales Corporation, New York, N.Y. Filed Jan. 4, 1967.

COIN-FLEX

Owner of Reg. No. 771,953.
For Fabric Piece Goods for Making Into Dresses and the Like.
First use at least by Dec. 6, 1965.

SN 263,365. E'Con Mills, Inc., Chattanooga, Tenn. Filed Jan. 26, 1967.

COMORO

The Portuguese word "Comoro" means "a small round hill."
For Carpeting for Floors, Walls, and Ceilings, Carpet Padding and Draperies.
First use Dec. 23, 1966.

SN 274,338. Pendleton Woolen Mills, Portland, Oreg. Filed June 20, 1967.

FOR THE REST OF YOUR LIFE

Owner of Reg. No. 299,374.
For Wool Blankets.
First use Apr. 1, 1932.

SN 275,149. Levittmark Incorporated, Lake Success, N.Y. Filed June 30, 1967.

LEVITTMARK

For Carpets and Carpeting.
First use Sept. 29, 1966.

SN 285,882. Best Coat & Apron Mfg. Co., Inc., New York, N.Y. Filed Nov. 30, 1967.

DURA-SEAL

For Towels.
First use Oct. 25, 1967.

SN 285,972. Deering Milliken, Inc., New York, N.Y. Filed Dec. 1, 1967.

PORTSIDE

For Textile Fabrics Made of Wool, Cotton, and Synthetic Fibers and Combinations Thereof.
First use Nov. 24, 1967.

SN 285,973. Deering Milliken, Inc., New York, N.Y. Filed Dec. 1, 1967.

BOWSPRIT

For Textile Fabrics Made of Wool, Cotton, and Synthetic Fibers and Combinations Thereof.
First use Nov. 22, 1967.

SN 285,974. Deering Milliken, Inc., New York, N.Y. Filed Dec. 1, 1967.

OFFSHORE

For Textile Fabrics Made of Wool, Cotton, and Synthetic Fibers and Combinations Thereof.
First use Nov. 25, 1967.

SN 285,975. Deering Milliken, Inc., New York, N.Y. Filed Dec. 1, 1967.

MARQUINETTE

For Textile Fabrics Made of Synthetic Fibers and Spandex.
First use Nov. 24, 1967.

Class 44—Dental, Medical, and Surgical Appliances

SN 264,657. Dr. Nils of Sweden, Goteborg, Sweden. Filed Feb. 14, 1967.

Dr Nils of Sweden

The word "Sweden" is disclaimed apart from the mark as shown. "Dr. Nils" is a fanciful name and is not intended to identify any particular living individual.
For Corn and Callus Files.
First use Jan. 25, 1967.

SN 272,475. The Dentists' Supply Company of New York, York, Pa. Filed May 26, 1967.

IRM

Owner of Reg. No. 515,974.
For Temporary Dental Filling Material.
First use May 23, 1967.

Class 45—Soft Drinks and Carbonated Waters

SN 272,626. Piggly Wiggly Operators' Warehouse, Inc., Shreveport, La. Filed May 29, 1967.

king kooler jr.

No claim is made to the word "Kooler" apart from the mark as shown. Owner of Reg. No. 831,903.
For Carbonated Soft Drinks.
First use May 1, 1967.

Class 46 — Foods and Ingredients of Foods

SN 243,140. Jewel Companies, Inc., Melrose Park, Ill., by change of name from Jewel Tea Co., Inc., Melrose Park, Ill. Filed Apr. 11, 1966.

FARM STAND

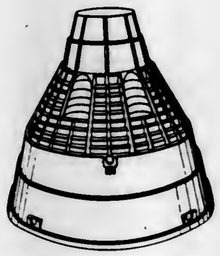
For Fresh Fruits and Vegetables.
First use August 1962.

SN 252,781. Griswold Coffee Company, Minneapolis, Minn. Filed Aug. 1, 1966.

GRISWOLD

For Coffee and Hot Chocolate Mix.
First use October 1956.

SN 257,106. TNT Food Products, Inc., Lawrence, Kans. Filed Oct. 24, 1966.



The mark consists of a configuration of the container for the goods.
For Popcorn in Its Raw State Packaged in a Plastic Container in Form of a Space Capsule.
First use October 1964.

SN 263,268. SCM Corporation, New York, N.Y., assignee of The Glidden Company, d.b.a. Durkee Famous Foods, Cleveland, Ohio. Filed Jan. 25, 1967.

B-4

For Shortening Made From Vegetable Oils.
First use May 23, 1966.

SN 272,168. Corn Products Company, New York, N.Y. Filed May 23, 1967.

S.D.S.

For Starch for Food Purposes.
First use at least as early as Feb. 23, 1967.

SN 272,170. Corn Products Company, New York, N.Y. Filed May 23, 1967.

Q.E.D.

For Starch for Food Purposes.
First use at least as early as Oct. 30, 1964.

SN 282,810. Thomas J. Lipton, Inc., Englewood Cliffs, N.J. Filed Oct. 18, 1967.

KANGA MOO

For Mix for Making a Flavored Dessert When Milk or Other Liquids Are Added Thereto.
First use Sept. 6, 1967.

Class 47 — Wines

SN 272,516. Foremost-McKesson, Inc., New York, N.Y., by merger and change of name from McKesson & Robbins, Incorporated, New York, N.Y. Filed May 26, 1967.

SAVINI

Owner of Reg. No. 838,507.
For Wine.
First use at least as early as Dec. 21, 1966.

Class 50 — Merchandise Not Otherwise Classified

SN 263,962. Sternco Industries, Inc., Harrison, N.J. Filed Feb. 3, 1967.

AQUA-MATIC

For Aquarium Tank Accessory—Namely, a Dip Tube for Removing Waste Matter From Aquariums.
First use March 1953.

SN 268,704. Clingsign, Inc., Beaumont, Tex. Filed Apr. 10, 1967.

CLINGSIGN

The representation of the magnet is disclaimed apart from the mark as shown.
For Magnetic Signs.
First use Apr. 8, 1965.

SN 268,935. Apex Mills, Inc., New York, N.Y. Filed Apr. 12, 1967.

DUREX

For Nylon Mesh Covering Used for the Protection of Fruit Plants.
First use Jan. 30, 1967.

SN 270,484. Aaron E. Gandy, d.b.a. Rainbow Multi-Vision Aquarium, Midland, Tex. Filed May 2, 1967.

RAINBOW MULTI-VISION

For Aquariums.
First use Feb. 1, 1967.

SN 274,264. John Thul, d.b.a. Arizona Precision Sheet Metal Specialists, Phoenix, Ariz. Filed June 19, 1967.

HANDL-RITE

For Demountable Carrying Handle for a Thermos Bottle and the Like.
First use Apr. 10, 1967.

SN 274,733. Fürstenberg Ehemalige Herzoglich Braunschweigische Porsellanmanufaktur, Furstenberg (Weser), Germany. Filed June 26, 1967.



Owner of German Reg. No. 828,752, dated July 28, 1966.
For Object d'Art Made of Porcelain, Clay, Glass, Stone, and Artificial Stone.

Class 51 — Cosmetics and Toilet Preparations

SN 251,865. Advance Brands, Inc., Chicago, Ill. Filed Aug. 8, 1966.

SPLASH PARTY

For Suntan Preparation.
First use on or before July 26, 1966.

SN 254,390. Richard Hudnut, Morris Plains, N.J. Filed Sept. 13, 1966.

PRETTY SLICK

For Lipstick.
First use Mar. 3, 1966.

SN 254,662. Bonne Bell, Inc., Lakewood, Ohio. Filed Sept. 19, 1966.

ROVING EYES

Applicant, without waiver of common-law rights, disclaims the word "Eyes" apart from the mark as shown.
For Eye Make-Up.
First use Aug. 30, 1966.

SN 258,057. Clairol Incorporated, New York, N.Y. Filed Nov. 7, 1966.

SUNLIT BLONDE

Applicant disclaims rights to the word "Blonde" apart from the mark as shown.
For Hair Tinting, Dyeing, and Coloring Preparation.
First use Aug. 11, 1966.

SN 267,025. Faberge, Inc., New York, N.Y. Filed Mar. 17, 1967.

O-FURO

The mark "O-Furo" is a word in Japanese which in its English translation means "hot bath."
For Cologne.
First use Jan. 13, 1967.

SN 267,355. I. Posner, Inc., Corona, N.Y. Filed Mar. 22, 1967.

CURB

For Body Deodorant.
First use Mar. 1, 1967.

SN 267,849. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics Company, Los Angeles, Calif. Filed Mar. 29, 1967.

BENGAL LANCER

For After Shave Cologne.
First use Feb. 3, 1967.

SN 268,426. Revlon, Inc., New York, N.Y. Filed Apr. 5, 1967.

YOUNG HAIR NCT

Applicant disclaims the word "Hair" apart from the mark as shown.
For Hair Coloring Preparation.
First use Feb. 15, 1967.

SN 285,171. Mercantile Stores Company, Inc., New York, N.Y. Filed Nov. 20, 1967.

DARCEL

For Wig and Hair Spray.
First use June 28, 1967.

SN 285,969. Chesebrough-Pond's Inc., New York, N.Y. Filed Dec. 1, 1967.

HIDE N' GO SHEER

For Medicated Facial Cream, Powder, and Liquid.
First use Nov. 21, 1967.

Class 52 — Detergents and Soaps

SN 256,481. Spramor Corporation of America, Chicago, Ill. Filed Oct. 14, 1966.

PENETRIX

For Chemical Cleaner for Floors, Ovens, Walls, and General Household Use.
First use Oct. 25, 1965.

SN 257,199. J. A. Sexauer Mfg. Co., Inc., White Plains, N.Y. Filed Oct. 25, 1966.

SEXAUER

Owner of Reg. Nos. 429,646, 558,236, and others.
For Enamel Cleaner, Closet Bowl Cleaner, and Porcelain Cleaner.
First use during 1929.

SN 262,357. UFO Lubricants, Inc., Danvers, Mass. Filed Jan. 11, 1967.

UFO

For General Purpose Spray Cleaner.
First use Nov. 20, 1966.

SN 264,120. West Chemical Products, Inc., Long Island City, N.Y. Filed Feb. 6, 1967.

GERMASEPTIC

For Liquid Hand Soap and a Heavy Duty Liquid Cleaner-Disinfectant.
First use Jan. 23, 1967.

SN 265,551. New Jersey Chemical Company, Inc., Lyndhurst, N.J. Filed Feb. 27, 1967.

POW-R-SPRAY

For Heavy-Duty Liquid Cleaner for General Purpose Cleaning.
First use in 1954.

SN 267,571. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Mar. 24, 1967.

TRADITION

For Silverware Detarnisher.
First use Feb. 23, 1967.

SN 267,934. Fast Chemical Products Corp., Yonkers, N.Y. Filed Mar. 30, 1967.

ABRA-CADABRA!

For Preparation for Removing Stains From Carpets.
First use Dec. 29, 1966.

SN 269,121. Sterling Drug Inc., New York, N.Y. Filed Apr. 13, 1967.

ACCUTROL

For All Purpose Cleaner.
First use Mar. 7, 1967.

SN 269,122, Sterling Drug Inc., New York, N.Y. Filed Apr. 13, 1967.

CONPACT

For All Purpose Cleaner.
First use Mar. 7, 1967.

SN 269,287. Chem-Star & Supply, Inc., Snyder, Tex. Filed Apr. 17, 1967.

T.D.

For Household Cleaner Concentrate, Industrial and Institutional Detergents.
First use Dec. 30, 1966.

SN 269,539. H. Kohnstamm & Co., Inc., New York, N.Y. Filed Apr. 19, 1967.

SOLV-KLEER

For Universal-Type Dry-Cleaning Detergent Recommended for Normal Cleaning Work.
First use Sept. 26, 1966.

SN 269,542. H. Kohnstamm & Co., Inc., New York, N.Y. Filed Apr. 19, 1967.

SOLV-O-LUBE

For Detergent Deodorizer Lubricant for Use on Cleaning Garments Where High Odor Absorption and/or Sticking Zippers Are Problems.
First use Jan. 17, 1967.

SN 269,543. H. Kohnstamm & Co., Inc., New York, N.Y. Filed Apr. 19, 1967.

SOLV-DET

For Deeper Penetrating Dry Cleaning Detergent.
First use Sept. 26, 1966.

SN 269,544. H. Kohnstamm & Co., Inc., New York, N.Y. Filed Apr. 19, 1967.

SOLV-SYN

For Special Blend of Detergents and Solvents for Cleaning 100% Synthetic Fibers and Heavy Soil Conditions.
First use Dec. 13, 1966.

SN 271,579. Allied Research Products, Inc., Baltimore, Md. Filed May 16, 1967.

ISOPREP

Owner of Reg. No. 663,963.
For Chemical Preparation for Cleaning Metals.
First use May 3, 1967.

SN 273,038. Cincinnati Industrial Packaging Corp., Cincinnati, Ohio. Filed June 5, 1967.

CAMPEX

For All-Purpose Cleaner and Deruster.
First use May 26, 1967.

SN 283,387. Alberto-Culver Company, Melrose, Park, Ill. Filed Oct. 26, 1967.

FDS

Owner of Reg. No. 831,204.
For Shampoo for the Hair.
First use November 1966.

SN 285,706. Sunshine Chemical Corporation, Farmingdale, N.Y. Filed Nov. 28, 1967.

T-RIF

For Low-Suds Laundry Detergent, and All-Purpose Spray Cleaner.
First use Jan. 4, 1965.

SN 286,310. Purex Corporation, Ltd., Lakewood, Calif. Filed Dec. 6, 1967.

Sweet-Heart

Owner of Reg. Nos. 94,235, 671,952, and others.
For Dishwashing Liquid.
First use Oct. 31, 1967.

SERVICE MARKS

Class 100 — Miscellaneous

SN 262,187. National Tuberculosis Association, d.b.a. National Air Conservation Commission, New York, N.Y. Filed Jan. 9, 1967.



The drawing is lined for the colors silver and blue.
For Disseminating Information Concerning the Nature, Causes, and Complexities of Air Pollution, the Effects Thereof, and the Sponsoring and Reporting of Research Into Methods and Means of Eliminating or Limiting Air Pollution and the Palliation of the Effects Thereof.
First use at least as early as September 1966.

SN 264,614. Terra Chemicals International, Inc., Sioux City, Iowa. Filed Feb. 13, 1967.

Prescription for Extra Profit

For Developing Farm Management Programs for Individual Farmers and Giving Advice and Assistance in Carrying Out the Program.
First use during December 1966.

SN 268,613. Quarterback Sports Federation, Inc., Minneapolis, Minn. Filed Apr. 7, 1967.

QUARTERBACK CLUB

For Restaurant Services.
First use Jan. 10, 1966.

SN 280,161. Extendicare, Inc., Louisville, Ky., by change of name from Heritage House of America, Inc., Louisville, Ky. Filed Sept. 12, 1967.

EXTENDICARE

For Operating Nursing and Convalescent Care Homes.
First use Aug. 18, 1967.

SN 280,162. Extendicare, Inc., Louisville, Ky., by change of name from Heritage House of America, Inc., Louisville, Ky. Filed Sept. 12, 1967.



For Operating Nursing and Convalescent Care Homes.
First use Aug. 18, 1967.

SN 280,163. Extendicare, Inc., Louisville, Ky., by change of name from Heritage House of America, Inc., Louisville, Ky. Filed Sept. 12, 1967.

extendicare

For Operating Nursing and Convalescent Care Homes.
First use Aug. 18, 1967.

Class 101 — Advertising and Business

SN 251,621. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Aug. 3, 1966.

GOODYEAR
THE SAFETY MINDED COMPANY

For Advertising and Retail Merchandising.
First use May 11, 1966.

SN 261,193. Brainpower U.S.A., Incorporated, Los Angeles, Calif. Filed Dec. 21, 1966.



For Furnishing Temporary Scientific, Engineering, and Technical Personnel to Others.
First use Oct. 1, 1966.

SN 265,112. Shea/Rustin, Inc., Atlanta, Ga. Filed Feb. 20, 1967.



For Mailing and Shipping of Printed Material for Others; Mailing List Addressing Services; Placing Orders for Printing With Printers for Others.
First use Dec. 31, 1966.

SN 265,177. Computer Research, Inc., Pittsburgh, Pa. Filed Feb. 21, 1967.



The drawing is lined for gray or silver. The mark is a fanciful representation of the letters "CR."
For Analysis and Accounting Services Involving the Processing of Data by Electronic Computer.
First use Nov. 11, 1966.

SN 269,570. Sandusky Distributing Company, Sandusky, Ohio. Filed Apr. 19, 1967.



Owner of Reg. Nos. 823,779 and 827,685.
For Department Store Services.
First use Mar. 2, 1967.

SN 284,069. William H. Torgis, New York, N.Y. Filed Nov. 3. 1967.

GOLFBAG

For Advertising Services—Namely, Preparing Advertising Copy and Handling Direct Mail Campaigns.
First use Oct. 20, 1967.

Class 102 — Insurance and Financial

SN 263,616. Senior American Life Insurance Company, Phoenix, Ariz. Filed Jan. 30, 1967.

"SENIOR AMERICAN"

For Underwriting Life and Disability Insurance.
First use May 15, 1966.

Class 103 — Construction and Repair

SN 251,622. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Aug. 3, 1966.

GOODYEAR
THE SAFETY MINDED COMPANY

For Automotive Repair Service.
First use May 11, 1966.

SN 254,339. Union Tank Car Company, Chicago, Ill. Filed Sept. 12, 1966.

GRAVER

Owner of Reg. Nos. 535,962, 830,033, and others.
For Petro-Chemical Refinery Process Equipment Repair and Maintenance Services.
First use May 1966.

SN 257,104. Sunset International Petroleum Corporation, Beverly Hills, Calif. Filed Oct. 24, 1966.

SUNASCO

For Building Planned Communities Complete With Such Facilities as Recreational Areas, Cultural Centers, and the Like.
First use Sept. 22, 1966.

Class 107 — Education and Entertainment

SN 267,221. Paul A. McAdam, d.b.a. Salesmasters National, Phoenix, Ariz. Filed Mar. 21, 1967.

SALESMASTERS NATIONAL

For Conducting Courses and Clinics in Salesmanship, Public Speaking, and Management, and Organizing Trainees Into Permanent Clubs.
First use Apr. 15, 1955.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 263,390. Mississippi Pine Manufacturers Association, Jackson, Miss. Filed Jan. 26, 1967.



For Indicating Membership in Applicant.
First use June 1, 1966.

SN 269,519. Contact Lens Society of America, Inc., Albany, N.Y. Filed Apr. 19, 1967.



For Indicating Membership in Applicant Society.
First use 1954.

SN 281,515. American Society of Associated Executives, Washington, D.C. Filed Oct. 2, 1967.



For Indicating Membership in Applicant.
First use May 11, 1960.

SN 283,844. National Basketball Players Association, New York, N.Y. Filed Nov. 1, 1967.

Yours, sport
N.B.P.A.
NATIONAL BASKETBALL
PLAYERS ASSOCIATION

For Indicating Membership in Applicant.
First use Oct. 23, 1967.

CERTIFICATION MARKS

Class A — Goods

SN 220,163. Rabbi I. Harold Sharfman, d.b.a. Kosher Overseers Associates of America, Los Angeles, Calif. Filed June 1, 1965.



The mark certifies the kosher quality of food.
For Food.
First use Apr. 9, 1965.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

844,334. TUF-SKIN AND DESIGN. Sto-Cote Products, Inc. MULTIPLE CLASS (Classes 1, 2, and 50). SN 262,215. Pub. 8–8–67. Filed 1–9–67.

844,335. TWILIGHT MIST AND DESIGN. Christensen Minkery. SN 262,800. Pub. 12–5–67. Filed 1–18–67.

844,336. VI-GEN. The General Fireproofing Company. SN 262,934. Pub. 12–5–67. Filed 1–20–67.

844,337. BEEBE. Beebe Rubber Company. SN 263,010. Pub. 12–5–67. Filed 1–23–67.

844,338. TOUGH STUFF. Beaunit Corporation. SN 279,614. Pub. 12–5–67. Filed 9–5–67.

Class 2—Receptades

844,334. (See Class 1 for this trademark.)

844,339. WRAP TRAP. Keebler Company, by change of name from United Biscuit Company of America. SN 244,369. Pub. 12–5–67. Filed 4–26–66.

844,340. SCHOOL-PAK. West Virginia Pulp and Paper Company. SN 246,625. Pub. 12–5–67. Filed 5–25–66.

844,341. PUP-ET-PAK. C-Thru Products Inc. SN 249,835. Pub. 12–5–67. Filed 7–8–66.

844,342. MISCELLANEOUS DESIGN. The Witt Company. SN 267,464. Pub. 12–5–67. Filed 3–23–67.

844,343. DIALTROL. Paramedical Packaging Co., Inc. SN 271,067. Pub. 12–5–67. Filed 5–9–67.

844,344. HERITAGE HOUSE. Diamond Alkali Company. MULTIPLE CLASS (Classes 2, 13, 20, and 50). SN 279,250. Pub. 12–5–67. Filed 8–29–67.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

844,345. APOLLO. The Saddle Makers of Hall Lane Limited. SN 264,702. Pub. 12–5–67. Filed 1–9–67.

844,346. OROTON. Boyd Lane & Co. Pty. Limited. SN 265,039. Pub. 12–5–67. Filed 2–20–67.

844,347. ERNST. Ernst, Inc. SN 273,719. Pub. 12–5–67. Filed 6–13–67.

Class 4—Abrasives and Polishing Materials

844,348. ROTO FINISH AND DESIGN. Roto-Finish Company. SN 265,335. Pub. 12–5–67. Filed 2–23–67.

Class 5—Adhesives

844,349. GRIP-ON. Allied Compositions Co., Inc. SN 269,732. Pub. 12–5–67. Filed 4–21–67.

Class 6—Chemicals and Chemical Compositions

844,350. UROBILISTIX. Miles Laboratories, Inc. SN 241,492. Pub. 9–26–67. Filed 3–21–66.

844,351. EPOXON. Epoxon Corporation. SN 248,987. Pub. 12–5–67. Filed 6–27–66.

844,352. CRYOKWIK. International Equipment Co. SN 250,969. Pub. 9–12–67. Filed 7–25–66.

844,353. CITGO AND DESIGN. Cities Service Oil Company. MULTIPLE CLASS (Classes 6, 15, 102, and 103). SN 257,809. Pub. 12–5–67. Filed 11–3–66.

844,354. CIFLE. American Cyanamid Company. SN 258,768. Pub. 12–5–67. Filed 11–16–66.

844,355. CYFLEE. American Cyanamid Company. SN 258,769. Pub. 12–5–67. Filed 11–16–66.

844,356. VITAFILM. Norman J. Hanish, assignee of R. D. Hanish Company. SN 262,868. Pub. 10–24–67. Filed 1–19–67.

844,357. GRANUFLOW. American Aniline Products, Inc. SN 268,673. Pub. 12–5–67. Filed 4–10–67.

844,358. CALFAIR. Arden-Mayfair, Inc., d.b.a. Low Cost Markets. SN 269,388. Pub. 12–5–67. Filed 4–18–67.

844,359. KINLUBE. Diamond Alkali Company. SN 280,839. Pub. 12–5–67. Filed 9–21–67.

844,360. CRC SOFT SEAL AND DESIGN. C. J. Webb, Inc. SN 280,844. Pub. 12–5–67. Filed 9–21–67.

Class 8—Smokers' Articles, Not Including Tobacco Products

844,361. SHALOM. Mastercraft Pipes. SN 260,753. Pub. 12–5–67. Filed 12–14–66.

Class 9—Explosives, Firearms, Equipments, and Projectiles

844,362. BOLKOW. Bölkow Gesellschaft mit beschrankter Haftung. MULTIPLE CLASS (Classes 9 and 19). SN 228,300. Pub. 12–5–67. Filed 9–22–65.

844,363. BALL-O-FYR. Zenith Corporation. SN 266,821. Pub. 12–5–67. Filed 3–15–67.

Class 11—Inks and Inking Materials

844,364. PERM-INK. Zip-Mark Corporation. SN 265,670. Pub. 12–5–67. Filed 2–28–67.

Class 12—Construction Materials

844,365. PADDOCK. Paddock of California, Inc. SN 203,197. Pub. 12–5–67. Filed 10–2–64.

844,366. FLORIDA. General Portland Cement Company. SN 244,099. Pub. 12–5–67. Filed 4–22–66.

844,367. SHOWEROUND. Speakman Company. SN 251,079. Pub. 12–5–67. Filed 7–26–66.

844,368. HISPANIC. U.S. Plywood-Champion Papers Inc., by merger and change of name from United States Plywood Corporation. SN 256,391. Pub. 12–5–67. Filed 10–12–66.

844,369. CASTANIA. U.S.Plywood-Champion Papers Inc., by merger and change of name from United States Plywood Corporation. SN 256,394. Pub. 12–5–67. Filed 10–12–66.

844,370. DERASPAN. The Dow Chemical Company. SN 264,525. Pub. 12–5–67. Filed 2–13–67.

844,371. FLECTO SEAMLESS. The Flecto Company, Inc. SN 267,746. Pub. 12–5–67. Filed 3–28–67.

844,372. ARROW AND DESIGN. Arrow Metal Products Corp. SN 277,963. Pub. 12–5–67. Filed 8–10–67.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

844,344. (See Class 2 for this trademark.)

844,373. FLUI-TROL. Fluid Power Limited. SN 235,808. Pub. 12–5–67. Filed 1–5–66.

844,374. 150 M PSI AND DESIGN. Earnest Machine Products Company. SN 253,739. Pub. 12–5–67. Filed 9–2–66.

844,375. P AND DESIGN. Pico Corporation. SN 254,626. Pub. 12–5–67. Filed 9–16–66.

844,376. ROBT-FLEX. Robert Manufacturing Company. SN 260,361. Pub. 12–5–67. Filed 12–8–66.

844,377. RED-WHITE. Toyo Valve Company Limited. SN 262,523. Pub. 12–5–67. Filed 1–13–67.

844,378. CYCLO-MATIC. Fimco. SN 263,369. Pub. 12–5–67. Filed 1–26–67.

844,379. SPOTNAILS. Spotnails, Inc. SN 263,490. Pub. 12–5–67. Filed 1–27–67.

844,380. BIF. The New York Air Brake Company. SN 263,685. Pub. 12–5–67. Filed 1–31–67.

844,381. GARLOCK. Garlock Inc. MULTIPLE CLASS (Classes 13, 16, and 26). SN 263,863. Pub. 12–5–67. Filed 2–3–67.

844,382. MOIST O'MATIC. Toro Manufacturing Corporation. SN 264,615. Pub. 12–5–67. Filed 2–13–67.

844,383. FAST & TITE. D and G Plastics Co. SN 265,180. Pub. 12–5–67. Filed 2–21–67.

844,384. DEFLECTOJET. Spraying Systems Co. SN 265,565. Pub. 12–5–67. Filed 2–27–67.

844,385. KLEER-FLO DE-MOISTER. Practical Manufacturing Company. SN 266,450. Pub. 12–5–67. Filed 3–10–67.

844,386. FASHIONETTE. American Home Products Corporation. SN 266,638. Pub. 12–5–67. Filed 3–14–67.

844,387. KAN-BIB. MerNelCo, Inc. SN 266,773. Pub. 12–5–67. Filed 3–15–67.

844,388. CHILTON AND DESIGN. Aluminum Specialty Company. SN 266,847. Pub. 12–5–67. Filed 3–16–67.

844,389. LUMA-CORE. The West Bend Company. SN 267,862. Pub. 12–5–67. Filed 3–29–67.

844,390. GLOW SINK. Just Manufacturing Company. SN 271,672. Pub. 12–5–67. Filed 5–17–67.

844,391. SPRINGMIST. Ashley F. Ward, Inc., d.b.a. The Skinner Irrigation Company. SN 271,975. Pub. 12–5–67. Filed 5–19–67.

844,392. SKINNER AND DESIGN. Ashley F. Ward, Inc., d.b.a. The Skinner Irrigation Company. SN 271,977. Pub. 12–5–67. Filed 5–19–67.

844,393. CS CHAIN SYSTEMS. Red Line Commercial Co., Inc. SN 274,829. Pub. 12–5–67. Filed 6–12–67.

844,394. CS CHAIN SYSTEMS AND DESIGN. Red Line Commercial Co., Inc. SN 274,830. Pub. 12–5–67. Filed 6–12–67.

844,395. UNIBAND. United States Steel Corporation. SN 277,759. Pub. 12–5–67. Filed 8–8–67.

Class 14—Metals and Metal Castings and Forgings

844,396. E-M-P. A. O. Smith Corporation. SN 262,447. Pub. 12–5–67. Filed 1–12–67.

844,397. KAZITE. Amercon Mfg. Corp., Inc. SN 262,912. Pub. 12–5–67. Filed 1–20–67.

844,398. DYKO. Minnesota Mining and Manufacturing Company. SN 274,288. Pub. 12–5–67. Filed 6–20–67.

844,399. STRATA STEEL. United States Steel Corporation. SN 279,350. Pub. 12–5–67. Filed 8–30–67.

Class 15—Oils and Greases

844,353. (See Class 6 for this trademark.)

844,400. BATTENFELD. Southwest Grease & Oil Co. (Kansas City), Inc. SN 213,058. Pub. 12–5–67. Filed 3–1–65.

844,401. PREMIUM 50 50 REGULAR AND DESIGN. Small Bros. Oil Company. SN 271,567. Pub. 12–5–67. Filed 5–16–67.

Class 16—Protective and Decorative Coatings

844,381. (See Class 13 for this trademark.)

844,402. SURE-GLO AND DESIGN. Harris Paint Co. SN 246,682. Pub. 12–5–67. Filed 5–26–66.

844,403. FRESH KOTE AND DESIGN. M. A. Bruder & Sons, Incorporated. SN 250,239. Pub. 12–5–67. Filed 7–14–66.

844,404. WOLF KNOWS PAINT AND DESIGN. S. Wolf's Sons. SN 251,029. Pub. 12–5–67. Filed 7–25–66.

844,405. WOLF. S. Wolf's Sons. SN 251,030. Pub. 12–5–67. Filed 7–25–66.

844,406. RED TOP AND DESIGN. Red Top Maintenance Service, Inc. SN 252,418. Pub. 12–5–67. Filed 8–15–66.

844,407. PRELUDE. Ace Hi Modern Furniture, Inc. MULTIPLE CLASS (Classes 16 and 32). SN 262,078. Pub. 12–5–67. Filed 1–9–67.

844,408. SOLUVAR. Permanent Pigments, Inc. SN 281,015. Pub. 12–5–67. Filed 9–25–67.

Class 17—Tobacco Products

844,409. GOLF. Skandinavisk Tobakskompagni A/S. SN 250,184. Pub. 5–16–67. Filed 7–13–66.

844,410. JOSE GENER. F. Palicio & Co., Inc. SN 255,815. Pub. 12–5–67. Filed 10–5–66.

844,411. BELINDA. Danby Imported Cigar Corp. SN 257,463. Pub. 12–5–67. Filed 10–28–66.

844,412. BAYBERRY. Lane Limited. SN 260,666. Pub. 12–5–67. Filed 12–13–66.

844,413. IRC BON VIVANT! Iwan Ries & Co. SN 263,579. Pub. 12–5–67. Filed 1–30–67.

Class 18—Medicines and Pharmaceutical Preparations

844,414. ALLERGAN. Allergan Pharmaceuticals. SN 201,778. Pub. 12–5–67. Filed 9–14–64.

844,415. NILVERN. Janssen Pharmaceutica N.V. SN 258,385. Pub. 12–5–67. Filed 11–10–66.

844,416. MYCONOX AND DESIGN. Naremco, Inc. SN 258,712. Pub. 12–5–67. Filed 11–15–66.

844,417. SURGI-PREP. The Purdue Frederick Company. SN 261,102. Pub. 10–24–67. Filed 12–19–66.

844,418. PALONYL. Palmedico, Inc. SN 266,077. Pub. 12–5–67. Filed 3–6–67.

844,419. G–1. Palmedico, Inc. SN 266,078. Pub. 12–5–67. Filed 3–6–67.

844,420. ENRICH. American Dietaids Company, Inc. SN 266,400. Pub. 12–5–67. Filed 3–10–67.

844,421. PEDIAQUIL. Philips Roxane, Inc. SN 266,579. Pub. 12–5–67. Filed 3–13–67.

844,422. VOREN. Cela Landwirtschaftliche Chemikalien GmbH. SN 266,732. Pub. 12–5–67. Filed 3–15–67.

844,423. TYBATRAN. A. H. Robins Company, Incorporated. SN 266,926. Pub. 12–5–67. Filed 3–16–67.

844,424. CHROMAX. Savage Laboratories, Inc. SN 266,931. Pub. 12–5–67. Filed 3–16–67.

844,425. S AND DESIGN. Safeway Stores, Incorporated. MULTIPLE CLASS (Classes 18, 29, and 51). SN 274,564. Pub. 10–24–67. Filed 6–23–67.

Class 19—Vehicles

844,362. (See Class 9 for this trademark.)

844,426. THREE DIAMONDS. Mitsubishi Jukogyo Kabushiki Kaisha. SN 239,164. Pub. 12–5–67. Filed 2–18–66.

844,427. MITSUBISHI. Mitsubishi Jukogyo Kabushiki Kaisha. SN 239,166. Pub. 12–5–67. Filed 2–18–66.

844,428. YAWLER AND DESIGN. Maurice H. Butler, d.b.a. Yawler Boat Equipment Company. SN 242,956. Pub. 12–5–67. Filed 4–7–66.

844,429. ALLIED AND DESIGN. Allied Farm Equipment, Inc. MULTIPLE CLASS (Classes 19, 23, and 101). SN 247,173. Pub. 12–5–67. Filed 6–3–66.

844,430. BEEBO. Nikko Denki Kogyo Kabushiki Kaisha (Nikko Electric Industry Co., Ltd.). SN 255,225. Pub. 12–5–67. Filed 9–27–66.

844,431. RICHMOND AND DESIGN. Republic Industrial Corporation. SN 257,651. Pub. 12–5–67. Filed 10–31–66.

844,432. SAMURAI. American Kawasaki Motorcycle Corp. SN 257,750. Pub. 12–5–67. Filed 11–2–66.

844,433. TOWNLEY. The Englishtown Corporation. SN 261,475. Pub. 12–5–67. Filed 12–27–66.

844,434. ALC (DESIGN). A. LeComte Company, Inc. SN 261,663. Pub. 12–5–67. Filed 12–29–66.

844,435. M AND DESIGN. Montone Manufacturing Company. SN 261,669. Pub. 12–5–67. Filed 12–29–66.

844,436. E-Z-GO. Textron, Inc. SN 262,520. Pub. 12–5–67. Filed 1–13–67.

844,437. KING MIDGET. Midget Motors Corporation. SN 262,798. Pub. 12–5–67. Filed 1–18–67.

844,438. CITATION. Ford Motor Company. SN 263,266. Pub. 12–5–67. Filed 1–25–67.

844,439. OZARK LUXURY LINER. Corder Manufacturing Company, Inc. SN 263,543. Pub. 12–5–67. Filed 1–30–67.

844,440. LITE-A-BIKE WITH BIKE-A-LITE. Paul H. MacMahon. SN 273,716. Pub. 12–5–67. Filed 6–13–67.

844,441. BIKE-A-LITE. Paul H. MacMahon. SN 273,717. Pub. 12–5–67. Filed 6–13–67.

Class 20—Linoleum and Oiled Cloth

844,344. (See Class 2 for this trademark.)

Class 21—Electrical Apparatus, Machines, and Supplies

844,442. SIGN-TIFIC. Belsinger Sign Works, Inc. SN 226,609. Pub. 12–5–67. Filed 8–27–65.

844,443. E-Z. Superior Sewing Machine and Supply Corp. SN 240,554. Pub. 9–26–67. Filed 3–9–66.

844,444. REDCOR. Redcor Corporation. MULTIPLE CLASS (Classes 21 and 26). SN 242,533. Pub. 12–5–67. Filed 4–4–66.

844,445. WING AND CIRCLE (DESIGN). Afco Electronics, Inc. MULTIPLE CLASS (Classes 21 and 36). SN 242,701. Pub. 12–5–67. Filed 4–5–66.

844,446. MOD-U-PAK. Westinghouse Electric Corporation. SN 242,947. Pub. 9–5–67. Filed 4–7–66.

844,447. IDEAL STANDARD AND DESIGN. American Radiator & Standard Sanitary Corporation. SN 243,382. Pub. 12–5–67. Filed 4–14–66.

844,448. MISCELLANEOUS DESIGN. American Radiator & Standard Sanitary Corporation. SN 243,386. Pub. 12–5–67. Filed 4–14–66.

844,449. AMERICAN STANDARD AND DESIGN. American Radiator & Standard Sanitary Corporation. SN 243,390. Pub. 12–5–67. Filed 4–14–66.

844,450. TEPPAZ AND DESIGN. Marcel Teppaz, Paul Seyvos, and Jean Alexis Teppaz (joint owners). SN 244,366. Pub. 12–5–67. Filed 4–26–66.

844,451. MUSICAL WAIT. George A. Wood. SN 252,226. Pub. 12–5–67. Filed 8–11–66.

844,452. ENGINEERING IS OUR MIDDLE NAME. Rosemount Engineering Company. MULTIPLE CLASS (Classes 21, 22, 26, and 39). SN 252,306. Pub. 12–5–67. Filed 8–15–66.

844,453. HE AND DESIGN. Hunt Electronics Company. SN 254,542. Pub. 12–5–67. Filed 9–15–66.

844,454. ELTRON. El-Tronics, Inc. SN 255,427. Pub. 12–5–67. Filed 9–29–66.

844,455. NIGHT EYE. Night-Eye, Incorporated. MULTIPLE CLASS (Classes 21 and 103). SN 256,027. Pub. 12–5–67. Filed 10–10–66.

844,456. KAFON. Superflexit Limited. SN 259,682. Pub. 12–5–67. Filed 11–29–66.

844,457. A (DESIGN). Ansac Electronics, Inc. SN 260,228. Pub. 12–5–67. Filed 12–7–66.

844,458. ACT ONE. Hunt Electronics Company. SN 260,434. Pub. 12–5–67. Filed 12–9–66.

844,459. SHURSTING. International Electric Fence Company, Inc. SN 260,552. Pub. 12–5–67. Filed 12–12–66.

844,460. "STINGS LIKE A BEE!" AND DESIGN. International Electric Fence Company, Inc. SN 260,664. Pub. 12–5–67. Filed 12–13–66.

844,461. AUTO JET-O-MATIC AND DESIGN. Fedtro, Inc. SN 261,480. Pub. 12–5–67. Filed 12–27–66.

844,462. VELCO AND DESIGN. Virginia Electronics Company, Inc. SN 261,897. Pub. 12–5–67. Filed 1–3–67.

844,463. TOMORROW'S THINKING IN TODAY'S PRODUCTS. Amperex Electronic Corporation. SN 262,667. Pub. 12–5–67. Filed 1–17–67.

844,464. AU-TENNA. John L. Gray, d.b.a. Au-Tenna Systems Co. SN 263,179. Pub. 12–5–67. Filed 1–24–67.

844,465. MAIN LINE. Main Line Distributors, Inc. MULTIPLE CLASS (Classes 21, 24, 31, 34, and 36). SN 263,503. Pub. 12–5–67. Filed 1–30–67.

844,466. MAIN LINE AND DESIGN. Main Line Distributors, Inc. MULTIPLE CLASS (Classes 21, 24, 31, 34, and 36). SN 263,504. Pub. 12–5–67. Filed 1–30–67.

844,467. MAINLINER. Main Line Distributors, Inc. MULTIPLE CLASS (Classes 21, 24, 31, 34, and 36). SN 263,505. Pub. 12–5–67. Filed 1–30–67.

844,468. NEW LOOK IN SOUND. Radio Corporation of America. SN 264,242. Pub. 12–5–67. Filed 2–8–67.

844,469. VULKAFLEX. General Electric Company. SN 265,714. Pub. 12–5–67. Filed 3–1–67.

844,470. TDH–49. Instrument Systems Corporation. SN 265,717. Pub. 12–5–67. Filed 3–1–67.

844,471. MINI-FLEX. LTV Ling Altec, Inc. SN 266,240. Pub. 12–5–67. Filed 3–8–67.

844,472. THERMETEX GP200. Essex Wire Corporation. SN 266,519. Pub. 12–5–67. Filed 3–13–67.

844,473. ORANGE SALCOR. W. H. Salisbury & Co. SN 269,928. Pub. 12–5–67. Filed 4–24–67.

Class 22—Games, Toys, and Sporting Goods

844,452. (See Class 21 for this trademark.)

844,474. BILLY BOY. Michael J. McDonald. SN 241,673. Pub. 12–5–67. Filed 3–23–66.

844,475. T-BALL. Forest P. Hagin. SN 243,869. Pub. 12–5–67. Filed 4–20–66.

844,476. ITSY BITSY. Goldberger Doll Mfg. Co., Inc. SN 244,485. Pub. 12–5–67. Filed 4–28–66.

844,477. BLITZ. Anderson & Thompson Ski Co., Inc. SN 245,894. Pub. 12–5–67. Filed 5–18–66.

844,478. GS GRAND SLAM. The Englishtown Corporation. SN 260,146. Pub. 12–5–67. Filed 12–6–66.

844,479. STINGRAY. Axaline, Inc. SN 261,789. Pub. 12–5–67. Filed 1–3–67.

844,480. TURN 'N LEARN. American Character, Inc. SN 263,518. Pub. 12–5–67. Filed 1–30–67.

844,481. ZINGER. Donald Le Roy Johnson. SN 263,580. Pub. 12–5–67. Filed 1–30–67.

844,482. WOOLNO. J. Swedlin, Inc., d.b.a. Gund Manufacturing Company. SN 263,709. Pub. 12–5–67. Filed 1–31–67.

844,483. WEAREVER. Abott Laboratories, d.b.a. The Faultless Rubber Company. SN 264,179. Pub. 12–5–67. Filed 2–8–67.

844,484. TOTEM'S. Totem Bait, Inc. SN 264,455. Pub. 12–5–67. Filed 2–10–67.

844,485. COUGAR. Woodstream Corporation. SN 265,003. Pub. 12–5–67. Filed 2–17–67.

844,486. TALKING TILES. Mattel, Inc. SN 267,112. Pub. 12–5–67. Filed 3–20–67.

844,487. 65. Dunlop Tire and Rubber Corporation. SN 267,737. Pub. 12–5–67. Filed 3–28–67.

844,488. SUMMIT AND DESIGN. Pflueger Corporation. SN 267,844. Pub. 12–5–67. Filed 3–29–67.

844,489. TRUMP. Pflueger Corporation. SN 267,845. Pub. 12–5–67. Filed 3–29–67.

844,490. SPOOFIES. The Saturn Corporation. SN 267,853. Pub. 12–5–67. Filed 3–29–67.

844,491. SPOOFERS. The Saturn Corporation. SN 267,854. Pub. 12–5–67. Filed 3–29–67.

844,492. CUB. Pflueger Corporation. SN 268,062. Pub. 12–5–67. Filed 3–31–67.

844,493. TRUSTY. Pflueger Corporation. SN 268,064. Pub. 12–5–67. Filed 3–31–67.

844,494. INTERSPORT. Healthways. SN 268,184. Pub. 12–5–67. Filed 4–3–67.

844,495. CUP DEFENDER. Wilson Sporting Goods Co., assignee of Wilson Sporting Goods Co. SN 268,256. Pub. 12–5–67. Filed 4–3–67.

844,496. PACER. Rozel Industries, Inc. SN 268,339. Pub. 12–5–67. Filed 4–4–67.

844,497. TROPHY. Rozel Industries, Inc. SN 268,340. Pub. 12–5–67. Filed 4–4–67.

844,498. PICKY NIDDLE. Mattel, Inc. SN 274,157. Pub. 12–5–67. Filed 6–19–67.

844,499. LOUISE LOCKET. Mattel, Inc. SN 274,160. Pub. 12–5–67. Filed 6–19–67.

844,500. BOOZ-BAROMETER. The Northwestern Corporation. SN 277,411. Pub. 12–5–67. Filed 8–3–67.

844,501. TIGHT SQUEEZE. Mattel, Inc. SN 278,640. Pub. 12–5–67. Filed 8–21–67.

844,502. SQUEEZE. Mattel, Inc. SN 278,642, Pub. 12–5–67. Filed 8–21–67.

844,503. LORETTA LOCKET. Mattel, Inc. SN 278,647. Pub. 12–5–67. Filed 8–21–67.

844,504. INSTANT-ACTION. The Toney Penna Company. SN 279,442. Pub. 12–5–67. Filed 8–31–67.

844,505. SUKI SKEDIDDLE. Mattel, Inc. SN 279,896. Pub. 12–5–67. Filed 9–8–67.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

844,429. (See Class 19 for this trademark.)

844,506. GREENS MASTER. Toro Manufacturing Corporation. SN 243,499. Pub. 12–5–67. Filed 4–14–66.

844,507. LISTER'S. Johnson & Johnson. SN 248,284. Pub. 12–5–67. Filed 6–16–66.

844,508. KWIK-LIK. Sherman Car Wash Equipment Co. SN 250,408. Pub. 12–5–67. Filed 7–15–66.

844,509. CYCLO WASH. Sherman Car Wash Equipment Co. SN 250,409. Pub. 12–5–67. Filed 7–15–66.

844,510. MULTIPLE TRANSFER. The U.S. Baird Corporation. SN 252,300. Pub. 12–5–67. Filed 8–12–66.

844,511. GRANDJEAN. Stenotype Grandjean. SN 253,855. Pub. 12–5–67. Filed 8–29–66.

844,512. AQUA JET. Aqua Jet Pumps Limited. SN 254,909. Pub. 12–5–67. Filed 9–22–66.

844,513. AQUA JET AND DESIGN. Aqua Jet Pumps Limited. SN 254,910. Pub. 12–5–67. Filed 9–22–66.

844,514. CHICAGO PUMP. FMC Corporation. SN 256,081. Pub. 12–5–67. Filed 10–10–66.

844,515. ARPOR. The Dow Chemical Company. SN 259,531. Pub. 12–5–67. Filed 11–28–66.

844,516. WHIP-O-MATIC. Superior Tea and Coffee Company. MULTIPLE CLASS (Classes 23 and 46). SN 262,080. Pub. 12–5–67. Filed 1–9–67.

844,517. GRACO. Gray Company, Inc. SN 262,330. Pub. 12–5–67. Filed 1–11–67.

844,518. G GRACO AND DESIGN. Gray Company, Inc. SN 262,331. Pub. 12–5–67. Filed 1–11–67.

844,519. GIESEL. White Motor Corporation. SN 262,828. Pub. 12–5–67. Filed 1–18–67.

844,520. SABRE-SPAR. Spartan Saw Works, Inc. SN 263,206. Pub. 12–5–67. Filed 1–24–67.

844,521. RECIPRO-SPAR. Spartan Saw Works, Inc. SN 263,207. Pub. 12–5–67. Filed 1–24–67.

844,522. SPAR-CHIP. Spartan Saw Works, Inc. SN 263,208. Pub. 12–5–67. Filed 1–24–67.

844,523. GEARBUR. Dexco Corporation. SN 265,281. Pub. 12–5–67. Filed 2–23–67.

844,524. GOPHER. Spec-Trac, Inc. SN 272,448. Pub. 12–5–67. Filed 5–26–67.

844,525. SCOTCHFLEX. Minnesota Mining and Manufacturing Company. SN 275,723. Pub. 12–5–67. Filed 7–11–67.

844,526. 3M. Minnesota Mining and Manufacturing Company. SN 275,725. Pub. 12–5–67. Filed 7–11–67.

844,527. MAN ON MUFFLER (DESIGN). Randel's Manufacturing Company, Incorporated. SN 276,249. Pub. 12–5–67. Filed 7–18–67.

Class 24—Laundry Appliances and Machines

844,465. (See Class 21 for this trademark.)

844,466. (See Class 21 for this trademark.)

844,467. (See Class 21 for this trademark.)

Class 25—Locks and Safes

844,528. PAK-A-LOK. The Spartan Works, Ltd. SN 262,660. Pub. 12–5–67. Filed 1–17–67.

Class 26—Measuring and Scientific Appliances

844,381. (See Class 13 for this trademark.)

844,444. (See Class 21 for this trademark.)

844,452. (See Class 21 for this trademark.)

844,529. CARY. Les Fabriques d'Assortments Reunies. SN 233,160. Pub. 12–5–67. Filed 11–23–65.

844,530. SAL LOG. Svenska Ackumulator Aktiebolaget Jungner. SN 239,553. Pub. 12–5–67. Filed 2–24–66.

844,531. AMES. Olson Manufacturing Co. SN 244,846. Pub. 12–5–67. Filed 5–3–66.

844,532. UNIVERSAL SYNCHRO. Ilex Optical Co., Inc. SN 245,927. Pub. 12–5–67. Filed 5–18–66.

844,533. CALCULER-D. Ayres Corporation. SN 247,102. Pub. 12–5–67. Filed 6–2–66.

844,534. METALICA. Asahi Optical Company, Limited. SN 254,030. Pub. 12–5–67. Filed 9–8–66.

844,535. X-OGRAPH. Buck X-Ograph Company. SN 255,693. Pub. 12–5–67. Filed 10–4–66.

844,536. CAISSON. Saint-Gobain Techniques Nouvelles. SN 256,138. Pub. 12–5–67. Filed 10–10–66.

844,537. BIOTIP. Becton Dickinson and Company. SN 259,708. Pub. 12–5–67. Filed 11–30–66.

844,538. BIOPETTE. Becton Dickinson and Company. SN 259,709. Pub. 12–5–67. Filed 11–30–66.

844,539. ALDCROFT INFINITY. R. B. Aldcroftt. SN 260,637. Pub. 12–5–67. Filed 12–13–66.

844,540. AUTOMARK. The Jay International Corp. SN 261,084. Pub. 12–5–67. Filed 12–19–66.

844,541. FANCIFUL AUTOMOBILE WITHIN SATURN RINGS (DESIGN). Electronic Sensor Company, Inc. SN 261,575. Pub. 12–5–67. Filed 12–28–66.

844,542. SOLINA. Agfa-Gevaert Aktiengesellschaft. SN 262,251. Pub. 12–5–67. Filed 1–10–67.

844,543. DATACEL. Sigma Instruments, Inc. SN 262,356. Pub. 12–5–67. Filed 1–11–67.

844,544. FURNACE SITTER. Newell' Corporation. SN 262,959. Pub. 12–5–67. Filed 1–20–67.

844,545. HUNTERLAB. Hunter Associates Laboratory, Incorporated. SN 263,271. Pub. 12–5–67. Filed 1–25–67.

844,546. UNICAM. Unicam Instruments Limited. SN 263,416. Pub. 12–5–67. Filed 1–26–67.

844,547. VACUUMAGIC. Robertson Photo-Mechanix, Inc. SN 270,006. Pub. 12–5–67. Filed 4–25–67.

844,548. LOGETAR. Logetronics Inc. SN 270,069. Pub. 12–5–67. Filed 4–26–67.

840,549. CASUAL. Minnesota Mining and Manufacturing Company. SN 274,289. Pub. 12–5–67. Filed 6–20–67.

Class 27 — Horological Instruments

844,550. QUEENDIVER. Movado Watch Agency, Inc. SN 260,066. Pub. 12–5–67. Filed 12–5–66.

844,551. STARDIVER. Movado Watch Agency, Inc. SN 260,067. Pub. 12–5–67. Filed 12–5–66.

844,552. EMBLEM (DESIGN). Cornavin Watch S.A. SN 263,818. Pub. 12–5–67. Filed 2–2–67.

844,553. CORNAVIN AND DESIGN. Cornavin Watch S.A. SN 263,819. Pub. 12–5–67. Filed 2–2–67.

844,554. GLACIER. Nivada A.G. (Nivada, S.A., Nivada, Ltd.). SN 264,954. Pub. 12–5–67. Filed 2–17–67.

844,555. WHICHWATCH. Movado Watch Agency, Inc. SN 265,543. Pub. 12–5–67. Filed 2–27–67.

844,556. TELLUS. Montres Cortébert, Juillard & Cie., S.A. SN 266,675. Pub. 12–5–67. Filed 3–14–67.

844,557. LE MANS. Le Mans Time Corp. SN 266,896. Pub. 12–5–67. Filed 3–16–67.

Class 28 — Jewelry and Precious-Metal Ware

844,558. LA RAY OF MIAMI. Irving J. Egel, d.b.a. Larry Guthman Company, and La Ray of Miami. SN 258,368. Pub. 12–5–67. Filed 11–10–66.

844,559. MARTINIQUE. Oneida Ltd. SN 267,764. Pub. 12–5–67. Filed 3–28–67.

844,560. DIAMOND SAVOY. The Richelieu Corp. SN 270,611. Pub. 12–5–67. Filed 5–3–67.

844,561. ENTRE. Sarah Coventry Inc. SN 272,141. Pub. 12–5–67. Filed 5–23–67.

844,562. QUIRINALE. Buccellati Silver, Ltd. SN 279,433. Pub. 12–5–67. Filed 8–31–67.

Class 29 — Brooms, Brushes, and Dusters

844,425. (See Class 18 for this trademark.)

844,563. BEAUTY LEAVES. Richard A. Kaskey, d.b.a. Jenard Company. SN 254,452. Pub. 12–5–67. Filed 9–14–66.

Class 30 — Crockery, Earthenware, and Porcelain

844,564. MELITTA 1×4. Horst Wolfgang Bentz, d.b.a. Melitta-Werke Bentz & Sohn. MULTIPLE CLASS (Classes 30, 31, and 33). SN 260,135. Pub. 12–5–67. Filed 12–6–66.

844,565. MELITTA 1×10. Horst Wolfgang Bentz, d.b.a. Melitta-Werke Bentz & Sohn. MULTIPLE CLASS (Classes 30, 31, and 33). SN 260,136. Pub. 12–5–67. Filed 12–6–66.

844,566. F AND DESIGN. Fürstenberg Ehemalige Herzoglich Braunschweigische Porzellanmanufaktur. SN 263,558. Pub. 12–5–67. Filed 1–30–67.

Class 31 — Filters and Refrigerators

844,465. (See Class 21 for this trademark.)

844,466. (See Class 21 for this trademark.)

844,467. (See Class 21 for this trademark.)

844,564. (See Class 30 for this trademark.)

844,565. (See Class 30 for this trademark.)

844,567. CONOFLOW. Conoflow Corporation. SN 264,479. Pub. 12–5–67. Filed 2–13–67.

844,568. NOLIN. Nolin Manufacturing Company, Inc. SN 269,915. Pub. 12–5–67. Filed 4–24–67.

Class 32 — Furniture and Upholstery

844,407. (See Class 16 for this trademark.)

844,569. STRATA-BUILT. The Maryland Bedding Company, d.b.a. Sealy Mattress Company. SN 261,385. Pub. 12–5–67. Filed 12–23–66.

844,570. UNI DOSE AND DESIGN. Monarch Metal Products, Inc. SN 267,645. Pub. 12–5–67. Filed 3–27–67.

844,571. COLOR CHARM AND DESIGN. Woodland Furniture Mfg., Inc. SN 267,778. Pub. 12–5–67. Filed 3–28–67.

844,572. NOLIN. Nolin Manufacturing Company, Inc. SN 269,916. Pub. 12–5–67. Filed 4–24–67.

Class 33 — Glassware

844,564. (See Class 30 for this trademark.)

844,565. (See Class 30 for this trademark.)

Class 34 — Heating, Lighting, and Ventilating Apparatus

844,465. (See Class 21 for this trademark.)

844,466. (See Class 21 for this trademark.)

844,467. (See Class 21 for this trademark.)

844,573. SPEED-O-MATIC. National Stamping & Electric Works. SN 245,943. Pub. 12–5–67. Filed 5–18–66.

844,574. RELIALAB. Tenney Engineering, Inc. SN 249,089. Pub. 12–5–67. Filed 6–27–66.

844,575. FLAMELESS CHEF. Joslyn Mfg. and Supply Co. SN 256,942. Pub. 12–5–67. Filed 10–21–66.

844,576. ORTHO. Chevron Chemical Company. SN 258,784. Pub. 12–5–67. Filed 11–16–66.

844,577. FLOORLINE. The Vulcan Radiator Company. SN 281,430. Pub. 12–5–67. Filed 9–29–67.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

844,578. DURA BELT. The Goodyear Tire & Rubber Company. SN 263,052. Pub. 12–5–67. Filed 1–23–67.

Class 36 — Musical Instruments and Supplies

844,445. (See Class 21 for this trademark.)

844,465. (See Class 21 for this trademark.)

844,466. (See Class 21 for this trademark.)

844,467. (See Class 21 for this trademark.)

844,579. AUDIOPAK. Audio Devices, Inc. SN 245,895. Pub. 12–5–67. Filed 5–18–66.

844,580. INTERNATIONAL ARTISTS. ARC Sound Limited. SN 256,638. Pub. 12–5–67. Filed 10–18–66.

844,581. RENE DUMONT. St. Louis Music Supply Company. SN 258,847. Pub. 12–5–67. Filed 11–16–66.

844,582. SOCK-O. The Total Sound, Inc. SN 276,394. Pub. 12–5–67. Filed 7–20–67.

Class 37 — Paper and Stationery

844,583. ULTRA-CEL. Paper Converting Corporation. SN 252,443. Pub. 12–5–67. Filed 8–12–66.

844,584. REPROVEL. Graphic Controls Corporation. SN 267,038. Pub. 12–5–67. Filed 3–17–67.

844,585. BRIEF-O-GRAM. Good-Will Greetings, Inc. SN 267,938. Pub. 12–5–67. Filed 3–30–67.

844,586. POLYSORB. Rexall Drug and Chemical Company, d.b.a. Colorite Plastics Company. SN 268,104. Pub. 12–5–67. Filed 3–31–67.

844,587. ARIA. Fox River Paper Corporation. SN 281,518. Pub. 12–5–67. Filed 10–2–67.

844,588. CAPRICCIO. Fox River Paper Corporation. SN 281,519. Pub. 12–5–67. Filed 10–2–67.

844,589. LARGO. Fox River Paper Corporation. SN 281,520. Pub. 12–5–67. Filed 10–2–67.

844,590. NOCTURNE. Fox River Paper Corporation. SN 281,521. Pub. 12–5–67. Filed 10–2–67.

844,591. RHAPSODY. Fox River Paper Corporation. SN 281,523. Pub. 12–5–67. Filed 10–2–67.

844,592. RONDO. Fox River Paper Corporation. SN 281,524. Pub. 12–5–67. Filed 10–2–67.

Class 38 — Prints and Publications

844,593. STOCKOGRAM. Securities Council, Inc. SN 239,328. Pub. 12–5–67. Filed 2–21–66.

844,594. COCKTAILS BY MAIL AND DESIGN. Cocktails by Mail, Inc. SN 246,045. Pub. 12–5–67. Filed 5–19–66.

844,595. ACTION AGE. The J. L. Hudson Company. SN 262,586. Pub. 12–5–67. Filed 1–16–67.

844,596. PR CAPSULES AND DESIGN. Hospital Publications, Inc. SN 263,668. Pub. 12–5–67. Filed 1–31–67.

844,597. CHRISTOPHER NEWS NOTES. The Christophers, Inc. SN 264,027. Pub. 12–5–67. Filed 2–6–67.

844,598. V.I.P. Norcross, Inc. SN 264,089. Pub. 12–5–67. Filed 2–6–67.

844,599. WG AND DESIGN. The Billboard Publishing Company, d.b.a. Watson-Guptill Publications, SN 265,606. Pub. 12–5–67. Filed 2–28–67.

844,600. CASH, "STAT!" Jerome L. Landsman. SN 265,904. Pub. 12–5–67. Filed 3–3–67.

844,601. CAVALCADE OF AUTO RACING. The White & Bagley Company. SN 267,276. Pub. 12–5–67. Filed 3–21–67.

844,602. THE PHILADELPHIA TRUSTEE. The Merrill Anderson Company, Inc. SN 269,195. Pub. 12–5–67. Filed 4–14–67.

844,603. VANDA. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics Company. SN 269,789. Pub. 12–5–67. Filed 4–21–67.

844,604. SINCE 1888 AND DESIGN. Hornblower & Weeks-Hemphill, Noyes. SN 281,005. Pub. 12–5–67. Filed 9–25–67.

844,605. REDEYE. The Hearst Corporation. SN 281,257. Pub. 12–5–67. Filed 9–27–67.

844,606. THE NEW YORKER. The New Yorker Magazine, Inc. SN 282,600. Pub. 12–5–67. Filed 10–24–67.

Class 39 — Clothing

844,452. (See Class 21 for this trademark.)

844,607. KIO AND DESIGN. Alfred Leiss and Walter Heil (joint venture), d.b.a. Kio-Strickenfabrik, Leiss, Heil & Co. SN 236,612. Pub. 12–5–67. Filed 1–17–66.

844,608. SUZI CHRISTI. Allied Stores Corporation, d.b.a. The Bon Marche. SN 237,289. Pub. 12–5–67. Filed 1–26–66.

844,609. CELANESE AND DESIGN. Celanese Corporation, by change of name from Celanese Corporation of America. SN 242,108. Pub. 12–5–67. Filed 3–29–66.

844,610. C CELANESE. Celanese Corporation, by change of name from Celanese Corporation of America. SN 242,109. Pub. 12–5–67. Filed 3–29–66.

844,611. C AND DESIGN. Celanese Corporation, by change of name from Celanese Corporation of America. SN 242,110. Pub. 12–5–67. Filed 3–29–66.

844,612. STOFFELS AQUAPERL. Stoffel AG. SN 243,093. Pub. 12–5–67. Filed 3–23–66.

844,613. RONA DI ROMA. Goldring Inc. SN 243,662. Pub. 12–5–67. Filed 4–18–66.

844,614. CORCORAN BRAND OF QUALITY. Joseph F. Corcoran Shoe Co., Inc., by mesne assignment and change of name from Corcoran, Inc. SN 244,083. Pub. 12–5–67. Filed 4–22–66.

844,615. HOSIERY HEAVEN. Bear Brand Hosiery Co. SN 246,996. Pub. 12–5–67. Filed 6–1–66.

844,616. COBBLE KNITS. Tabby Sportswear Co., Inc. SN 247,844. Pub. 12–5–67. Filed 6–10–66.

844,617. DOMANI. Puritan Fashions Corporation. SN 248,632. Pub. 12–5–67. Filed 6–21–66.

844,618. LADY DOMANI. Puritan Fashions Corporation. SN 248,633. Pub. 12–5–67. Filed 6–21–66.

844,619. SHEER CHARM. Bear Brand Hosiery Co. SN 249,214. Pub. 12–5–67. Filed 6–29–66.

844,620. NATURAL GENTLEMAN. H. Daroff & Sons, Inc. SN 251,123. Pub. 12–5–67. Filed 7–27–66.

844,621. LEVELER. Johnston & Murphy. SN 253,654. Pub. 12–5–67. Filed 9–1–66.

844,622. BEST MAID. New York Merchandise Co., Inc. SN 253,670. Pub. 12–5–67. Filed 9–1–66.

844,623. FRESYL. Compagnie Generale de la Maille en Abrege Cogema. SN 253,959. Pub. 12–5–67. Filed 9–7–66.

844,624. FLOGGS AND DESIGN. J/P Imports, Inc. SN 254,055. Pub. 12–5–67. Filed 9–8–66.

844,625. ANN ROBIN AND DESIGN. Spartans Industries, Inc. SN 255,925. Pub. 12–5–67. Filed 10–6–66.

844,626. A & S. Federated Department Stores, Inc. SN 256,082. Pub. 12–5–67. Filed 10–10–66.

844,627. PANTREE. Oxford Industries, Inc., by change of name from Oxford Manufacturing Company. SN 256,228. Pub. 12–5–67. Filed 10–11–66.

844,628. BERNHARD ALTMANN. McGregor-Doniger Inc. SN 256,301. Pub. 12–5–67. Filed 10–12–66.

844,629. REDDY-MATES. Pineburst Textiles, Inc. SN 259,673. Pub. 12–5–67. Filed 11–29–66.

844,630. MCALLISTER. Spartans Industries, Inc. SN 261,166. Pub. 12–5–67. Filed 12–20–66.

844,631. BEEBE. Beebe Rubber Company. SN 263,009. Pub. 12–5–67. Filed 1–23–67.

844,632. RIP NOT. Chadbourn Gotham, Inc. SN 263,744. Pub. 12–5–67. Filed 2–1–67.

844,633. HIGH SPIRIT. J. P. Stevens & Co., Inc. SN 264,690. Pub. 12–5–67. Filed 2–14–67.

844,634. MARIACHI. Teenform, Inc. SN 264,695. Pub. 12–5–67. Filed 2–14–67.

844,635. SKIPFOAM. Sears, Roebuck and Co., assignee of Rubber Corporation of Pennsylvania. SN 265,369. Pub. 12–5–67. Filed 2–27–67.

844,636. QUEEN MAID. C. W. Anderson Hosiery Company. SN 265,389. Pub. 12–5–67. Filed 2–24–67.

844,637. DRY GUY. McGregor-Doniger Inc. SN 265,545. Pub. 12–5–67. Filed 2–27–67.

844,638. SCENE-STEALER. Huddlespun Inc. SN 265,629. Pub. 12–5–67. Filed 2–28–67.

844,639. NUVO. Levi Strauss & Co. SN 267,164. Pub. 12–5–67. Filed 3–20–67.

844,640. DAVID ST. CLARE. Melville Shoe Corporation. SN 267,169. Pub. 12–5–67. Filed 3–20–67.

844,641. GLEN DORA. Glen Raven Knitting Mills, Inc. SN 267,330. Pub. 12–5–67. Filed 3–22–67.

844,642. BATTLE LEADER. A. du Bois & Son, Inc. SN 267,411. Pub. 12–5–67. Filed 3–23–67.

844,643. LITTLE FIBBER. The Warner Brothers Company. SN 268,249. Pub. 12–5–67. Filed 4–3–67.

844,644. CONCENTRATE. The Warner Brothers Company. SN 268,250. Pub. 12–5–67. Filed 4–3–67.

844,645. FAIR 'N' COOLER. The Warner Brothers Company. SN 268,251. Pub. 12–5–67. Filed 4–3–67.

844,646. KIA. Stanley L. Seligman. SN 269,113. Pub. 12–5–67. Filed 4–13–67.

844,647. LENOX SQUARE. H. Mendel & Co., Inc. SN 269,193. Pub. 12–5–67. Filed 4–14–67.

844,648. MISTER RICHARD. Barmon Brothers Company, Inc. SN 269,846. Pub. 12–5–67. Filed 4–24–67.

844,649. APOLLO AND DESIGN. Apollo Apparel, Inc. SN 271,024. Pub. 12–5–67. Filed 5–9–67.

844,650. TEENFORMATION. Teenform, Inc. SN 271,662. Pub. 12–5–67. Filed 5–16–67.

844,651. TEENFORMATIC. Teenform, Inc. SN 271,663. Pub. 12–5–67. Filed 5–16–67.

844,652. LUXURON. Beaunit Corporation. SN 280,542. Pub. 12–5–67. Filed 9–18–67.

844,653. PETIT LEIGUE. Petit Leigue, Inc. SN 281,016. Pub. 12–5–67. Filed 9–25–67.

Class 40 — Fancy Goods, Furnishings, and Notions

844,654. CINDERELLA AND DESIGN. Reid-Meredith, Inc. SN 281,423. Pub. 12–5–67. Filed 9–29–67.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

844,655. BEAUTY ROSE. J. P. Stevens & Co., Inc. SN 269,123. Pub. 12–5–67. Filed 4–13–67.

844,656. ROSEBOWER. J. P. Stevens & Co., Inc. SN 269,124. Pub. 12–5–67. Filed 4–13–67.

844,657. FUNSTER. Deering Milliken, Inc. SN 281,517. Pub. 12–5–67. Filed 10–2–67.

Class 43 — Thread and Yarn

844,658. MISCELLANEOUS DESIGN. John L. Stickley & Company, Inc. SN 268,775. Pub. 12–5–67. Filed 4–10–67.

Class 44 — Dental, Medical, and Surgical Appliances

844,659. BAL-ZAC AND DESIGN. S.r.l. G. B. Venturino. SN 250,177. Pub. 11–28–67. Filed 7–13–66.

844,660. QUIK-EE-HANGER. C. R. Bard, Inc. SN 253,481. Pub. 12–5–67. Filed 8–31–66.

844,661. MAKS. Bio/Systems, Inc. SN 256,057. Pub. 12–5–67. Filed 10–10–66.

844,662. ATRAKTOL. Dairy Research Products, Inc. SN 256,275. Pub. 12–5–67. Filed 10–12–66.

844,663. CYSTOFLO. Baxter Laboratories, Inc. SN 259,802. Pub. 12–5–67. Filed 12–1–66.

844,664. PLOSS. Minnesota Mining and Manufacturing Company, assignee of Cardiosonics Medical Instruments Corporation. SN 262,021. Pub. 12–5–67. Filed 1–6–67.

844,665. INVISABELT. Helen Case. SN 262,649. Pub. 12–5–67. Filed 11–28–66.

844,666. F (SYMBOL). The Foregger Company, Inc. SN 262,860. Pub. 12–5–67. Filed 1–19–67.

844,667. READI-WRAP. Parke, Davis & Company. SN 263,233. Pub. 12–5–67. Filed 1–25–67.

844,668. GOLD LINE. Popper & Sons, Inc. SN 264,237. Pub. 12–5–67. Filed 2–8–67.

844,669. SATURN. Ritter Pfaulder Corporation. SN 264,589. Pub. 12–5–67. Filed 2–13–67.

844,670. AMTICO AND DESIGN. Aero-Med Thermal Instrument Co., Inc. SN 267,715. Pub. 12–5–67. Filed 3–28–67.

Class 46 — Foods and Ingredients of Foods

844,516. (See Class 23 for this trademark.)

844,671. VANEX. Vanex, Inc. SN 182,450. Pub. 12–5–67. Filed 12–5–63.

844,672. SIZZLE BURGER. Dairy Queen, Inc. SN 191,748. Pub. 7–19–66. Filed 4–22–64.

844,673. SIZZLE DOG. Dairy Queen, Inc. SN 191,749. Pub. 7–19–66. Filed 4–22–64.

844,674. SIZZLE FRIES. Dairy Queen, Inc. SN 191,750. Pub. 7–19–66. Filed 4–22–64.

844,675. MAYKWAY. Ah Soo Chen. SN 235,028. Pub. 12–5–67. Filed 12–13–65.

844,676. GREEN SAUCE DANIEL. Daniel Echevarria. SN 237,207. Pub. 5–23–67. Filed 1–25–66.

844,677. MIGHTY FLAKES. General Mills, Inc. SN 240,427. Pub. 12–5–67. Filed 3–8–66.

844,678. SAN GIORGIO. San Giorgio Macaroni, Inc. (Delaware corporation), assignee of San Giorgio Macaroni, Inc. (Pennsylvania corporation). SN 243,173. Pub. 12–5–67. Filed 4–11–66.

844,679. ST. GEORGE AND THE DRAGON IN MEDALLION DESIGN. San Giorgio Macaroni, Inc. (Delaware corporation), assignee of San Giorgio Macaroni, Inc. (Pennsylvania corporation). SN 243,174. Pub. 12–5–67. Filed 4–11–66.

844,680. SAN GIORGIO AND DESIGN. San Giorgio Macaroni, Inc. (Delaware corporation), assignee of San Giorgio Macaroni, Inc. (Pennsylvania corporation). SN 243,175. Pub. 12–5–67. Filed 4–11–66.

844,681. DRI-MOL. Food Technology, Inc. SN 246,166. Pub. 12–5–67. Filed 5–20–66.

844,682. Y.L.S. Georgia-Pacific Corporation. SN 247,020. Pub. 12–5–67. Filed 6–1–66.

844,683. CIB. Carnation Company. SN 248,674. Pub. 12–5–67. Filed 6–22–66.

844,684. BROC. The Nestle Company, Inc. SN 249,556. Pub. 9–19–67. Filed 7–5–66.

844,685. SUNSET. Universal Foods Corporation. SN 250,877. Pub. 12–5–67. Filed 7–22–66.

844,686. PLJ. Beecham Group Limited, d.b.a. The Pure Lemon Juice Company. SN 253,274. Pub. 12–5–67. Filed 8–29–66.

844,687. GEFCO. Great Eastern Food Products Co., Inc. SN 260,842. Pub. 12–5–67. Filed 12–15–66.

844,688. KEEBLER AND DESIGN. Keebler Company. SN 261,588. Pub. 12–5–67. Filed 12–28–66.

844,689. CUDDY FARMS AND DESIGN. Cuddy Foods Limited. SN 261,722. Pub. 12–5–67. Filed 12–30–66.

844,690. ESKOLD. Eskimo Pie Corporation. SN 262,692. Pub. 12–5–67. Filed 1–17–67.

844,691. MONTEZUMA. Eskimo Pie Corporation. SN 262,693. Pub. 12–5–67. Filed 1–17–67.

844,692. DONNAMEX. Knapp-Sherriff-Koelle, Inc. SN 262,946. Pub. 12–5–67. Filed 1–20–67.

844,693. SPUDS FIT FOR A KING I AND DESIGN. Granny Goose Foods, Inc., assignee, by mesne assignment, of Spuds, Inc. SN 263,785. Pub. 12–5–67. Filed 2–1–67.

844,694. MARTINSON. Beech-Nut Life Savers, Inc., d.b.a. Martinson Coffee. SN 264,141. Pub. 12–5–67. Filed 2–7–67.

844,695. HUNGRY JACK. The Pillsbury Company. SN 265,330. Pub. 12–5–67. Filed 2–23–67.

844,696. PRIDE OF THE OCEAN. Pacific Alaska Fisheries, Inc. SN 266,574. Pub. 12–5–67. Filed 3–13–67.

844,697. CLASSIC. Arvid Nordquist Handelsaktiebolag. SN 266,720. Pub. 12–5–67. Filed 3–15–67.

844,698. MISCELLANEOUS DESIGN. Berkshire Candy Co. SN 266,722. Pub. 12–5–67. Filed 3–15–67.

844,699. CHINESE CHARACTER FOR EAST. Beatrice Foods Co. SN 266,853. Pub. 12–5–67. Filed 3–16–67.

844,700. CARVELOG. Thomas Carvel. SN 267,010. Pub. 12–5–67. Filed 3–17–67.

844,701. MISCELLANEOUS DESIGN. Pacific Alaska Fisheries, Inc. SN 267,059. Pub. 12–5–67. Filed 3–17–67.

844,702. RIGHTAWAY. United Fruit Company. SN 267,080. Pub. 12–5–67. Filed 3–17–67.

844,703. SILVER BAND. Waples-Platter Company. SN 267,084. Pub. 9–26–67. Filed 3–17–67.

844,704. BRAVO. Alfonso Gioia and Sons, Inc. SN 267,498. Pub. 12–5–67. Filed 3–24–67.

844,705. ESKIMO MOD-POP. Eskimo Pie Corporation. SN 267,513. Pub. 12–5–67. Filed 3–24–67.

844,706. DURKEX. SCM Corporation, assignee of The Glidden Company, d.b.a. Durkee Famous Foods. SN 267,522. Pub. 12–5–67. Filed 3–24–67.

844,707. TANG. Food Industries Corporation. SN 267,747. Pub. 12–5–67. Filed 3–28–67.

844,708. LIGHT. Mead Johnson & Company. SN 276,510. Pub. 10–31–67. Filed 7–21–67.

844,709. CHIEF CRISP. General Mills, Inc. SN 277,861. Pub. 12–5–67. Filed 8–9–67.

844,710. MR. CONES. General Mills, Inc. SN 277,862. Pub. 12–5–67. Filed 8–9–67.

844,711. TRI-VALLEY TV AND DESIGN. Tri-Valley Growers. SN 279,154. Pub. 12–5–67. Filed 10–11–67.

844,712. SPRING RITE. International Milling Company Inc. SN 280,372. Pub. 12–5–67. Filed 9–15–67.

844,713. MANCAKES. The Quaker Oats Company. SN 280,378. Pub. 12–5–67. Filed 9–15–67.

Class 49 — Distilled Alcoholic Liquors

844,714. GRAND SCOT. H. Stenham Limited, d.b.a. Highland Blending Company. SN 254,814. Pub. 12–5–67. Filed 9–20–66.

844,715. CANADIAN PRINCE. Intercontinental Import & Export Co., Inc. SN 265,633. Pub. 12–5–67. Filed 2–28–67.

844,716. DESIGN OF A MAN IN RUSSIAN STYLE. National Distillers and Chemical Corporation, d.b.a. National Distillers Products Co., and W. & A. Gilbey, Ltd. SN 277,331. Pub. 12–5–67. Filed 8–2–67.

Class 50 — Merchandise Not Otherwise Classified

844,334. (See Class 1 for this trademark.)

844,344. (See Class 2 for this trademark.)

844,717. PICTORIALINE. Pictorial Productions, Inc. SN 253,905. Pub. 12–5–67. Filed 9–6–66.

844,718. CUSTOMFOAM. International Assemblix Corporation. SN 256,842. Pub. 12–5–67. Filed 10–20–66.

844,719. SEAL-EZE AND DESIGN. Plastic Enterprises, Incorporated. SN 257,647. Pub. 12–5–67. Filed 10–31–66.

844,720. ESCAMOBILE. Manufacture d'Armes & Cycles de Chatellerault (M.A.C.C.). SN 260,059. Pub. 12–5–67. Filed 12–5–66.

844,721. CAMPANTRY. Ward Manufacturing, Inc. SN 281,533. Pub. 12–5–67. Filed 10–2–67.

Class 51 — Cosmetics and Toilet Preparations

844,425. (See Class 18 for this trademark.)

844,722. ORBIDENT AND DESIGN. Orbital Laboratories Ltd. SN 233,003. Pub. 12–5–67. Filed 11–19–65.

844,723. ORBIDEX AND DESIGN. Orbital Laboratories Ltd. SN 233,004. Pub. 12–5–67. Filed 11–19–65.

844,724. THE ESCAPE KIT. Clairol Incorporated. SN 245,387. Pub. 12–5–67. Filed 5–11–66.

844,725. MISCELLANEOUS DESIGN. Mary Quant Cosmetics Limited. SN 251,827. Pub. 12–5–67. Filed 8–5–66.

844,726. DAY IN THE SUN. Clairol Incorporated. SN 254,247. Pub. 12–5–67. Filed 9–12–66.

844,727. CARON IS THE KIND OF FRENCH EVERY WOMAN UNDERSTANDS. Caron Corporation. SN 257,932. Pub. 12–5–67. Filed 11–4–66.

844,728. CARTOUCHE. Avon Products, Inc. SN 261,276. Pub. 12–5–67. Filed 12–22–66.

844,729. RAWHIDE. The Mennen Company. SN 264,947. Pub. 12–5–67. Filed 2–17–67.

844,730. FIRST FACE. The Mennen Company. SN 267,533. Pub. 12–5–67. Filed 3–24–67.

844,731. COOL 'N KIND. Chesebrough-Pond's Inc. SN 279,626. Pub. 12–5–67. Filed 9–5–67.

Class 52 — Detergents and Soaps

844,732. BAIN NOUVEAU. Houbigant, Inc. SN 261,214. Pub. 12–5–67. Filed 12–21–66.

844,733. FINALLY FREE. Beecham Products Inc. SN 279,449. Pub. 12–5–67. Filed 8–31–67.

844,734. LINEN LIFE. B. E. Williams. SN 281,534. Pub. 12–5–67. Filed 10–2–67.

Service Marks

Class 100 — Miscellaneous

844,735. THE BLACK STEER AND DESIGN. The Black Steer. SN 236,791. Pub. 12–5–67. Filed 1–18–66.

844,736. PORTOFINO AND DESIGN. Port-O-Fino. SN 246,100. Pub. 12–5–67. Filed 5–19–66.

844,737. NO. 1 SPORT AFTMA AND DESIGN. American Fishing Tackle Manufacturers Association. SN 250,726. Pub. 11–21–67. Filed 7–21–66.

844,738. ZEPI'S. Zepi's Pizza, Inc. SN 260,115. Pub. 12–5–67. Filed 12–5–66.

844,739. BETTER-WAY. Better-Way, Inc. SN 260,919. Pub. 12–5–67. Filed 12–16–66.

844,740. LAMP (DESIGN). Scripture Union. SN 261,683. Pub. 12–5–67. Filed 12–29–66.

844,741. RA AND DESIGN. Restaurant Associates, Inc. SN 261,906. Pub. 12–5–67. Filed 1–4–67.

844,742. IRA. Information Research Associates, Inc. SN 268,495. Pub. 12–5–67. Filed 4–6–67.

844,743. IRA AND DESIGN. Information Research Associates, Inc. SN 268,496. Pub. 12–5–67. Filed 4–6–67.

844,744. PAINTING AND DECORATING CONTRACTORS OF AMERICA ETC. AND DESIGN. Painting and Decorating Contractors of America, Inc. MULTIPLE CLASS (Classes 100 and 200). SN 270,604. Pub. 12–5–67. Filed 5–3–67.

844,745. BUCKAROO STEAK RANCH. Buckaroo Steak Ranches, Inc., assignee of Miller Brothers Company, Inc. SN 274,574. Pub. 12–5–67. Filed 6–23–67.

Class 101 — Advertising and Business

844,429. (See Class 19 for this trademark.)

844,746. GETZ. Getz Prescription Company. SN 210,839. Pub. 10–12–65. Filed 1–25–65.

844,747. MAR-TEC. Mar-Tec International, Inc. SN 220,395. Pub. 12–5–67. Filed 6–4–65.

844,748. FTD. Florists' Transworld Delivery Association. SN 238,070. Pub. 12–5–67. Filed 2–4–66.

844,749. MANAGEMENT COUNSELORS AND DESIGN. Management Counselors, Inc. SN 247,708. Pub. 12–5–67. Filed 6–9–66.

844,750. BRAINPOWER U.S.A. Brainpower, U.S.A. Incorporated. SN 254,663. Pub. 12–5–67. Filed 9–19–66.

844,751. MAGIC BOWLING. Bradfute Corporation. SN 255,959. Pub. 12–5–67. Filed 10–7–66.

844,752. CHECKPOINT. Metal Edge Industries. SN 274,691. Pub. 12–5–67. Filed 6–26–67.

844,753. ROZINSKY'S AND DESIGN. Rozinsky's Incorporated. SN 275,721. Pub. 12–5–67. Filed 7–11–67.

Class 102 — Insurance and Financial

844,353. (See Class 6 for this trademark.)

844,754. OAK CLIFF SAVINGS AND DESIGN. Oak Cliff Savings and Loan Association. SN 256,457. Pub. 12–5–67. Filed 10–14–66.

844,755. ONB AND DESIGN. The Omaha National Bank. SN 259,144. Pub. 12–5–67. Filed 11–21–66.

844,756. EDU-KEY AND DESIGN. Georgia International Life Insurance Company. SN 260,545. Pub. 12–5–67. Filed 12–12–66.

844,757. TRUST IN PRESIDENTIAL FOR LIFE. The Presidential Life Insurance Company of America. SN 260,679. Pub. 12–5–67. Filed 12–13–66.

844,758. MISCELLANEOUS DESIGN. La Bow, Haynes Company, Inc. SN 264,554. Pub. 12–5–67. Filed 2–13–67.

844,759. SINCE 1888 AND DESIGN. Hornblower & Weeks-Hemphill, Noyes, Limited. SN 281,006. Pub. 12–5–67. Filed 9–25–67.

Class 103 — Construction and Repair

844,353. (See Class 6 for this trademark.)

844,455. (See Class 21 for this trademark.)

844,760. RAYNE WATER CONDITIONING AND DESIGN. Rayne Corporation. SN 251,335. Pub. 12–5–67. Filed 7–29–66.

844,761. RAYNE. Rayne Corporation. SN 262,194. Pub. 12–5–67. Filed 1–9–67.

Class 105 — Transportation and Storage

844,762. EUROPEAN CARNIVAL. AITS, Inc., by change of name from American International Travel Service, Inc. SN 260,638. Pub. 12–5–67. Filed 12–13–66.

Class 106 — Material Treatment

844,763. BRADPERMACPP. Bradford Dyeing Association (U.S.A.) Inc. SN 246,747. Pub. 12–5–67. Filed 5–27–66.

844,764. UNIFIRE. United Refining & Smelting Co. SN 281,166. Pub. 12–5–67. Filed 9–26–67.

Class 107 — Education and Entertainment

844,765. FLORIDA ATLANTIC UNIVERSITY AND DESIGN. Florida Atlantic University. SN 209,504. Pub. 12–5–67. Filed 1–7–65.

844,766. DANIEL'S DEN. Daniel's Den Inc. SN 246,052. Pub. 12–5–67. Filed 5–19–66.

844,767. NEW ORLEANS SAINTS. New Orleans Saints. SN 261,748. Pub. 12–5–67. Filed 12–30–66.

844,768. PROFESSIONAL PANHELLENIC ASSOCIATION P.P.A. MCMXXV AND DESIGN. Professional Panhellenic Association. SN 262,969. Pub. 12–5–67. Filed 1–20–67.

844,769. THE LEWIS AND CLARKE EXPEDITION. Colgems Records, Inc. SN 280,745. Pub. 12–5–67. Filed 9–20–67.

Collective Membership Mark

Class 200

844,744. (See Class 100 for this trademark.)

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 6 — Chemicals and Chemical Compositions

844,770. Purex Corporation, Ltd., Lakewood, Calif. SN 259,378. Filed P.R. 11–25–66; Am. S.R. 12–13–67.

Bleach'n' brighten

For Liquid Bleach.
First use Nov. 2, 1966.

844,771. Lincoln Chemical Co., Inc., Worcester, Mass. SN 263,185. Filed P.R. 1–24–67; Am. S.R. 12–18–67.

TANK GUARD

For Rust Inhibitor.
First use Aug. 31, 1966.

Class 7 — Cordage

844,772. Package Containers, Inc., Portland, Oreg. SN 241,506. Filed P.R. 3–21–66; Am. S.R. 11–27–67.

TUFF TIE

For Paper Tape With a Wire Core Which Is Used in Tying Polyethylene Bags, Plants, Vegetables, Flowers, Packages, Hose, Ropes, Wires, and Other Articles.
First use Apr. 24, 1965.

Class 16 — Protective and Decorative Coatings

844,773. Arthur C. Mangels Industries, Inc., Philadelphia, Pa. SN 244,334. Filed P.R. 4–26–66; Am. S.R. 12–5–67.

Old World Finish

For Foundation Color Paints, Antique Glaze and Protective Coatings Sold Separately and Sold as a Three-Step Product Kit for Use in Antiquing Furniture.
First use Aug. 25, 1964.

Class 18 — Medicines and Pharmaceutical Preparations

844,774. Eli Lilly and Company, Indianapolis, Ind. SN 263,165. Filed P.R. 1–24–67; Am. S.R. 11–22–67.

COCO-DIAZINE

For Coco Suspension of Sulfadiazine.
First use July 24, 1944.

Class 22 — Games, Toys, and Sporting Goods

844,775. Marvin M. Shoaf, Jr., Sterling, Va. SN 252,766. Filed P.R. 8–19–66; Am. S.R. 11–22–67.

GROOV-A-SWING

For Golf Swing Training Device.
First use July 19, 1966.

Class 38 — Prints and Publications

844,776. William J. Boylhart, Robert E. Lovett, and James A. Dean (joint owners), Los Angeles, Calif. SN 251,046. Filed P.R. 7–26–66; Am. S.R. 12–6–67.

COLOR AND SEND

For Printed Coloring Book or Coloring Cards.
First use June 23, 1966.

Class 39 — Clothing

844,777. Cortland Corset Company, Cortland, N.Y. SN 261,047. Filed P.R. 12–19–66; Am. S.R. 12–8–67.

Flex Back

For Foundation Garments, Corselets, Girdles, Panty Girdles, and Brassieres.
First use Nov. 28, 1966.

Class 44 — Dental, Medical, and Surgical Appliances

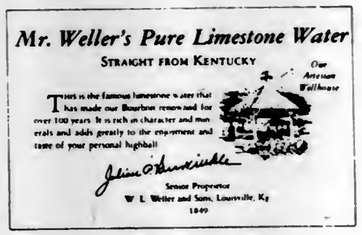
844,778. Picker X-Ray Corporation, White Plains, N.Y. SN 245,417. Filed P.R. 5–11–66; Am S.R. 12–11–67.

VIDEOVIEWER

For Mechanisms Illuminating and Projecting Radiographic Images for Medical Diagnostic Purposes.
First use on or about Oct. 8, 1965.

Class 45 — Soft Drinks and Carbonated Waters

844,779. Stitzel-Weller Distillery, d.b.a. W. L. Weller and Sons, Louisville, Ky. SN 254,198. Filed 9–9–66.



The name "Julian P. Van Winkle" is that of the late president of applicant.
For Water for Beverage Purposes.
First use Aug. 14, 1964.

Class 50 — Merchandise Not Otherwise Classified

844,780. Stanley Goodman, d.b.a. Plas-Stick Manufacturing Co., Westwood, N.J. SN 248,129. Filed P.R. 6–15–66; Am. S.R. 11–29–67.

PLAS-STICK

For Pressure Sensitive Vinyl Plastic Letters and Symbols and Numerals in Various Sizes and Colors.
First use May 11, 1966.

Class 52 — Detergents and Soaps

844,781. Rap Products, Inc., Bay City, Mich. SN 239,442. Filed P.R. 2–23–66; Am. S.R. 12–11–67.



For Paint and Varnish Remover.
First use July 15, 1959.

844,782. W. R. Grace & Co., New York, N.Y. SN 261,985. Filed P.R. 1–5–67; Am. S.R. 12–14–67.

HOG WASH

For Chemical Additive for Use in Hog Scalding and Dehairing Units Which Facilitates the Cleaning of Hog Carcasses and Said Units.
First use Sept. 30, 1965.

Service Marks

Class 100 — Miscellaneous

844,783. Silverbrook Development, Inc., Milwaukee, Wis. SN 258,597. Filed P.R. 11–14–66; Am. S.R. 9–11–67.

WALTON INNS

For Motel and Restaurant Services.
First use Aug. 30, 1966.

Class 101 — Advertising and Business

844,784. Master Photo Dealers' & Finishers' Association, Jackson, Mich. SN 252,193. Filed P.R. 8–11–66; Am. S.R. 12–20–67.

INTERNATIONAL PHOTOGRAPHIC EXPOSITION

For Establishment and Conducting of an International Exposition for the Benefit of Subscribers and Others.
First use Apr. 11, 1955.

TRADEMARK REGISTRATIONS RENEWED

64,766. CRAMP. Cl. 14. 8–20–07.
66,699. PORTER. Cl. 46. 12–24–07.
66,997. DICTAPHONE. Cl. 36. 1–7–08.
67,226. STANLEY. Cl. 23. 1–21–08.
68,310. BLACK & WHITE. Cl. 49. 3–24–08.
69,456. KO-NUT. Cl. 46. 6–16–08.
138,761. MACK. Cl. 19. 1–4–21.
144,149. TIMKEN. Cl. 23. 6–21–21.
191,089. DR. SCHOLL'S. Cl. 39. 10–28–24.
232,905. NO WORRY. Cl. 52. 9–20–27.
235,676. TINTEX. Cl. 6. 11–22–27.
236,626. BURGESS "B" ETC. AND DESIGN. Cl. 21. 12–20–27.
237,111. RAYTHEON. Cl. 21. 1–3–28.
237,733. LINE-O-SCRIBE. Cl. 23. 1–17–28.
239,715. NYCO. Cl. 43. 3–13–28.
241,381. SEAL SKIN. Cl. 46. 4–24–28.
241,715. AMERICAN GIRL. Cl. 27. 5–8–28.
241,737. AMERICAN BOY. Cl. 27. 5–8–28.
241,738. MISS AMERICA. Cl. 27. 5–8–28.
434,145. PHYSICIANS' AND SURGEONS'. Cl. 52. 11–11–47.
434,548. STARTEX TWINKLE AND DESIGN. Cl. 42. 11–25–47.
435,081. PROCASENOL. Cl. 18. 12–9–47.
435,140. AO. Cl. 2. 12–9–47.

435,271. M AND DESIGN. Cl. 42. 12–16–47.
435,339. HARMONY AND DESIGN. Cl. 11. 12–16–47.
435,346. LUXRITE. Cl. 11. 12–16–47.
435,827. BONDEX. Cl. 5. 1–13–48.
435,871. PURNATOL. Cl. 18. 1–13–48.
435,875. PERSONALITY. Cl. 50. 1–13–48.
435,887. RETARDO. Cl. 16. 1–13–48.
436,232. GREEK LETTER IN CIRCLE. Cl. 46. 1–27–48.
436,264. DOUBLE EAGLE AND DESIGN. Cl. 10. 1–27–48.
436,355. INDUSTRIAL BROWNHOIST. Cl. 23. 2–3–48.
436,530. TROYLINGS. Cl. 39. 2–10–48.
436,574. COLT AND DESIGN. Cl. 9. 2–10–48.
436,959. LITTLE IMP. Cl. 39. 2–2–48.
437,055. GARDA. Cl. 52. 2–2–48.
437,098. INSULOK. Cl. 12. 2–9–48.
437,139. RAY-FIBER. Cl. 1. 2–9–48.
437,356. HUSKY ETC. AND DESIGN. Cl. 21. 2–16–48.
437,775. BETAJEL. Cl. 18. 3–30–48.
438,190. LINDE. Cl. 4. 4–13–48.
438,350. PETRO-CARBO. Cl. 18. 4–13–48.
438,559. HUMPTY DUMPTY AND DESIGN. Cl. 46. 5–4–48.
438,568. LINK. Cl. 26. 5–4–48.
438,623. TEXAMATIC. Cl. 15. 5–4–48.
438,737. SATINAIRE. Cl. 32. 5–11–48.
438,816. OXTONE. Cl. 42. 5–11–48.
438,948. COLONY GREEN. Cl. 1. 5–18–48.
438,984. BIRTHDAY. Cl. 39. 6–1–48.
439,007. THE NO. 1 DRINK. Cl. 45. 6–1–48.
500,135. SIFCOLOY. Cl. 14. 4–27–48.
500,202. KROMEKOTE. Cl. 37. 5–11–48.
500,228. CAMOQUIN. Cl. 18. 5–11–48.
500,405. SURITAL. Cl. 18. 5–18–48.
500,515. MUL-EN-OL. Cl. 18. 6–1–48.
500,585. ULTRALITE. Cl. 12. 6–1–48.
500,608. ASCO. Cl. 21. 6–8–48.
500,639. BECHIK PRODUCTS. Cl. 32. 6–8–48.
500,697. ROT-STOP. Cl. 6. 6–15–48.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

98,628. "ANTLER" AND DESIGN. Cl. 3. 7–28–14.

Section 8

434,549. JIFFY. Cl. 4. 11–25–47.
441,174. UNI-CUT. Cl. 44. 10–26–48.
695,553. CAN PORTER. Cl. 19. 4–5–60.
697,261. "THE SPARKS." Cl. 107. 5–3–60.
697,523. INGRID. Cl. 42. 5–10–60.
697,789. DIGILITE. Cl. 26. 5–17–60.
698,084. FLASHY FIN. Cl. 22. 5–24–60.
698,226. LADY FONTAINE. Cl. 42. 5–24–60.
698,827. PERF-O-STRUT. Cl. 12. 6–7–60.
699,019. TUBAC ARIZONIAN AND DESIGN. Cl. 38. 6–7–60.
699,118. THE CREST OF QUALITY AND DESIGN. Cl. 49. 6–7–60.
699,307. ETERNA. Cl. 18. 6–14–60.
700,227. ITSY-BITSY. Cl. 39. 6–28–60.
700,495. MAJOR-DOMO. Cl. 23. 7–5–60.
700,754. DOOM. Cl. 6. 7–12–60.
700,995. SUPERMARKET EQUIPMENT. Cl. 38. 7–12–60.
702,970. VELURA. Cl. 39. 8–16–60.
703,174. ELPAC. Cl. 21. 8–23–60.
703,820. KEVADON. Cl. 18. 9–6–60.
704,204. AIRCRAFT ARMAMENTS INC. AND DESIGN. Cl. 19. 9–13–60.
704,806. AA INC. AND DESIGN. Cl. 9. 9–27–60.
704,807. AA INC. WITH ENCIRCLED LETTERS MAKING DESIGN. Cl. 9. 9–27–60.
705,713. RECTO-TAMPONS. Cl. 44. 10–11–60.
706,457. HI-TAPER. Cl. 3. 11–1–60.
708,509. MISTA. Cl. 51. 12–13–60.
710,434. HAPPY NUMBERS. Cl. 18. 1–31–61.
712,019. "PHANTOM MEAL." Cl. 18. 3–7–61.

The following registrations issued Jan. 2, 1962

725,764. GAD-A-BAG. Cl. 3.
725,768. SPACE AGE. Cl. 4.
725,773. PLUG-O. Cl. 10.
725,774. T AND DESIGN. Cl. 10.
725,778. GROUTITE. Cl. 12.
725,786. FUL-TRIM. Cl. 12.
725,795. SASH-TRAC. Cl. 12.
725,799. GUSHER. Cl. 13.
725,804. STOP ETC. AND DESIGN. Cl. 13.
725,807. SKY JET. Cl. 13.
725,816. BOT-O-LUB. Cl. 15.
725,817. CENT A GRADE. Cl. 15.
725,825. FASHION TONES. Cl. 16.
725,831. SPLEK. Cl. 16.
725,832. NUCLEAR. Cl. 16.
725,833. FLAMBOYANT. Cl. 16.
725,834. HAYDONIZED. Cl. 16.
725,835. HAYDONIZED AUTO PAINTING AND DESIGN. Cl. 16.
725,839. OTHO DERMA. Cl. 18.
725,842. ROYAL. Cl. 19.
725,843. SKAGIT. Cl. 19.
725,852. TWO BATTERY LINE. Cl. 21.
725,853. RECO AND DESIGN. Cl. 21.
725,854. "TOTAL SOUND STEREO." Cl. 21.
725,865. FALCON. Cl. 21.
725,866. HYDTROL. Cl. 21.
725,867. TYPELITER. Cl. 21.
725,872. VOLTALOC. Cl. 21.
725,873. QUIK-C. Cl. 21.
725,879. BARBARA LANE. Cl. 21.
725,885. IMPERIAL. Cl. 21.
725,886. SOUTHERN STATES SS AND DESIGN. Cl. 21.
725,887. HYDROSTOP. Cl. 23.
725,895. CRATE MATE AND DESIGN. Cl. 23.
725,897. ROLAMAT. Cl. 23.
725,902. AVCORAMIC. Cl. 23.
725,907. AUTOMATIC COFFEE SHOPPE. Cl. 23.
725,917. SOUTHERN STATES SS AND DESIGN. Cl. 23.
725,920. FREE SPAN. Cl. 24.
725,921. THRIFTEX. Cl. 24.
725,923. DACOM. Cl. 26.
725,924. ABACUS INC. AND DESIGN. Cl. 26.
725,929. LUMATRON. Cl. 26.
725,930. DYNAMATIC. Cl. 26.
725,931. TRANSICORD. Cl. 26.
725,933. SB AND DESIGN. Cl. 26.
725,934. ULTRACOUPLER. Cl. 26.
725,935. ULTRAGAGE. Cl. 26.
725,936. ULTRACHART. Cl. 26.
725,940. NATAFLEX. Cl. 26.
725,942. DUOJECTOR. Cl. 26.
725,944. RIDL. Cl. 26.
725,950. SAV-A-LAB. Cl. 26.
725,951. KAR KAM. Cl. 26.
725,952. DIP-CHEK. Cl. 26.
725,956. LUMALITE. Cl. 26.
725,957. TRI ANGLE. Cl. 26.
725,958. DIGITIME. Cl. 26.
725,959. VARIOTRONIC. Cl. 26.
725,960. MINOCHOC. Cl. 27.
725,970. MODERNA COLLECTION. Cl. 32.
725,973. HYGENETTE. Cl. 32.
725,974. LI'L TEXAS SPREAD. Cl. 32.
725,979. ALASKAN. Cl. 34.
725,985. MODERNWAY. Cl. 34.
725,986. N-R. Cl. 35.
725,994. CRUSADE. Cl. 36.
725,997. IRONWEAR. Cl. 39.
725,998. T.V. STAR AND DESIGN. Cl. 39.
726,000. SEA BELLE. Cl. 39.
726,001. TAWNY TONES. Cl. 39.
726,002. ALIX OF MIAMI FLORIDA'S FIRST NAME IN AMERICAN FASHION. Cl. 39.
726,003. LEG-AMOUR. Cl. 39.
726,004. LIFESAVER. Cl. 39.
726,007. A BAMBURY ORIGINAL. Cl. 39.
726,010. SUZETTE JUNIOR. Cl. 39.
726,011. SUZETTE CLASSIC. Cl. 39.

726,012. KEY MODERNS. Cl. 39.
726,017. OPUS 1 AND DESIGN. Cl. 39.
726,018. WHIPPERSNAPPER. Cl. 39.
726,020. HEREFIT. Cl. 39.
726,023. SUDDENLY TRIM. Cl. 39.
726,026. TERRI-CORD. Cl. 42.
726,031. MINICARE NB. Cl. 42.
726,043. STUCCA. Cl. 44.
726,047. DISCO. Cl. 44.
726,048. CHARLEY WEAVER'S. Cl. 46.
726,049. GIFTIE PAK AND DESIGN. Cl. 50.
726,050. ADJUS TEEL AND DESIGN. Cl. 50.
726,052. MAGVYGEN. Cl. 50.
726,054. DERMAGENE. Cl. 51.
726,057. KLENAL. Cl. 6.
726,059. FROSTED CHERRY. Cl. 12.
726,060. COLONIAL CHERRY. Cl. 12.
726,061. NATURA CHERRY. Cl. 12.
726,063. TRABLETS. Cl. 18.
726,065. RETURN-A-BALL. Cl. 22.
726,067. LENTEN DEVOTIONS FOR YOUNG PEOPLE. Cl. 38.
726,069. OMNITON AND DESIGN. Cl. 44.
726,070. HEALTH AIDS. Cl. 44.
726,071. VITAMIZED. Cl. 46.
726,072. SPARIB. Cl. 46.
726,082. BREW-THRU. Cl. 46.
726,085. GRIFFIN'S DELICIOUS AND DESIGN. Cl. 46.
726,086. MOM FARLOW'S. Cl. 46.
726,104. CHARG 'N MAIL. Cl. 106.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

234,572. CAMPANA'S. Cl. 51. 11–1–27. Campana Corporation. Purex Corporation, Ltd., Lakewood, Calif. Amended to appear:

CAMPANA

433,968. CROWNLINER AND DESIGN. Cl. 37. 11–4–47. Crown Zellerbach Corporation, doing business as Crown Willamette Paper Company. Crown Zellerbach Corporation, San Francisco, Calif. Amended to appear:

CROWNLINER

434,494. LOURNAY. Cl. 51. 11–18–47. Colgate-Palmolive-Peet Company. Colgate-Palmolive Company, New York, N.Y. Amended to appear:

LOURNAY

665,835. HERSHEY'S. Cl. 46. 8–12–58. Hershey Creamery Company, Harrisburg, Pa. Amended: In the statement, column 2, line 1, "and butter" is deleted, line 2 is deleted and *First use at least by 1910; in commerce at least in 1920* is inserted.

714,502. VA AND DESIGN. Cl. 101. 4–25–61. Value Analysis, Inc., Schenectady, N.Y. Amended: In the statement, column 2, lines 7 and 8 are deleted, and the drawing is amended to appear:



773,833. NATIONAL MOTOR CLUB NMC AND DESIGN. Cl. 100. 7–21–64. National Motor Club, Inc. National Motor Club of Texas, Inc., Dallas, Tex. Corrected: In the statement, column 1, line 1, after "Club" *of Texas* should be inserted.

825,218. TEDDY AND DESIGN. Cl. 19. 3–7–67. Theodore Equipment Corporation, Woodridge, N.J. Corrected: In the statement, column 1, line 1, "New York" should be deleted and *New Jersey* should be inserted.

841,226. SEA-FIX. Cl. 26. 12–26–67. Decca Limited, London, England. Corrected: In the statement, column 2, line 2, "frequently" should be deleted and *frequency* should be inserted.

INDEX OF REGISTRANTS

FEBRUARY 20, 1968

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

AITS, Inc., from American International Travel Service, Inc., Chestnut Hill, Mass. 844,762, pub. 12–5–67. Cl. 105.
ARC Sound Ltd., Toronto, Ontario, Canada. 844,580, pub. 12–5–67. Cl. 36.
A/S Dumex (Dumex Ltd.), Copenhagen, Denmark. 726,043, canc. Cl. 44.
Abacus, Inc., Los Angeles, Calif. 725,924, canc. Cl. 26.
Abbott Laboratories, d.b.a. The Faultless Rubber Co., North Chicago, Ill. 844,483, pub. 12–5–67. Cl. 22.
Ace Hi Modern Furniture, Inc., Gardena, Calif. 844,407, pub. 12–5–67. Multiple Class (Classes 16 and 32).
Aero-Med Thermal Instrument Co., Inc., Rockville, Md. 844,670, pub. 12–5–67. Cl. 44.
Afco Electronics, Inc., Oakland, Calif. 844,445, pub. 12–5–67. Multiple Class (Classes 21 and 36).
Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 725,940, canc. Cl. 26.
Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 725,959, canc. Cl. 26.
Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany. 844,542, pub. 12–5–67. Cl. 26.
Ah Soo Chen, Newcastle-upon-Tyne, Northumberland, England. 844,675, pub. 12–5–67, Cl. 46.
Aircraft Armaments, Inc., Cockeysville, Md. 704,204, canc. Cl. 19.
Aircraft Armaments, Inc., Cockeysville, Md. 704,806–7, canc. Cl. 9.
Airkote, Inc., New York, N.Y. 725,831, canc. Cl. 16.
Airmaid Hosiery Mills, Dallas, Tex. 726,003, canc. Cl. 39.
Alderoftt, R. B., Downey, Calif. 844,539, pub. 12–5–67. Cl. 26.
Alix of Miami, Inc., Miami, Fla. 726,002, canc. Cl. 39.
Allergan Pharmaceuticals, Santa Ana, Calif. 844,414, pub. 12–5–67. Cl. 18.
Allied Compositions Co., Inc., Maspeth, N.Y. 844,349, pub. 12–5–67. Cl. 5.
Allied Farm Equipment, Inc., Chicago, Ill. 844,429, pub. 12–5–67. Multiple Class (Classes 19, 23, and 101).
Allied Stores Corp., d.b.a. The Bon Marche, Seattle, Wash. 844,608, pub. 12–5–67. Cl. 39.
Aluminum Specialty Co., Manitowoc, Wis. 844,388, pub. 12–5–67. Cl. 13.
Amercon Mfg. Corp., Inc., Coffeyville, Kans. 844,397, pub. 12–5–67. Cl. 14.
American Aniline Products, Inc., Paterson, N.J. 844,357, pub. 12–5–67. Cl. 6.
American Character, Inc., New York, N.Y. 844,480, pub. 12–5–67. Cl. 22.
American Cyanamid Co., Wayne, N.J. 844,354–5, pub. 12–5–67. Cl. 6.
American Dietaids Co., Inc., Yonkers, N.Y. 844,420, pub. 12–5–67. Cl. 18.
American Fishing Tackle Manufacturers Association, Chicago, Ill. 844,737, pub. 11–21–67. Cl. 100.
American Hoist & Derrick Co.: *See*—
Industrial Brownhoist Corp.
American Home Products Corp.: *See*—
Wyeth Inc.
American Home Products Corp., New York, N.Y. 844,386, pub. 12–5–67. Cl. 13.
American International Travel Service, Inc.: *See*—
AITS, Inc.
American Kawasaki Motorcycle Corp., Chicago, Ill. 844,432, pub. 12–5–67. Cl. 19.
American Luggage Works, Inc., Warren, R.I. 706,457, canc. Cl. 3.
American Optical Co., to American Optical Corp., Southbridge, Mass. 435,140, ren. 2–20–68. Cl. 2.
American Optical Corp.: *See*—
American Optical Co.
American Products Co., d.b.a. Zanol Products Co., to Royal Home Products, Inc., Richmond, Va. 434,549, canc. Cl. 4.
American Radiator & Standard Sanitary Corp., New York, N.Y. 844,447–9, pub. 12–5–67. Cl. 21.
American Standard Watch Case Co., Inc., Providence, R.I., and New York, N.Y., to Bulova Watch Co., Inc., Flushing, N.Y. 241,737–8, ren. 2–20–68. Cl. 27.
Ames Co., Inc., Elkhart, Ind. 726,063, canc. Cl. 18.
Amperex Electronic Corp., Hicksville, N.Y. 844,463, pub. 12–5–67. Cl. 21.
Anderson, C. W., Hosiery Co., Clinton, S.C. 844,636, pub. 12–5–67. Cl. 39.
Anderson & Thompson Ski Co., Inc., Seattle, Wash. 844,477, pub. 12–5–67. Cl. 22.
Anzac Electronics, Inc., Norwalk, Conn. 844,457, pub. 12–5–67. Cl. 21.
Apco Products Corp., New York, N.Y. 725,907, canc. Cl. 23.
Apollo Apparel, Inc., Andalusia, Ala. 844,649, pub. 12–5–67. Cl. 39.
Aqua Jet Pumps Ltd., Toronto, Ontario, Canada. 844,512–13, pub. 12–5–67. Cl. 23.
Arden-Mayfair, Inc., d.b.a. Low Cost Markets, Los Angeles, Calif. 844,358, pub. 12–5–67. Cl. 6.
Arquette, Cliff, Gettysburg, Pa. 726,048, canc. Cl. 46.
Arrow Metal Products Corp., Haskell, N.J. 844,372, pub. 12–5–67. Cl. 12.
Artley, Cay, Apparel, Inc., Johnstown, Pa. 726,010–11, canc. Cl. 39.
Asahi Optical Co., Ltd., Itabashi-ku, Tokyo, Japan. 844,534, pub. 12–5–67. Cl. 26.
Associated Events Co., Avon Lake, Ohio. 710,434, canc. Cl. 18.
Astor Products, Inc., Jacksonville, Fla. 726,082, canc. Cl. 46.
Audio Devices, Inc., New York, N.Y. 844,579, pub. 12–5–67. Cl. 36.
Au-Tenna Systems Co.: *See*—
Gray, John L.
Automatic Switch Co., Florham Park, N.J. 500,608, ren. 2–20–68. Cl. 21.
Avco Corp., Nashville, Tenn. 725,902, canc. Cl. 23.
Avon Products, Inc., New York, N.Y. 844,728, pub. 12–5–67. Cl. 51.
Axaline, Inc., Inglewood, Calif. 844,479, pub. 12–5–67. Cl. 22.
Ayres Corp., Wilmington, Calif. 844,533, pub. 12–5–67. Cl. 26.
Baldwin-Lima-Hamilton Corp.: *See*—
Cramp, Wm., & Sons Ship & Engine Building Co., The.
Bancroft, Joseph, & Sons Co., Wilmington, Del. 726,031, canc. Cl. 42.
Bard, C. R., Inc., Murray Hill, N.J. 844,660, pub. 12–5–67. Cl. 44.
Barmon Brothers Co., Inc., Buffalo, N.Y. 844,648, pub. 12–5–67. Cl. 39.
Baugh & Sons Co., The, to Kerr-McGee Chemical Corp., Baltimore, Md. 436,264, ren. 2–20–68. Cl. 10.
Baxter Laboratories, Inc., Morton Grove, Ill. 844,663, pub. 12–5–67. Cl. 44.
Bear Brand Hosiery Co., Chicago, Ill. 844,615, pub. 12–5–67. Cl. 39.
Bear Brand Hosiery Co., Chicago, Ill. 844,619, pub. 12–5–67. Cl. 39.
Beatrice Foods Co., Chicago, Ill. 844,699, pub. 12–5–67. Cl. 46.
Beaunit Corp., New York, N.Y. 844,338, pub. 12–5–67. Cl. 1.
Beaunit Corp., New York, N.Y. 844,652, pub. 12–5–67. Cl. 39.
Bechik Products, Inc., St. Paul, Minn. 500,639, ren. 2–20–68. Cl. 32.
Becton Dickinson and Co., E. Rutherford, N.J. 844,537–8, pub. 12–5–67. Cl. 26.
Bee Em Mfg. Co., Philadelphia, Pa. 725,997, canc. Cl. 39.
Beebe Rubber Co., Nasbua, N.H. 844,337, pub. 12–5–67. Cl. 1.
Beebe Rubber Co., Nasbua, N.H. 844,631, pub. 12–5–67. Cl. 39.
Beecham Group Ltd., d.b.a. The Pure Lemon Juice Co., Brentford, England. 844,686, pub. 12–5–67. Cl. 46.
Beecham Products Inc., Clifton, N.J. 844,733, pub. 12–5–67. Cl. 52.
Beech-Nut Life Savers, Inc., d.b.a. Martinson Coffee, New York, N.Y. 844,694, pub. 12–5–67. Cl. 46.
Bell Textile Co., Inc., New York, N.Y. 698,228, canc. Cl. 42.
Belle Maid Foundations, Inc., Brooklyn, N.Y. 726,000, canc. Cl. 39.
Belsinger Sign Works, Inc., Baltimore, Md. 844,442, pub. 12–5–67. Cl. 21.
Berkshire Candy Co., Shillington, Pa. 844,698, pub. 12–5–67. Cl. 46.
Better-Way, Inc., Chicago, Ill. 844,739, pub. 12–5–67. Cl. 100.
Betts Machine Co., Warren, Pa. 725,799, canc. Cl. 13.
Billboard Publishing Co., The, d.b.a. Watson-Guptill Publications, Cincinnati, Ohio. 844,599, pub. 12–5–67. Cl. 38.
Bio/Systems, Inc., Santa Monica, Calif. 844,661, pub. 12–5–67. Cl. 44.
Black Steer, The, Yankton, S. Dak. 844,735, pub. 12–5–67. Cl. 100.
Blume Knitwear, Inc., New York, N.Y. 702,970, canc. Cl. 39.
Bolkow Gesellschaft mit beschrankter Haftung, Ottobrunn, near Munich, Germany. 844,362, pub. 12–5–67, Multiple Class (Classes 9 and 19).
Bon Marche, The: *See*—
Allied Stores Corp.
Boston Publishing Co., Inc., Boston, Mass. 700,995, canc. Cl. 38.
Boyd Lane & Co. Pty. Ltd., Sydney, New South Wales, Australia. 844,346, pub. 12–5–67. Cl. 3.
Boylhart, William J., Robert E. Lovett, and James A. Dean, Los Angeles, Calif. 844,776. Cl. 38.
Bradford Dyeing Assn. (U.S.A.) Inc., Westerly, R.I. 844,763, pub. 12–5–67. Cl. 106.
Bradfute Corp., Eastchester, N.Y. 844,751, pub. 12–5–67. Cl. 101.
Brainpower, U.S.A., Inc., Los Angeles, Calif. 844,750, pub. 12–5–67. Cl. 101.
Brooks, J. B., & Co., Ltd., Birmingham, England. 98,628, canc. Cl. 3.

Bruder, M. A., & Sons, Inc., Philadelphia, Pa. 844,403, pub. 12–5–67. Cl. 16.
Buccellati Silver, Ltd., New York, N.Y. 844,562, pub. 12–5–67. Cl. 28.
Buchanan, James, & Co. Ltd., London, England. 68,310, ren. 2–20–68. Cl. 49.
Buck K-Ograph Co., St. Louis, Mo. 844,535, pub. 12–5–67. Cl. 26.
Buckaroo Steak Ranches, Inc., St. Louis, Mo., from Miller Brothers Co., Inc., Johnson City, Tenn. 844,745, pub. 12–5–67. Cl. 100.
Bulova Watch Co., Inc.: *See*—
American Standard Watch Case Co., Inc.
Bulova Watch Co., Inc., Flushing, N.Y. 241,715, ren. 2–20–68. Cl. 27.
Burgess Battery Co., Madison, Wis., to Clevite Corp., Freeport, Ill. 236,626, ren. 2–20–68. Cl. 21.
Butler, Maurice H., d.b.a. Yawler Boat Equipment Co., Arlington, Tex. 844,428, pub. 12–5–67. Cl. 19.
Campana Corp., Purex Corp., Ltd., Lakewood, Calif. 234,572. Am. 7(d). Cl. 51.
Cardiosonics Medical Instruments Corp.: *See*—
Minnesota Mining and Mfg.
Carnation Co., Los Angeles, Calif. 844,683, pub. 12–5–67. Cl. 46.
Caron Corp., New York, N.Y. 844,727, pub. 12–5–67. Cl. 51.
Carson Chemical Co., d.b.a. Shaving Powder Co., Savannah, Ga. 708,509, canc. Cl. 51.
Carvel, Thomas, Yonkers, N.Y. 844,700, pub. 12–5–67. Cl. 46.
Case, Helen, Ottawa, Ontario, Canada. 844,665, pub. 12–5–67. Cl. 44.
Cela Landwirtschaftliche Chemikalien G.m.b.H., Ingelheim, Rhine, Germany. 844,422, pub. 12–5–67. Cl. 18.
Celanese Corp., from Celanese Corp. of America, New York, N.Y. 844,609–11, pub. 12–5–67. Cl. 39.
Celanese Corp. of America: *See*—
Celanese Corp.
Certain-Teed Products Corp.: *See*—
Gustin-Bacon Mfg. Co.
Chadbourn Gotham, Inc., Charlotte, N.C. 844,632, pub. 12–5–67. Cl. 39.
Champion Paper & Fibre Co., The, to U.S. Plywood-Champion Papers Inc., Hamilton, Ohio. 500,202, ren. 2–20–68. Cl. 37.
Chesebrough-Pond's Inc., New York, N.Y. 844,731, pub. 12–5–67. Cl. 51.
Chevron Chemical Co., San Francisco, Calif. 844,576, pub. 12–5–67. Cl. 34.
China Grove Cotton Mills Co., The: *See*—
Hall, Gardiner, Jr. Co., The.
Chittick, Howard A., d.b.a. Fairfax Biological Laboratory, Clinton Corners, N.Y. 700,754, canc. Cl. 6.
Christensen Minkery, Cambridge, Wis. 844,335, pub. 12–5–67. Cl. 1.
Christophers, Inc., The, New York, N.Y. 844,597, pub. 12–5–67. Cl. 38.
Cities Service Oil Co., Tulsa, Okla. 844,353, pub. 12–5–67. Multiple Class (Classes 6, 15, 102, and 103).
Clairol Inc., New York, N.Y. 844,724, pub. 12–5–67. Cl. 51.
Clairol Inc., New York, N.Y. 844,726, pub. 12–5–67. Cl. 51.
Clevite Corp.: *See*—
Burgess Battery Co.
Cocktails by Mail, Inc., Omaha, Nebr. 844,594, pub. 12–5–67. Cl. 38.
Cohen, M., & Sons Shoes Co., Inc., New York, N.Y. 726,018, canc. Cl. 39.
Colgate-Palmolive-Peet Co. Colgate-Palmolive Co., New York, N.Y. 434,949. Am. 7(d). Cl. 51.
Colgems Records, Inc., New York, N.Y. 844,769, pub. 12–5–67. Cl. 107.
Colorite Plastics Co.: *See*—
Rexall Drug and Chemical Co.
Colts, Inc.: *See*—
Colt's Mfg. Co.
Colt's Mfg. Co., to Colts, Inc., Hartford, Conn. 436,574, ren. 2–20–68. Cl. 9.
Columbia Phonograph Co., New York, to Dictaphone Corp., Rye, N.Y. 66,997, ren. 2–20–68. Cl. 36.
Compagnie Generale de la Maille en Abrege Cogema, Paris, Seine, France. 844,623, pub. 12–5–67. Cl. 39.
Comroe Laboratories, Inc., Chicago, Ill. 725,952, canc. Cl. 26.
Congregational Publishing Society, d.b.a. The Pilgrim Press, Boston, Mass. 726,067, canc. Cl. 38.
Conoflow Corp., Blackwood, N.J. 844,567, pub. 12–5–67. Cl. 31.
Consolidated Electronics Industries Corp.: *See*—
Price Electric Corp.
Cook Electric Co., Chicago, Ill. 725,866, canc. Cl. 21.
Cooper, Ben, Inc., Brooklyn, N.Y. 725,998, canc. Cl. 39.
Corcoran, Inc.: *See*—
Corcoran, Joseph F., Shoe Co., Inc.
Corcoran, Joseph F., Shoe Co., Inc., d.b.a. Corcoran, Inc., Stoughton, Mass. 844,614, pub. 12–5–67. Cl. 39.
Corder Mfg. Co., Inc., Concordia, Mo. 844,439, pub. 12–5–67. Cl. 19.
Cornavin Watch S.A., Geneva, Switzerland. 844,552–3, pub. 12–5–67. Cl. 27.
Cortland Corset Co., Cortland, N.Y. 844,777. Cl. 39.
Cramp, Wm., & Sons Ship & Engine Building Co., The, Philadelphia, Pa., to Baldwin-Lima-Hamilton Corp., Chicago, Ill. 64,766, ren. 2–20–68. Cl. 14.
Crown Zellerbach Corp., d.b.a. Crown Willamette Paper Co., to Crown Zellerbach Corp., San Francisco, Calif. 433,968. Am. 7(d). Cl. 37.
Crusade Records, Inc., New York, N.Y. 725,994, canc. Cl. 36.
C-Thru Products Inc., Brooklyn, N.Y. 844,341, pub. 12–5–67. Cl. 2.
Cuddy Foods Ltd., Strathroy, Ontario, Canada. 844,689, pub. 12–5–67. Cl. 46.
D & G Plastics Co., Kent, Ohio. 844,383, pub. 12–5–67. Cl. 13.
Dairy Queen, Inc., North Hollywood, Calif. 844,672–4, pub. 12–5–67. Cl. 46.
Dairy Research Products, Inc., Yarmouth, Maine. 844,662, pub. 12–5–67. Cl. 44.
Dan River Mills, Inc., Danville, Va. 438,816, ren. 2–20–68. Cl. 42.
Danby Imported Cigar Corp., New York, N.Y. 844,411, pub. 12–5–67. Cl. 17.
Daniel's Den Inc., Saginaw, Mich. 844,766, pub. 12–5–67. Cl. 107.
Daroff, H., & Sons, Inc., Philadelphia, Pa. 844,620, pub. 12–5–67. Cl. 39.
Decca Ltd., London, England. 841,226, cor. Cl. 26.
Deering Milliken, Inc., New York, N.Y. 844,657, pub. 12–5–67. Cl. 42.
Deutsche Elektronik G.m.b.H., Berlin-Wilmersdorf, Germany. 726,069, canc. Cl. 44.
Dexco Corp., Detroit, Mich. 844,523, pub. 12–5–67. Cl. 23.
Diamond Alkali Co., Cleveland, Ohio. 844,344, pub. 12–5–67. Multiple Class (Classes 2, 13, 20, and 50).
Diamond Alkali Co., Cleveland, Ohio. 844,359, pub. 12–5–67. Cl. 6.
Diamond Crystal Salt Co., from Diamond Crystal Salt Co., St. Clair, Mich. 726,071, canc. Cl. 46.
Dictaphone Corp.: *See*—
Columbia Phonograph Co.
Disco Dental Imports Sales Co., Panorama City, Calif. 726,047, canc. Cl. 44.
Do-Ma Enterprises, Inc., Chicago, Ill. 726,065, canc. Cl. 22.
Doughten Seed Co., The, Jersey City, to Patco Products, Inc., Moonachie, N.J. 438,948, ren. 2–20–68. Cl. 1.
Dow Chemical Co., The, Midland, Mich. 844,370, pub. 12–5–67. Cl. 12.
Dow Chemical Co., The, Midland, Mich. 844,515, pub. 12–5–67. Cl. 23.
Du Bois, A., & Son, Inc., New York, N.Y. 844,642, pub. 12–5–67. Cl. 39.
Dunlop Tire & Rubber Corp., Buffalo, N.Y. 844,487, pub. 12–5–67. Cl. 22.
Durkee Famous Foods: *See*—
Glidden Co., The.
SCM Corp.
Earnest Machine Products Co., Cleveland, Ohio. 844,374, pub. 12–5–67. Cl. 13.
Eastman Kodak Co., Rochester, N.Y. 725,923, canc. Cl. 26.
Echevarria, Daniel, New York, N.Y. 844,676, pub. 12–5–67. Cl. 46.
Egel, Irving J., d.b.a. Larry Guthman Co., and LaRay of Miami, Miami, Fla. 844,558, pub. 12–5–67. Cl. 28.
Electric Storage Battery Co., The, Philadelphia, Pa. 725,865, canc. Cl. 21.
Electro Methods Ltd., Stevenage, England. 725,931, canc. Cl. 26.
Electronic Sensor Co., Inc., Cherry Hill, N.J. 844,541, pub. 12–5–67. Cl. 26.
Electrosnap Corp., Chicago, Ill. 697,789, canc. Cl. 26.
El-Tronics, Inc., Warren, Pa. 844,454, pub. 12–5–67. Cl. 21.
Englishtown Corp., The, New York, N.Y. 844,433, pub. 12–5–67. Cl. 19.
Englishtown Corp., The, New York, N.Y. 844,478, pub. 12–5–67. Cl. 22.
Epoxon Corp., San Francisco, Calif. 844,351, pub. 12–5–67. Cl. 6.
Erie Resistor Corp., Erie, Pa. 703,174, canc. Cl. 21.
Ernst, Inc., San Francisco, Calif. 844,347, pub. 12–5–67. Cl. 3.
Eskimo Pie Corp., Richmond, Va. 844,690–1, pub. 12–5–67. Cl. 46.
Eskimo Pie Corp., Richmond, Va. 844,705, pub. 12–5–67. Cl. 46.
Essex Wire Corp., Fort Wayne, Ind. 844,472, pub. 12–5–67. Cl. 21.
Eterna Products Co.: *See*—
Rubin, M. B., Associates, Inc.
FMC Corp., San Jose, Calif. 844,514, pub. 12–5–67. Cl. 23.
Fairfax Biological Laboratory: *See*—
Chittick, Howard.
Faultless Rubber Co., The: *See*—
Abbott Laboratories.
Federated Department Stores, Inc., Brooklyn, N.Y. 844,626, pub. 12–5–67. Cl. 39.
Fedtro, Inc., Rockville Centre, N.Y. 844,461, pub. 12–5–67. Cl. 21.
Fieldcrest Mills, Inc., Spray, N.C. 697,523, canc. Cl. 42.
Fimco, Lake Park, Fla. 844,378, pub. 12–5–67. Cl. 13.
Flecto Co., Inc., The, Oakland, Calif. 844,371, pub. 12–5–67. Cl. 12.
Floratose Laboratory: *See*—
Occy-Crystine Corp., The.
Florida Atlantic University, Unincorporated Assoc., Boca Raton, Fla. 844,765, pub. 12–5–67. Cl. 107.
Florists' Transworld Delivery Assn., Detroit, Mich. 844,748, pub. 12–5–67. Cl. 101.
Fluid Power Ltd., Richmond, Surrey, England. 844,373, pub. 12–5–67. Cl. 13.
Food Industries Corp., Dallas, Tex. 844,707, pub. 12–5–67. Cl. 46.
Food Technology, Inc., Chicago, Ill. 844,681, pub. 12–5–67. Cl. 46.
Ford Motor Co., Dearborn, Mich. 844,438, pub. 12–5–67. Cl. 19.
Foregger Co., Inc., The, Roslyn Heights, N.Y. 844,666, pub. 12–5–67. Cl. 44.

Fox River Paper Corp., Appleton, Wis. 844,587–92, pub. 12–5–67. Cl. 37.
Frederick, Purdue, Co., The, Yonkers, N.Y. 844,417, pub. 10–24–67. Cl. 18.
Freeman Shoe Corp., Beloit, Wis. 726,012, canc. Cl. 39.
Fuld Brothers, Inc., Baltimore, Md. 725,768, canc. Cl. 4.
Fuller & Co., San Francisco, Calif. 725,786, canc. Cl. 12.
Furstenberg Ehemalige Herzoglich Braunschweigische Porzellanmanufaktur, Furstenberg (Weser), Germany. 844,566, pub. 12–5–67. Cl. 30.
Garlock Inc., Palmyra, N.Y. 844,381, pub. 12–5–67. Multiple Class (Classes 13, 16, and 20).
Gary-Howe Corp., New York, N.Y. 712,019, canc. Cl. 18.
General Electric Co., Schenectady, N.Y. 725,920, canc. Cl. 24.
General Electric Co., Schenectady, N.Y. 844,469, pub. 12–5–67. Cl. 21.
General Fireproofing Co., The, Youngstown, Ohio. 844,336, pub. 12–5–67. Cl. 1.
General Mills, Inc., Minneapolis, Minn. 844,677, pub. 12–5–67. Cl. 46.
General Mills, Inc., Minneapolis, Minn. 844,709–10, pub. 12–5–67. Cl. 46.
General Portland Cement Co., Chicago, Ill. 844,366, pub. 12–5–67. Cl. 12.
General Precision Systems Inc.: *See*—
Link Aviation Devices, Inc.
General Tire & Rubber Co., The, Akron, Ohio. 726,052, canc. Cl. 50.
Georgia International Life Insurance Co., Atlanta, Ga. 844,756. pub. 12–5–67. Cl. 102.
Georgia-Pacific Corp., Portland, Oreg. 844,682, pub. 12–5–67. Cl. 46.
Gets Prescription Co., Kansas City, Mo. 844,746, pub. 10–12–65. Cl. 101.
Giftie Pak Co., Dallas, Tex. 726,049, canc. Cl. 50.
Gilbert, George, New York, N.Y. 725,867, canc. Cl. 21.
Giola, Alfonso, and Sons, Inc., Rochester, N.Y. 844,704, pub. 12–5–67. Cl. 46.
Glen Raven Knitting Mills, Inc., Glen Raven, N.C. 844,641, pub. 12–5–67. Cl. 39.
Glidden Co., The: *See*—
SCM Corp.
Gold, William, Inc., New York, N.Y. 725,778, canc. Cl. 12.
Goldberger Doll Mfg. Co., Inc., Brooklyn, N.Y. 844,476, pub. 12–5–67. Cl. 22.
Goldring Inc., New York, N.Y. 844,613, pub. 12–5–67. Cl. 39.
Goodman, Stanley, d.b.a. Plas-Stick Mfg. Co., Westwood, N.J. 844,790. Cl. 50.
Good-Will Greetings, Inc., Mineola, N.Y. 844,585, pub. 12–5–67. Cl. 37.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 725,986, canc. Cl. 35.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 844,578, pub. 12–5–67. Cl. 35.
Grace, W. R., & Co., New York, N.Y. 844,782. Cl. 52.
Granny Goose Foods, Inc., Oakland, Calif., d.b.a. Spuds, Inc., Brooklyn, N.Y. 844,693. pub. 12–5–67. Cl. 46.
Graphic Controls Corp., Buffalo, N.Y. 844,584, pub. 12–5–67. Cl. 37.
Gray Co., Inc., Minneapolis, Minn. 844,517–18, pub. 12–5–67. Cl. 23.
Gray, John L., d.b.a. Au-Tenna Systems Co., New Canaan, Conn. 844,464. pub. 12–5–67 Cl. 21.
Great Eastern Food Products Co., Inc., Newark, N.J. 844,687, pub. 12–5–67. Cl. 46.
Great Lakes Paint and Varnish Co., Chicago, Ill. 725,825, canc. Cl. 16.
Green, Ralph W., d.b.a. Life Saver Garment & Disposable Pad Co., Vero Beach, Fla. 726,004 canc. Cl. 39.
Griffin, Frank J. C. and Olga K. Griffin, Tubac, Ariz. 699,019, canc. Cl. 38.
Griffin, J. B., Co.: *See*—
Griffin, Jerome B.
Griffin, Jerome B., d.b.a. J. B. Griffin Co., Norfolk, Va. 726,085, canc. Cl. 46.
Grossman, Harry & Dan, Furs, Inc., New York, N.Y. 726,001, canc. Cl. 39.
Gund Mfg. Co.: *See*—
Swedlin, J., Inc.
Gustin-Bacon Mfg. Co., Kansas City, Mo., to Certain-Teed Products Corp., Ardmore, Pa. 438,737, ren. 2–20–68. Cl. 32.
Gustin-Bacon Mfg. Co., Kansas City, Mo., to Certain-Teed Products Corp., Ardmore, Pa. 500,585, ren. 2–20–68. Cl. 12.
Guthman, Larry, Co.: *See*—
Engel, Irving J.
Hagin, Forest P., Garland, Tex. 844,475. pub. 12–5–67. Cl. 22.
Hall, Gardiner, Jr. Co., The, South Willington, Conn., and New York, N.Y., to The China Grove Cotton Mills Co., China Grove, N.C. 239,715, ren. 2–20–68. Cl. 43.
Hallmark Laboratories, Inc., Tuckahoe, N.Y. 726,054, canc. Cl. 51.
Hanish, Norman J., from R. D. Hanish Co., Columbus, Ohio. 844,356, pub. 10–24–67. Cl. 6.
Hanish, R. D., Co.: *See*—
Hanish, Norman J.
Harris Paint Co., Tampa, Fla. 844,402. pub. 12–5–67. Cl. 16.
Harvey, G. F., Co., Inc., The, New York, N.Y. 725,839, canc. Cl. 18.
Harvey Window Corp., Dorchester, Mass. 725,795, canc. Cl. 12.
Haydon Auto Painting Systems, Inc., New York, N.Y. 725,834–5, canc. Cl. 16.
Health Aids, Inc.: *See*—
Spalding, A. G., & Bros. Inc.
Healthways, Los Angeles, Calif. 844,494. pub. 12–5–67. Cl. 22.
Hearst Corp., The, New York, N.Y. 844,605, pub. 12–5–67. Cl. 38.
Hershey Creamery Co., Harrisburg, Pa. 665,835. Am. 7(d). Cl. 46.
Highland Blending Co.: *See*—
Stenham, H., Ltd.
Hookrite Products Corp., Brooklyn, N.Y. 725,778, canc. Cl. 10.
Hornblower & Weeks-Hemphill, Noyes, Ltd., New York, N.Y. 844,604, pub. 12–5–67. Cl. 38.
Hornblower & Weeks-Hemphill, Noyes, Ltd., New York, N.Y. 844,759, pub. 12–5–67. Cl. 102.
Horst, Wolfgang B., d.b.a. Melitta-Werke Bentz & Sohn, Minden, Westphalia, Germany. 844,564–5, pub. 12–5–67. Multiple Class (Classes 30, 31, and 33).
Hospital Publications, Inc., Cleveland, Tenn. 844,596, pub. 12–5–67. Cl. 38.
Houbigant, Inc., New York, N.Y. 844,732, pub. 12–5–67. Cl. 52.
Huddlespun Inc., New York, N.Y. 844,638, pub. 12–5–67. Cl. 39.
Hudson, J. L., Co., The, Detroit, Mich. 844,595, pub. 12–5–67. Cl. 38.
Hughes, Tex: *See*—
Johnson & Johnson.
Hunt Electronics Co., Dallas, Tex. 844,453, pub. 12–5–67. Cl. 21.
Hunt Electronics Co., Dallas, Tex. 844,458, pub. 12–5–67. Cl. 21.
Hunter Associates Laboratory, Inc., Fairfax, Va. 844,545, pub. 12–5–67. Cl. 26.
Hygrade Food Products Corp.: *See*—
Kingan & Co., Ltd.
Hyran, Inc., Los Angeles, Calif. 726,104, canc. Cl. 106.
Ilex Optical Co., Inc., Rochester, N.Y. 844,532, pub. 12–5–67. Cl. 26.
India Refining Co., Philadelphia, Pa., to SCM Corp., Cleveland, Ohio. 69,456, ren. 2–20–68. Cl. 46.
Industrial Brownhoist Corp., Bay City, Mich., to American Hoist & Derrick Co., St. Paul, Minn. 436,355, ren. 2–20–68. Cl. 23.
Industrial Tape Corp., North Brunswick, to Johnson & Johnson, d.b.a. Permacel, New Brunswick, N.J. 435,827, ren. 2–20–68. Cl. 5.
Information Research Associates, Inc., Lexington, Mass. 844,742–3, pub. 12–5–67. Cl. 100.
Instrument Corp. of Florida, Melbourne, Fla. 725,958, canc. Cl. 26.
Instrument Systems Corp., New York, N.Y. 844,470. pub. 12–5–67. Cl. 21.
Intercontinental Import & Export Co., Inc., Chicago, Ill. 844,715, pub. 12–5–67. Cl. 49.
International Assemblix Corp., Toledo, Ohio. 844,718, pub. 12–5–67. Cl. 50.
International Basic Economy Corp., New York, N.Y. 725,872, canc. Cl. 21.
International Electric Fence Co., Inc., Albert Lea, Minn. 844,459–60, pub. 12–5–67. Cl. 21.
International Equipment Co., Needham Heights, Mass. 844,352, pub. 9–12–67. Cl. 6.
International Inspection, Inc., Pasadena, Calif. 725,934–6, canc. Cl. 26.
International Milling Co., Inc., Minneapolis, Minn. 844,712, pub. 12–5–67. Cl. 46.
International Motor Co., New York, N.Y., to Mack Trucks, Inc., Allentown, Pa. 138,761, ren. 2–20–68. Cl. 19.
J/P Imports, Inc., Cincinnati, Ohio. 844,624, pub. 12–5–67. Cl. 39.
Janssen Pharmaceutica N.V., Beerse, Belgium. 844,415, pub. 12–5–67. Cl. 18.
Jay International Corp., The, Palatine, Ill. 844,540, pub. 12–5–67. Cl. 26.
Jenard Co.: *See*—
Kaskey, Richard A.
Jocelyn Iron & Steel Corp., Chicago, Ill. 726,050, canc. Cl. 50.
Johnson, Donald L., San Pedro, Calif. 844,481, pub. 12–5–67. Cl. 22.
Johnson & Johnson: *See*—
Industrial Tape Corp.
Johnson & Johnson, New Brunswick, N.J. 844,507, pub. 12–5–67. Cl. 23.
Johnson & Johnson, d.b.a. Tex Hughes, New Brunswick, N.J. 725,764, canc. Cl. 3.
Johnson, Mead & Co., Evansville, Ind. 844,708, pub. 12–5–67. Cl. 46.
Johnston & Murphy, Nashville, Tenn. 844,621, pub. 12–5–67. Cl. 39.
Joslyn Mfg. and Supply Co., Chicago, Ill. 844,575, pub. 12–5–67. Cl. 34.
Just Mfg. Co., Franklin Park, Ill. 844,390, pub. 12–5–67. Cl. 13.
Kaskey, Richard A., d.b.a. Jenard Co., Narberth, Pa. 844,563, pub. 12–5–67. Cl. 29.
Keebler Co., from United Biscuit Co. of America, Melrose Park, Ill. 844,339, pub. 12–5–67. Cl. 2.
Keebler Co., Elmhurst, Ill. 844,688, pub. 12–5–67. Cl. 46.
Kemp, E. F., Corp.: *See*—
Kemp, Edward F.
Kemp, Edward F., d.b.a. Radio Nut Co., to E. F. Kemp Corp., Somerville, Mass. 241,381, ren. 2–20–68. Cl. 46.
Kennedy Baby Bath Corp., Chattanooga, Tenn. 725,973, canc. Cl. 32.
Kerr-McGee Chemical Corp.: *See*—
Baugh & Sons Co., The.
Kingan & Co., Ltd., Belfast, Ireland, Indianapolis, Ind., Baltimore, Md., and Richmond, Va., to Hygrade Food Products Corp., Detroit, Mich. 66,699, ren. 2–20–68. Cl. 46.
Klo-Strickenfabrik, Leiss, Heil & Co.: *See*—
Leiss, Alfred, and Walter Heil.

Knapp-Sherriff-Koelle, Inc., Donna, Tex. 844,692, pub. 12–5–67. Cl. 46.
Knoll, H. G., & Co., Inc.: *See*—
Occy-Crystine Corp., The.
Kramer, Paul, Lausanne, Switzerland. 705,713, canc. Cl. 44.
LTV Ling Altec, Inc., Anaheim, Calif. 844,471, pub. 12–5–67. Cl. 21.
La Bow, Haynes, Co., Inc., Seattle, Wash. 844,758, pub. 12–5–67. Cl. 102.
Landsman, Jerome L., Skokie, Ill. 844,600, pub. 12–5–67. Cl. 38.
Lane Ltd., New York, N.Y. 844,412, pub. 12–5–67. Cl. 17.
La Ray of Miami: *See*—
Engel, Irving J.
Lecomte, A., Co., Inc., New Rochelle, N.Y. 844,434, pub. 12–5–67. Cl. 19.
Leiss, Alfred, and Walter Heil, d.b.a. Klo-Strickenfabrik, Leiss, Heil & Co., Selbitz, Germany. 844,607, pub. 12–5–67. Cl. 39.
Le Mans Time Corp., Yonkers, N.Y. 844,557, pub. 12–5–67. Cl. 27.
Les Fabriques d'Assortments Reunies, Le Locle, Switzerland. 844,529, pub. 12–5–67. Cl. 26.
Levi Strauss & Co., San Francisco, Calif. 844,639, pub. 12–5–67. Cl. 39.
Life Saver Garment & Disposable Pad Co.: *See*—
Green, Ralph W.
Li'l Texas Spread, Inc., Newport News, Va. 725,974, canc. Cl. 32.
Lilly, Eli, & Co., Indianapolis, Ind. 844,774. Cl. 18.
Lincoln Chemical Co., Inc., Worcester, Mass. 844,771. Cl. 6.
Linde Air Products Co., The, to Union Carbide Corp., New York, N.Y. 438,190, ren. 2–20–68. Cl. 4.
Line-O-Scribe, Inc., Adrian, Mich., to The Morgan Sign Machine Co., Chicago, Ill. 237,733, ren. 2–20–68. Cl. 23.
Link Aviation Devices, Inc., now by change of name Link Aviation, Inc., Fenton, to General Precision Systems Inc., Tarrytown, N.Y. 438,568, ren. 2–20–68. Cl. 26.
Link Aviation, Inc.: *See*—
Link Aviation Devices, Inc.
Littonian Shoe Co., Littlestown, Pa. 436,959, ren. 2–20–68. Cl. 39.
Logetronics Inc., Springfield, Va. 844,548, pub. 12–5–67. Cl. 26.
Low Cost Markets: *See*—
Arden-Mayfair, Inc.
Lumatron Electronics, Inc., New Hyde Park, N.Y. 725,929, canc. Cl. 26.
Lynch, J. M., & Bro., Louisville, Ky. 700,227, canc. Cl. 39.
MM & C Co., Inc., Fort Walton Beach, Fla. 725,816, canc. Cl. 15.
Mack Trucks, Inc.: *See*—
International Motor Co.
MacMahon, Paul H., Arlington, Va. 844,440–1, pub. 12–5–67. Cl. 19.
Main Line Distributors, Inc., Toledo, Ohio. 844,465–7, pub. 12–5–67. Multiple Class (Classes 21, 24, 31, 34, and 36).
Major Slicing Machine Corp., Walden, N.Y. 700,495, canc. Cl. 23.
Management Counselors, Inc., Chicago, Ill. 844,749, pub. 12–5–67. Cl. 101.
Manzels, Arthur C., Industries, Inc., Philadelphia, Pa. 844,778. Cl. 16.
Manifold Supplies Co., Brooklyn, N.Y. 435,339, ren. 2–20–68. Cl. 11.
Manifold Supplies Co., New York and Brooklyn, N.Y. 435,346, ren. 2–20–68. Cl. 11.
Mannesmann Aktiengesellschaft, Dusseldorf, Germany. 725,887, canc. Cl. 23.
Manufacture d'Armes & Cycles de Chatellerault (M.A.C.C.), Chatellerault, France. 844,720, pub. 12–5–67. Cl. 50.
Mar-Tec International, Inc., Seattle, Wash. 844,747, pub. 12–5–67. Cl. 101.
Martinson Coffee: *See*—
Beech-Nut Life Savers, Inc.
Maryland Bedding Co., The d.b.a. Sealy Mattress Co., Baltimore, Md. 844,569, pub. 12–5–67. Cl. 32.
Masonite Corp., Chicago, Ill. 726,059–61, canc. Cl. 12.
Master Photo Dealers' & Finishers' Association, Jackson, Mich. 844,784. Cl. 101.
Mastercraft Pipes, New York, N.Y. 844,361, pub. 12–5–67. Cl. 8.
Matouk, John, & Co., New York, N.Y. 435,271, ren. 2–20–68. Cl. 42.
Mattel, Inc., Hawthorne, Calif. 844,486, pub. 12–5–67. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 844,498–9, pub. 12–5–67. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 844,501–3, pub. 12–5–67. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 844,505, pub. 12–5–67. Cl. 22.
McDonald, Michael J., Ontario, Calif. 844,474, pub. 12–5–67. Cl. 22.
McGregor-Doniger Inc., New York, N.Y. 844,628, pub. 12–5–67. Cl. 39.
McGregor-Doniger Inc., New York, N.Y. 844,637, pub. 12–5–67. Cl. 39.
Melitta-Werke Bentz & Sohn: *See*—
Horst, Wolfgang B.
Melville Shoe Corp., New York, N.Y. 844,640, pub. 12–5–67. Cl. 39.
Mendel, H., & Co., Inc., Atlanta, Ga. 844,647, pub. 12–5–67. Cl. 39.
Mengel Co., The, Louisville, Ky., to U.S. Plywood-Champion Papers Inc., New York, N.Y. 437,098, ren. 2–20–68. Cl. 12.
Mennen Co., The, Morristown, N.J. 844,729–30, pub. 12–5–67. Cl. 51.
Merck & Co., Inc.: *See*—
Sharp & Dohme, Inc.
Merneico, Inc., Sparta, Mich. 844,387, pub. 12–5–67. Cl. 13.
Merrell, Wm. S., Co., The, Cincinnati, Ohio. 703,820, canc. Cl. 18.
Merrill Anderson Co., Inc., The, New York, N.Y. 844,602, pub. 12–5–67. Cl. 38.
Metal Edge Industries, Barrington, N.J. 844,752, pub. 12–5–67. Cl. 101.
Midget Motors Corp., Athens, Ohio. 844,437, pub. 12–5–67. Cl. 19.
Miles Laboratories, Inc., Elkhart, Ind. 844,850, pub. 9–26–67. Cl. 6.
Miller Bros. Co., Inc.: *See*—
Buckaroo Steak Ranches, Inc.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 844,398, pub. 12–5–67. Cl. 14.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 844,525–6, pub. 12–5–67. Cl. 23.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 844,549, pub. 12–5–67. Cl. 26.
Minnesota Mining and Mfg. Co., St. Paul, Minn., d.b.a. Cardiosonics Medical Instruments Corp., Cambridge, Mass. 844,664, pub. 12–5–67. Cl. 44.
Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan. 844,426–7, pub. 12–5–67. Cl. 19.
Mom Farlow's Inc., Pittsville, Md. 726,086, canc. Cl. 46.
Monarch Metal Products, Inc., New Windsor, N.Y. 844,570, pub. 12–5–67. Cl. 32.
Monotone Mfg. Co., Hazleton, Pa. 844,435, pub. 12–5–67. Cl. 19.
Montres Cortebert, Juillard & Cie., S.A., Bienne, Switzerland. 844,556, pub. 12–5–67. Cl. 27.
Moore, Benjamin, & Co., New York, N.Y. 435,887, ren. 2–20–68. Cl. 16.
Morgan Sign Machine Co., The: *See*—
Line-O-Scribe, Inc.
Movado Watch Agency, Inc., New York, N.Y. 844,550–1, pub. 12–5–67. Cl. 27.
Movado Watch Agency, Inc., New York, N.Y. 844,555, pub. 12–5–67. Cl. 27.
Mustee, E. L., & Sons, Inc., Cleveland, Ohio. 725,985, canc. Cl. 34.
Naremco, Inc., Springfield, Mo. 844,416, pub. 12–5–67. Cl. 18.
National Distillers and Chemical Corp., d.b.a. National Distillers Products Co., and W. & A. Gilbey, Ltd., New York, N.Y. 844,716, pub. 12–5–67. Cl. 49.
National Distillers Products Co.: *See*—
National Distillers and Chemical Corp.
National Engineering & Mfg., Inc.: *See*—
Steam-O-Matic, The.
National Metal Products Co., Pittsburgh, Pa. 725,804, canc. Cl. 13.
National Motor Club, Inc., National Motor Club of Texas, Inc., Dallas, Tex. 773,833, cor. Cl. 100.
National Stamping & Electric Works, St. Louis, Mo. 844,573, pub. 12–5–67. Cl. 34.
Nelson, L. R., Mfg. Co., Inc., Peoria, Ill. 725,807, canc. Cl. 13.
Nemer, Samuel N., Minneapolis, Minn. 725,951, canc. Cl. 26.
Nestle Co., Inc., The, White Plains, N.Y. 844,684, pub. 9–19–67. Cl. 46.
New Orleans Saints, New Orleans, La. 844,767, pub. 12–5–67. Cl. 107.
New York Air Brake Co., The, New York, N.Y. 844,380, pub. 12–5–67. Cl. 13.
New York Merchandise Co., Inc., New York, N.Y. 844,622, pub. 12–5–67. Cl. 39.
New Yorker Magazine, Inc., The, New York, N.Y. 844,606, pub. 12–5–67. Cl. 38.
Newell Corp., Madison, Wis. 844,544, pub. 12–5–67. Cl. 26.
Night-Eye, Inc., Iowa City, Iowa. 844,455, pub. 12–5–67. Multiple Class (Classes 21 and 103).
Nikko Denki Kogyo Kabushiki Kaisha (Nikko Electric Industry Co., Ltd.), Tokyo, Japan. 844,430, pub. 12–5–67. Cl. 19.
Nivada A.G. (Nivada, S.A., Nivada, Ltd.), Solothurn, Switzerland. 844 554, pub. 12–5–67. Cl. 27.
No Worry Chemical Co., The, Newark, N.J. 232,905, ren. 2–20–68. Cl. 52.
Nolin Mfg. Co., Inc., Montgomery, Ala. 844,568, pub. 12–5–67. Cl. 31.
Nolin Mfg. Co., Inc., Montgomery, Ala. 844,572, pub. 12–5–67. Cl. 32.
Norcross, Inc., New York, N.Y. 844,598, pub. 12–5–67. Cl. 38.
Nordquist, Arvid, Handelsaktiebolag, Stockholm, Sweden. 844 697, pub. 12–5–67. Cl. 46.
Norfolk Paint Corp., d.b.a. Nuclear Research Associates, Quincy, Mass. 725,832, canc. Cl. 16.
Northwestern Corp., The, Morris, Ill. 844,500, pub. 12–5–67. Cl. 22.
Novochoc S.A., La Chaux-De-Fonds, Switzerland. 725,960, canc. Cl. 27.
Nuclear Research Associates: *See*—
Norfolk Paint Corp.
Oak Cliff Savings & Loan Assn., Dallas, Tex. 844,754, pub. 12–5–67. Cl. 102.
Occy-Crystine Corp., The, d.b.a. Floratose Laboratory, Salisbury, Conn., to H. G. Knoll & Co., Inc., Hewlett, N.Y. 437,775 ren. 2–20–68. Cl. 18.
Old Fashion, Inc.: *See*—
One Mor, Inc.
Olga Co., Van Nuys, Calif. 726,023, canc. Cl. 39.
Olson Mfg. Co., Ames, Iowa. 844,531, pub. 12–5–67. Cl. 26.
Omaha National Bank, The, Omaha, Nebr. 844,755, pub. 12–5–67. Cl. 102.
One Mor, Inc., to Old Fashion, Inc., Wilkes-Barre, Pa. 439,007, ren. 2–20–68. Cl. 45.

Oneida Ltd., Oneida, N.Y. 844,559, pub. 12–5–67. Cl. 28.
Opus 1 of Cambridge, Inc., Cambridge, Mass. 726,017, canc. Cl. 39.
Orbital Laboratories Ltd., Vancouver, British Columbia, Canada. 844,722–23, pub. 12–5–67. Cl. 51.
Oxford Industries, Inc., d.b.a. Oxford Mfg. Co., Atlanta, Ga. 844,627, pub. 12–5–67. Cl. 39.
Oxford Mfg. Co.: *See*—
Oxford Industries, Inc.
Pacific Alaska Fisheries, Inc.: *See*—
Pacific American Fisheries, Inc.
Pacific Alaska Fisheries, Inc., Seattle, Wash. 844,696, pub. 12–5–67. Cl. 46.
Pacific Alaska Fisheries, Inc., Seattle, Wash. 844,701, pub. 12–5–67. Cl. 46.
Pacific American Fisheries, Inc., South Bellingham, to Pacific Alaska Fisheries, Inc., Seattle, Wash. 438,559, ren. 2–20–68. Cl. 46.
Package Containers, Inc., Portland, Oreg. 844,772. Cl. 7.
Packard-Bell Electronics Corp., Los Angeles, Calif. 725,854, canc. Cl. 21.
Paddock of Calif., Inc., Albany, N.Y. 844,365, pub. 12–5–67. Cl. 12.
Painting & Decorating Contractors of America, Inc., Chicago, Ill. 844,744, pub. 12–5–67. Multiple Class (Classes 100 and 200).
Pallelo F., & Co., Inc., New York, N.Y. 844,410, pub. 12–5–67. Cl. 17.
Palmedico, Inc., Columbia, S.C. 844,419–8, pub. 12–5–67. Cl. 18.
Paper Converting Corp., Chicago, Ill. 844,583, pub. 12–5–67. Cl. 37.
Paramedical Packaging Co., Inc., New York, N.Y. 844,343, pub. 12–5–67. Cl. 2.
Paramount Supply, Inc., Chicago, Ill. 725,885, canc. Cl. 21.
Park & Tilford, New York, N.Y., to Thayer-Knomark, Inc., Springfield Gardens, N.Y. 235,676, ren. 2–20–68. Cl. 6.
Parke, Davis & Co., Detroit, Mich. 500,228, ren. 2–20–68. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 500,405, ren. 2–20–68. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 844,667, pub. 12–5–67. Cl. 44.
Parker Shoes Ltd., Leicester, England. 438,984, ren. 2–20–68. Cl. 39.
Pateo Products, Inc.: *See*—
Doughten Seed Co., The.
Perf-O-Strut, Inc., Wayne, Mich. 698,827, canc. Cl. 12.
Permacel: *See*—
Industrial Tape Corp.
Permanent Pigments, Inc., Norwood, Ohio. 844,408, pub. 12–5–67. Cl. 16.
Personality Plastics Inc., New York, N.Y. 435,875, ren. 2–20–68. Cl. 50.
Petit Leigue, Inc., Philadelphia, Pa. 844,653, pub. 12–5–67. Cl. 39.
Pfueger Corp., Akron, Ohio. 844,488–9, pub. 12–5–67. Cl. 22.
Pfueger Corp., Akron, Ohio. 844,492–3, pub. 12–5–67. Cl. 22.
Physicians Supply Co., The: *See*—
Steube, John W.
Picker X-Ray Corp., White Plains, N.Y. 844,778. Cl. 44.
Pico Corp., Conshohocken, Pa. 844 575, pub. 12–5–67. Cl. 18.
Pictorial Productions, Inc., Mount Vernon, N.Y. 844,717, pub. 12–5–67. Cl. 50.
Pilgrim Press, The: *See*—
Congregational Publishing Society.
Pillsbury Co., The, Minneapolis, Minn. 844,695, pub. 12–5–67. Cl. 46.
Pinehurst Textiles, Inc., Asheboro, N.C. 844,629, pub. 12–5–67. Cl. 39.
Plas-Stick Mfg. Co.: *See*—
Goodman, Stanley.
Plastic Enterprises, Inc., Independence, Mo. 844,719, pub. 12–5–67. Cl. 50.
Popper & Sons, Inc., New York, N.Y. 844,668, pub. 12–5–67. Cl. 44.
Port-O-Fino, Redondo Beach, Calif. 844,736, pub. 12–5–67. Cl. 100.
Practical Mfg. Co., New York, N.Y. 844,385, pub. 12–5–67. Cl. 13.
Presidential Life Insurance Co. of America, The, Chicago, Ill. 844,757, pub. 12–5–67. Cl. 102.
Price Electric Corp., to Consolidated Electronics Industries Corp., Frederick, Md. 437,356, ren. 2–20–68. Cl. 21.
Professional Panhellenic Association, Arlington, Va. 844,768, pub. 12–5–67. Cl. 107.
Pure Lemon Juice Co., The: *See*—
Beecham Group Ltd.
Purex Corp., Ltd., Lakewood, Calif. 844,770. Cl. 6.
Puritan Fashions Corp., New York, N.Y. 844,617–18, pub. 12–5–67. Cl. 39.
Quaker Oats Co., The, Chicago, Ill. 844,713, pub. 12–5–67. Cl. 46.
Quant, Mary, Cosmetics Ltd., Surbiton, Surrey, England. 844,725, pub. 12–5–67. Cl. 51.
Radiation Instrument Development Laboratory, Northlake, Ill. 725,944, canc. Cl. 26.
Radio Corp. of America, New York, N.Y. 844,468, pub. 12–5–67. Cl. 21.
Radio Nut Co.: *See*—
Kemp, Edward F.
Rainbow Crafts, Inc., Cincinnati, Ohio. 725,942, canc. Cl. 26.
Randel's Mfg. Co., Inc., Oklahoma City, Okla. 844,527, pub. 12–5–67. Cl. 23.
Rap Products, Inc., Bay City, Mich. 844,781. Cl. 52.
Raybestos-Manhattan, Inc., Manheim, Pa. 725,921, canc. Cl. 24.
Rayne Corp., Santa Barbara, Calif. 844,760–1, pub. 12–5–67. Cl. 103.
Raytheon Co.: *See*—
Raytheon Mfg. Co.
Raytheon Mfg. Co., Cambridge, to Raytheon Co., Lexington, Mass. 237,111, ren. 2–20–68. Cl. 21.
Red Line Commercial Co., Inc., New York, N.Y. 844,393–4, pub. 12–5–67. Cl. 18.
Red Top Maintenance Service, Inc., Denver, Colo. 844,406, pub. 12–5–67. Cl. 16.
Redcor Corp., Canoga Park, Calif. 844,444, pub. 12–5–67. Multiple Class (Classes 21 and 26).
Reid-Meredith, Inc., Lawrence, Mass. 844,654, pub. 12–5–67. Cl. 40.
Repco Ltd., Victoria, Australia. 725,853, canc. Cl. 21.
Republic Industrial Corp., New York, N.Y. 844,431, pub. 12–5–67. Cl. 19.
Restaurant Associates, Inc., New York, N.Y. 844,741, pub. 12–5–67. Cl. 100.
Rexall Drug and Chemical Co., d.b.a. Colorite Plastics Co., Los Angeles, Calif. 844,586, pub. 12–5–67. Cl. 37.
Rexall Drug and Chemical Co., d.b.a. Vanda Cosmetics Co., Los Angeles, Calif. 844,603, pub. 12–5–67. Cl. 38.
Rhodesian Bata Shoe Co. Ltd., The, Gwelo, Southern Rhodesia. 726,020, canc. Cl. 39.
Richelieu Corp., The, Holbrook, N.Y. 844,560, pub. 12–5–67. Cl. 28.
Riegel Textile Corp.: *See*—
Startex Mills.
Ries, Iwan, & Co., Chicago, Ill. 844,413, pub. 12–5–67. Cl. 17.
Ritter Pfaulder Corp., Rochester, N.Y. 844,669, pub. 12–5–67. Cl. 44.
Robert Mfg. Co., Los Angeles, Calif. 844,376, pub. 12–5–67. Cl. 13.
Robertson Photo-Mechanix, Inc., Des Plaines, Ill. 844,547, pub. 12–5–67. Cl. 26.
Robins, A. H., Co., Inc., Richmond, Va. 844,423, pub. 12–5–67. Cl. 18.
Rockford Paint Mfg. Co., to The Valspar Corp., Rockford, Ill. 500,697, ren. 2–20–68. Cl. 6.
Rosemount Engineering Co., Minneapolis, Minn. 844,452, pub. 12–5–67. Multiple Class (Classes 21, 22, 26, and 39).
Rosenblatt & Kahn, Inc., New York, N.Y. 726,007, canc. Cl. 39.
Roto-Finish Co., Kalamazoo, Mich. 844,348, pub. 12–5–67. Cl. 4.
Roxane, Philips, Inc., New York, N.Y. 844,421, pub. 12–5–67. Cl. 18.
Rozel Industries, Inc., Lincolnwood, Ill. 844,496–7, pub. 12–5–67. Cl. 22.
Robinsky's Inc., Hartford, Conn. 844,753, pub. 12–5–67. Cl. 101.
Rubber Corp. of Pennsylvania: *See*—
Sears, Roebuck and Co.
Rubin, M. B., Associates, Inc., d.b.a. Eterna Products Co., Dallas, Tex. 699,307, canc. Cl. 18.
SCM Corp.: *See*—
India Refining Co.
SCM Corp., New York, N.Y., d.b.a. The Glidden Co., d.b.a. Durkee Famous Foods, Cleveland, Ohio. 844,706, pub. 12–5–67. Cl. 46.
S.R.L.G.B. Venturino Forno Canaves, Turin, Italy. 844,659, pub. 12–5–67. Cl. 44.
Saddle Makers of Hall Lane Ltd., The, Walsall, England. 844,345 pub. 12–5–67. Cl. 3.
Safeway Stores, Inc., Oakland, Calif. 844,425, pub. 10–24–67. Multiple Class (Classes 18, 29, and 51).
Saint-Gobain Techniques Nouvelles, Courbevoie (Seine), France. 844,536, pub. 12–5–67. Cl. 26.
St. Louis Music Supply Co., St. Louis, Mo. 844,581, pub. 12–5–67. Cl. 36.
Salisbury, W. H., & Co., Chicago, Ill. 844,478, pub. 12–5–67. Cl. 21.
San Giorgio Macaroni, Inc., d.b.a. San Giorgio Macaroni, Inc., Lebanon, Pa. 844,678–80, pub. 12–5–67. Cl. 46.
Sarah Coventry Inc., Newark, N.Y. 844,561, pub. 12–5–67. Cl. 28.
Saturn Corp., The, Denver, Colo. 844,490–1, pub. 12–5–67. Cl. 22.
Saucy Sue Products, Inc., Yonkers, N.Y. 726,072, canc. Cl. 46.
Savage Laboratories, Inc., Houston, Tex. 844,424, pub. 12–5–67. Cl. 18.
Schnadig Corp., Chicago, Ill. 725,970, canc. Cl. 32.
Scholl Mfg. Co., Inc., to The Scholl Mfg. Co. Inc., Chicago, Ill. 191,089, ren. 2–20–68. Cl. 39.
Scholl Mfg. Co. Inc., The: *See*—
Scholl Mfg. Co., Inc.
Scripture Union, Upper Darby, Pa. 844,740, pub. 12–5–67. Cl. 100.
Sealy Mattress Co.: *See*—
Maryland Bedding Co., The.
Sears, Roebuck and Co., Chicago, Ill. 725,956, canc. Cl. 26.
Sears, Roebuck and Co., Chicago, Ill., d.b.a. Rubber Corp. of Pennsylvania, West Hazleton, Pa. 844,635, pub. 12–5–67. Cl. 39.
Securites Council, Inc., Poughkeepsie, N.Y. 844,593, pub. 12–5–67. Cl. 38.
Seligman, Stanley L., Hollywood, Fla. 844,646, pub. 12–5–67. Cl. 39.
Seneca Audio-Visual Corp., Buffalo, N.Y. 725,950, canc. Cl. 26.
Sharp & Dohme, Inc., Philadelphia, Pa., to Merck & Co., Inc., Rahway, N.J. 435,081, ren. 2–20–68. Cl. 18.

Shaving Powder Co.: *See*—
Carson Chemical Co.
Sherman Car Wash Equipment Co., Palmyra, N.J. 844,508–9, pub. 12–5–67. Cl. 23.
Sherwin-Williams Co., The, Cleveland, Ohio. 725,833, canc. Cl. 16.
Shoaf, Marvin M., Jr., Sterling, Va. 844,775. Cl. 22.
Sigma Chemical Co., to Sigma Chemical Co., St. Louis, Mo. 436,232, ren. 2–20–68. Cl. 46.
Sigma Instruments, Inc., South Braintree, Mass. 844,543, pub. 12–5–67. Cl. 26.
Sigma Pharmaceutical Corp.: *See*—
Steube, John W.
Silverbrook Development, Inc., Milwaukee, Wis. 844,783. Cl. 100.
Skagit Plastic, Inc., La Conner, Wash. 725,843, canc. Cl. 19.
Skandinavisk Tobakskompagni A/S, Herlev, Denmark. 844,409. pub. 5–16–67. Cl. 17.
Skinner Irrigation Co., The: *See*—
Ward, Ashley F., Inc.
Sklenena Bisuterie, narodni podnik, Jablonec and Nisou, Czechoslovakia. 725,933, canc. Cl. 26.
Small Bros. Oil Co., South Chicago Heights, Ill. 844,401, pub. 12–5–67. Cl. 15.
Smith, A. O., Corp., Milwaukee, Wis. 844,396, pub. 12–5–67. Cl. 14.
Southern States Equipment Corp., Hampton, Ga. 725,886, canc. Cl. 21.
Southern States Equipment Corp., Hampton, Ga. 725,917, canc. Cl. 23.
Southwest Grease & Oil Co., (Kansas City), Inc., Kansas City, Mo. 844,400, pub. 12–5–67. Cl. 15.
Spalding, A. G., & Bros. Inc., Chicopee, Mass., from Health Aids, Inc., New York, N.Y. 726,070, canc. Cl. 44.
Sparks, The: *See*—
Sparks, Richard W.
Sparks, Richard W., d.b.a. The Sparks, Las Vegas, Nev. 697,261, canc. Cl. 107.
Spartan Saw Works, Inc., Springfield, Mass. 844,520–2, pub. 12–5–67. Cl. 23.
Spartan Works, Ltd., The, New York, N.Y. 844,528, pub. 12–5–67. Cl. 25.
Spartans Industries, Inc., New York, N.Y. 844,625, pub. 12–5–67. Cl. 39.
Spartans Industries, Inc., New York, N.Y. 844,630, pub. 12–5–67. Cl. 39.
Spati Industries, Inc., Covington, Ky. 695,553, canc. Cl. 19.
Speakman Co., Wilmington, Del. 844,367, pub. 12–5–67. Cl. 12.
Specialty Products Co., Jersey City, N.J. 726,057, canc. Cl. 6.
Specialty Products Co., The, New Orleans, La. 500,515, ren. 2–20–68. Cl. 18.
Spec-Trac, Inc., Indianapolis, Ind. 844,524, pub. 12–5–67. Cl. 23.
Spotnails, Inc., Long Island City, N.Y. 844,379, pub. 12–5–67. Cl. 13.
Spraying Systems Co., Bellwood, Ill. 844,384, pub. 12–5–67. Cl. 13.
Spuck Iron & Foundry Co., St. Louis, Mo. 500,135, ren. 2–20–68. Cl. 14.
Spuds, Inc.: *See*—
Granny Goose Foods, Inc.
Stanley Rule & Level Co., to The Stanley Works, New Britain, Conn. 67,226, ren. 2–20–68. Cl. 23.
Stanley Works, The: *See*—
Stanley Rule & Level Co.
Startex Mills, Tucapau, S.C., to Riegel Textile Corp., New York, N.Y. 434,548, ren. 2–20–68. Cl. 42.
States Batteries, Inc., San Francisco, Calif. 725,852, canc. Cl. 21.
Steam-O-Matic, The, from National Engineering & Mfg., Inc., Sedalia, Mo. 725,979, canc. Cl. 34.
Stenham, H., Ltd., d.b.a. Highland Blending Co., London, England. 844,714, pub. 12–5–67. Cl. 49.
Stenotype Grandjean, Paris, France. 844,511, pub. 12–5–67. Cl. 23.
Steube, John W., d.b.a. The Physicians Supply Co., Cincinnati, Ohio, to Sigma Pharmaceutical Corp., New York, N.Y. 434,145, ren. 2–20–68. Cl. 52.
Stevens, J. P., & Co., Inc., New York, N.Y. 844,633, pub. 12–5–67. Cl. 39.
Stevens, J. P., & Co., Inc., New York, N.Y. 844,655–6, pub. 12–5–67. Cl. 42.
Stickley, John L., & Co., Inc., Charlotte, N.C. 844,658, pub. 12–5–67. Cl. 43.
Stitzel-Weller Distillery, d.b.a. W. L. Weller & Sons, Louisville, Ky. 844,779. Cl. 45.
Sto-Cote Products, Inc., Chicago, Ill. 844,334, pub. 8–8–67. Multiple Class (Classes 1, 2, and 50).
Stoffel AG., St. Gall, Switzerland. 844,612, pub. 12–5–67. Cl. 39.
Stokes Fishing Lures: *See*—
Stokes, Meredith B.
Stokes, Meredith B., d.b.a. Stokes Fishing Lures, Edmonds, Wash. 698,084, canc. Cl. 22.
Stokvis Multition Corp., Port Washington, N.Y. 725,895, canc. Cl. 23.
Sun Oil Co., Philadelphia, Pa. 725,817, canc. Cl. 15.
Superflexit Ltd., Slough, England. 844,456, pub. 12–5–67. Cl. 21.
Superior Sewing Machine & Supply Corp., New York, N.Y. 844,443, pub. 9–26–67. Cl. 21.
Superior Tea & Coffee Co., Chicago, Ill. 844,516, pub. 12–5–67. Multiple Class (Classes 23 and 46).
Svenska Ackumulator Aktiebolaget Jungner, Oskarshamn, Sweden. 844,530, pub. 12–5–67. Cl. 26.
Swedlin, J., Inc., d.b.a. Gund Mfg. Co., Brooklyn, N.Y. 844,482, pub. 12–5–67. Cl. 22.
Tabby Sportswear Co., Inc., Brooklyn, N.Y. 844,616, pub. 12–5–67. Cl. 39.
Tasker Instruments Corp., Van Nuys, Calif. 725,873, canc. Cl. 21.
Teenform, Inc., New York, N.Y. 844,634, pub. 12–5–67. Cl. 39.
Teenform, Inc., New York, N.Y. 844,650–1, pub. 12–5–67. Cl. 39.
Tenney Engineering, Inc., Union, N.J. 844,574, pub. 12–5–67. Cl. 34.
Teppaz, Marcel, Paul Seyvos, and Jean Alexis Teppaz, Lyon, Rhone, France. 844,450, pub. 12–5–67. Cl. 21.
Terri-Cord Mills, Inc., Warrington, Pa. 726,026, canc. Cl. 42.
Teweles, L., Seed Co., Milwaukee, Wis. 725,774, canc. Cl. 10.
Texaco Inc.: *See*—
Texas Co., The.
Texas Co., The, to Texaco Inc., New York, N.Y. 438,023, ren. 2–20–68. Cl. 15.
Textron, Inc., Providence, R.I. 844,436, pub. 12–5–67. Cl. 19.
Thayer-Knomark, Inc.: *See*—
Park & Tilford.
Theodore Equipment Corp., Woodridge, N.J. 825,218, cor. Cl. 19.
Timken Roller Bearing Co., The, Canton, Ohio. 144,149, ren. 2–20–68. Cl. 23.
Toney Penna Co., The, Jupiter, Fla. 844,504, pub. 12–5–67. Cl. 22.
Toro Mfg. Corp., Minneapolis, Minn. 844,382, pub. 12–5–67. Cl. 13.
Toro Mfg. Corp., Minneapolis, Minn. 844,506, pub. 12–5–67. Cl. 23.
Total Sound, Inc., The, New York, N.Y. 844,582, pub. 12–5–67. Cl. 36.
Totem Bait, Inc., Ellensburg, Wash. 844,484, pub. 12–5–67. Cl. 22.
Toyo Valve Co. Ltd., Tokyo, Japan. 844,377, pub. 12–5–67. Cl. 13.
Triangle Business Machines, Inc., Los Angeles, Calif. 725,957, canc. Cl. 26.
Tri-Valley Growers, San Francisco, Calif. 844,711, pub. 12–5–67. Cl. 46.
Troy, Seymour, New York, N.Y. 436,530, ren. 2–20–68. Cl. 39.
"21" Brands, Inc., New York, N.Y. 699,118, canc. Cl. 49.
Unicam Instruments Ltd., Cambridge, England. 844,546, pub. 12–5–67. Cl. 26.
Union Carbide Corp.: *See*—
Linde Air Products Co., The.
United Biscuit Co. of America: *See*—
Keebler Co.
United Fruit Co., Boston, Mass. 844,702, pub. 12–5–67. Cl. 46.
United Refining & Smelting Co., Franklin Park, Ill. 844,764, pub. 12–5–67. Cl. 106.
U.S. Baird Corp., The, Stratford, Conn. 844,510, pub. 12–5–67. Cl. 23.
U.S. Plywood-Champion Papers Inc.: *See*—
Mengel Co., The.
Champion Paper & Fibre Co., The.
U.S. Plywood-Champion Papers Inc., from United States Plywood Corp., New York, N.Y. 844,368–9, pub. 12–5–67. Cl. 12.
United States Plywood Corp.: *See*—
U.S. Plywood-Champion Papers Inc.
United States Rubber Co., New York, N.Y. 725,842, canc. Cl. 19.
United States Steel Corp., Pittsburgh, Pa. 844,395, pub. 12–5–67. Cl. 13.
United States Steel Corp., Pittsburgh, Pa. 844,399, pub. 12–5–67. Cl. 14.
United Whelan Corp., Brooklyn, N.Y. 725,879, canc. Cl. 21.
Universal Foods Corp., Milwaukee, Wis. 844,685, pub. 12–5–67. Cl. 46.
Valspar Corp., The: *See*—
Rockford Paint Mfg. Co.
Value Analysis, Inc., Schenectady, N.Y. 714,502. Am. 7(d). Cl. 101.
Vanda Cosmetics Co.: *See*—
Rexall Drug and Chemical Co.
Vanex, Inc., Flint, Mich. 844,671, pub. 12–5–67. Cl. 46.
Vapor Recovery Systems Co., The, Compton, Calif. 725,930, canc. Cl. 26.
Virginia Electronics Co., Inc., Washington, D.C. 844,462, pub. 12–5–67. Cl. 21.
Voss Cutlery Co., Inc., New York, N.Y. 441,174, canc. Cl. 44.
Vulcan Radiator Co., The, Hartford, Conn. 884,577, pub. 12–5–67. Cl. 34.
Waples-Platter Co., Fort Worth, Tex. 844,703, pub. 12–5–67. Cl. 46.
Ward, Ashley F., Inc., d.b.a. The Skinner Irrigation Co., Troy, Ohio. 844,391–2, pub. 12–5–67. Cl. 13.
Ward Mfg., Inc., Hamilton, Ohio. 844,721, pub. 12–5–67. Cl. 50.
Warner Bros. Co., The, Bridgeport, Conn. 844,643–5, pub. 12–5–67. Cl. 39.
Watkins, J. R., Co., The, to Watkins Products, Inc., Winona, Minn. 437,055, ren. 2–20–68. Cl. 52.
Watkins, J. R., Co., The, to Watkins Products, Inc., Winona, Minn. 438,350, ren. 2–20–68. Cl. 18.
Watkins Products, Inc.: *See*—
Watkins, J. R., Co., The.
Watson-Guptill Publications: *See*—
Billboard Publishing Co., The.
Webb, C. J., Inc., Dresher, Pa. 844,360, pub. 12–5–67. Cl. 6.
Weller, W. L., & Sons: *See*—
Stitzel-Weller Distillery.

West Bend Co., The, West Bend, Wis. 844,389, pub. 12–5–67. Cl. 13.
West Point Mfg. Co., d.b.a. West Point Utilization Co., to West Point-Pepperell, Inc., d.b.a. West Point Utilization Co., West Point, Ga. 437,139, ren. 2–20–68. Cl. 1.
West Point-Pepperell, Inc.: *See*—
West Point Mfg. Co.
West Point Utilization Co.: *See*—
West Point Mfg. Co.
West Virginia Pulp & Paper Co., New York, N.Y. 844,340, pub. 12–5–67. Cl. 2.
Westinghouse Electric Corp., Buffalo, N.Y. 844,446, pub. 9–5–67. Cl. 21.
White & Bagley Co., The, Worcester, Mass. 844,601, pub. 12–5–67. Cl. 38.
White Motor Corp., Cleveland, Ohio. 844,519, pub. 12–5–67. Cl. 23.
Whitworth, W. G. Armstrong, Aircraft Ltd., Sir., Baginton, near Conventry, England. 725,897, canc. Cl. 23.
Williams, B. E., La Grange Park, Ill. 844,734, pub. 12–5–67. Cl. 52.
Wilson Sporting Goods Co., from Wilson Sporting Goods Co., River Grove, Ill. 844,495, pub. 12–5–67. Cl. 22.
Witt Co., The, Cincinnati, Ohio. 844,342, pub. 12–5–67. Cl. 2.
Wolf's, S., Sons, New York, N.Y. 844,404–5, pub. 12–5–67. Cl. 16.
Wood, George A., Indianapolis, Ind. 844,451, pub. 12–5–67. Cl. 21.
Woodland Furniture Mfg., Inc., Torrance, Calif. 844,571, pub. 12–5–67. Cl. 32.
Woodstream Corp., Litits, Pa. 844,485, pub. 12–5–67. Cl. 22.
Wyeth Inc., Philadelphia, Pa., to American Home Products Corp., New York, N.Y. 435,871, ren. 2–20–68. Cl. 18.
Yawler Boat Equipment Co.: *See*—
Butler, Maurice H.
Zanol Products Co.: *See*—
American Products Co., The.
Zenith Corp., Clinton, Mo. 844,363, pub. 12–5–67. Cl. 9.
Zepi's Plaza, Inc., Kansas City, Mo. 844,738, pub. 12–5–67. Cl. 100.
Zip-Mark Corp., Bordentown, N.J. 844,364, pub. 12–5–67. Cl. 11.

U.S. GOVERNMENT PRINTING OFFICE: O—1968

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

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PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of January 1968

Examiner affirmed	203
Examiner affirmed in part	80
Examiner reversed	58
Total	291

Foreign Patents Received in the Scientific Library as of Jan. 31, 1968

Source	Date received	Highest number
Australia:		
(*Abstracts*)	Jan. 11, 1968	28,517/67
(*Patents*)	Jan. 30, 1968	276,825
Austria	Jan. 23, 1968	258,414
Belgium	Jan. 4, 1968	672,000
Canada	Jan. 29, 1968	776,885
Czechoslovakia	Jan. 29, 1968	122,800
Denmark	Nov. 15, 1967	108,185
East Germany	Jan. 18, 1968	59,269
Egypt	June 28, 1967	6,873
Finland	Dec. 4, 1967	36,456
France:		
(*Patents*)	Jan. 30, 1968	1,496,850
(*Additions*)	Jan. 30, 1968	90,000
(*Medicaments*)	Jan. 8, 1968	4,750 M
(*Additions*)	May 24, 1967	112 CAM
Germany:		
(*Auslegeschriften*)	Nov. 8, 1967	1,249,780
(*Patents*)	Nov. 8, 1967	1,235,193
Great Britain	Jan. 29, 1968	1,098,140
India	Aug. 17, 1967	100,376
Ireland	Aug. 25, 1967	26,750
Italy	Aug. 30, 1967	660,000
Japan	Jan. 29, 1968	27,320/67
Netherlands:		
(*Octrooiaanvragen*)	Nov. 8, 1967	10,414/67
(*Patents*)	Nov. 8, 1967	122,984
Norway	Jan. 26, 1968	112,140
Pakistan	Feb. 3, 1964	112,446
Philippine Republic	Apr. 13, 1962	458
Poland	Jan. 3, 1968	54,188
Rumania	Dec. 21, 1967	48,496
Sweden	Jan. 23, 1968	216 927
Switzerland	Jan. 23, 1968	440,720
U.S.S.R.	Dec. 28, 1967	200,514

Australia: First 2,000 incomplete
Belgium: First printed 493,079/1950
Canada: First printed 445,931/1948
Czechoslovakia: Not received between 81,300/1952 and 91,901/1959
Finland: First printed 19,428/1941
First 500 incomplete
Hungary: First received 5,792/1896
Latest 140,582/1951
Ireland: First received 10,000/1929
Italy: First 243,000 incomplete
Rumania: First received 40,380/1957
U.S.S.R.: Not received between 2,496/1928 and 116,000/1958
Yugoslavia: First received 10,001/1933
Latest 16,461/1941

New Applications Received During January 1968

Patents	7337
Designs	391
Plant Patents	5
Reissues	33
Total	7776

Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Patent No. 2,928,073, E. C. Greanias, DATA SENSING AND HANDLING APPARATUS, decided July 28, 1967, Interference No. 92,095, claim 2.

Patent No. 2,992,416, J. C. Sims, Jr., PULSE CONTROL SYSTEM, decided Oct. 19, 1967, Interference No. 94,022, claim 6.

Patent No. 3,092,637, M. Brown, PROCESS FOR THE PREPARATION OF ACETALS AND KETALS OF N,N-DI-SUBSTITUTED CARBOXAMIDES, decided Oct. 26, 1967, Interference No. 94,434, claim 13.

Patent No. 3,155,337, P. E. Uterhart, CAMERA FILM SPOOL, decided Dec. 21, 1967, Interference No. 95,932, claims 4 and 5.

Patent No. 3,155,338, P. E. Uterhart, CAMERA SPOOL, decided Dec. 21, 1967, Interference No. 95,931, claims 1, 2 and 3.

Patent No. 3,163,157, C. C. Connell, APPARATUS FOR COOLING AN INTERNAL COMBUSTION ENGINE, decided Dec. 14, 1967, Interference No. 95,472, claims 1, 2, 3 and 11.

Patent No. 3,174,140, J. J. Hagopian and E. J. Supernowicz, MAGNETO-OPTICAL RECORDING AND READOUT DEVICE, decided Sept. 25, 1967, Interference No. 95,384, claims 7, 8 and 9.

Patent No. 3,176,118, G. A. Scott, TEMPERATURE CONTROL MEANS FOR CONVERTIBLE DRAWER OVEN, decided Sept. 29, 1967, Interference No. 95,258, claims 1, 2 and 8.

Patent No. 3,235,853, J. W. Luebbe, Jr., CONTROL APPARATUS, decided Nov. 28, 1967, Interference No. 95,929, claims 1, 2 and 3.

Patent No. 3,305,702, F. P. Manetti and L. Klier, MOUNTING BASE FOR TELEVISION PICTURE TUBE COMPONENTS, decided Jan. 3, 1968, Interference No. 95,966, claims 1 and 2.

Disclaimers and Dedications

2,707,917.—*Will H. Lindsay, Jr.*, Lawndale, and *Robert A. Phillips*, La Habra Heights, Calif. WELL CASING PERFORATOR. Patent dated May 10, 1955. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,846,948.—*Maurice P. Lebourg*, Houston, Tex. OIL AND GAS WELL PERFORATING METHODS AND APPARATUS. Patent dated Aug. 12, 1958. Disclaimer and dedi-

Issue—February 27, 1968

Patents	1049	No. 3,370,302 to No. 3,371,350, incl.
Designs	79	No. 210,268 to No. 210,346, incl.
Total	1128	

cation filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,833,213.—*John J. Udry*, South Gate, Calif. WELL PERFORATOR. Patent dated May 6, 1958. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,847,072.—*Maurice P. Lebourg*, Houston, Tex. METHODS FOR DUAL COMPLETION OF OIL AND GAS WELLS. Patent dated Aug. 12, 1958. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,849,953.—*Jacques Delacour*, Paris, France, SHAPED CHARGES ADAPTED FOR USE INSIDE WELL CASINGS. Patent dated Sept. 2, 1958. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,853,944.—*Harry S. Robertson*, Houston, Tex. APPARATUS FOR PERFORATING WELL CASING AND THE LIKE. Patent dated Sept. 30, 1958. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,857,843.—*Manuel N. Friend*, Downey, Calif. RADIOACTIVE REFERENCE MARKER. Patent dated Oct. 28, 1958. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,873,676.—*Blake M. Caldwell*, Fort Worth, Tex. MULTIPLE SHAPED CHARGE ASSEMBLY. Patent dated Feb. 17, 1959. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Halliburton Company*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,883,931. *Claude A. Houck*, South Pasadena, and *James V. Bradshaw*, Los Angeles, Calif. DETONATOR. Patent dated Apr. 28, 1959. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Borg-Warner Corporation*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

2,883,932.—*Blake M. Caldwell*, Fort Worth, Tex. WELL PERFORATING FIRING MEANS. Patent dated Apr. 28, 1959. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Halliburton Company*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

Patents Available for Licensing or Sale

3,195,125. TELEVISION AID TO AIRCRAFT INSTRUMENT LANDING. Henry Reitler, P.O. Box 785, Nashville, Tenn., 37209.

3,357,037. PAINT ROLLER. Charles M. Kaplan, 225 Powell St., Clarendon Hills, Ill., 60514.

3,357,717. VEHICLE SEATING ARRANGEMENTS. C. Archie Samford, Rte. #1, Chrisman, Ill., 61924.

3,359,055. MICROSCOPE SLIDE PLATFORM USING REFERENCE WEDGE FOR AUTOMATIC REFOCUSING. Bjorn O. Krause, 227 Indian Road, Wayne, N.J., 07470.

3,361,172. METHOD OF CLEANING AND SHREDDING COCONUT. Leandro J. Malicay, P.O. Box 75495, Sanford Station, Los Angeles, Calif., 90005.

3,365,831. INTERCHANGEABLE BARREL SHOTGUNS. Louis V. Wallace. Correspondence to: John Walker, 33 El Camino Corto, Walnut Creek, Calif., 94598.

General Electric Company is prepared to grant non-exclusive licenses under the following 95 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 14 patents may be addressed to: Manager-Patent and Technology Marketing, Research and Development Center, General Electric Company, 1 River Road, Schenectady, N.Y., 12305.

3,024,175. CORROSION RESISTANT COATING.
3,024,176. CORROSION RESISTANT COATING.
3,172,287. VIBRATION TESTING APPARATUS.
3,213,184. METAL TO CERAMIC SEALING STRUCTURE.
3,230,463. PARAMETRIC AMPLIFIER USING CONDUCTING MAGNETIC MEMBER.
3,232,753. METHOD OF FORMING AN ALUMINUM ARTICLE.
3,232,853. CORROSION RESISTANT CHROMIDE COATING.
3,246,206. VOLTAGE SURGE PROTECTOR.
3,250,521. APPARATUS FOR DECOATING UTILIZING A HEATED FLUIDIZED BED.
3,250,643. METHOD FOR DECOATING UTILIZING A HEATED FLUIDIZED BED.
3,290,472. ELECTRIC CURRENT COLLECTING ELEMENT.
3,297,572. GRAPHITE LUBRICATING COMPOSITION OF INCREASED LOAD CARRYING CAPACITY.
3,298,751. GAS LUBRICATED BEARINGS.
3,309,908. ROLLING METHOD AND APPARATUS.
3,332,425. MAGNETIC ENDOSCOPE FOR PROBING THE ESOPHAGAEL STOMACHIC, AND DUODENAL REGIONS OF THE BODY.
Re.25,630. CORROSION RESISTANT COATING.

Applications for license under the following 16 patents may be addressed to: Patent Counsel, Contractor Equipment Division, General Electric Company, 1285 Boston Ave., Bldg. 21 ES, Bridgeport, Conn., 06602.

2,570,229. ELECTRIC SWITCH FOR PANELS, ETC.
2,705,344. APPARATUS FOR FORMING A PANELBOARD UNIT.
2,730,594. ELECTRIC CONTACT.
2,779,831. MULTIPOLE ELECTRIC CIRCUIT BREAKERS.
2,842,641. CIRCUIT BREAKER.
3,117,203. CIRCUIT PROTECTIVE DEVICES AND CIRCUITS.
3,129,305. NON-ARCING SWITCH.
3,158,711. CURRENT LIMITING CIRCUIT BREAKER.
3,179,262. MATERIAL TRANSFERRING APPARATUS.
3,185,791. CIRCUIT BREAKER WITH PANCAKE TYPE OPERATING MECHANISM AND IMPROVED FORCE TRANSMISSION MEANS.
3,218,412. HIGH PRESSURE CURRENT LIMITING DEVICE.
3,238,418. ELECTRICAL PROTECTIVE CIRCUIT.
3,238,419. ELECTRICAL PROTECTIVE CIRCUIT.
3,349,290. DOUBLE MODULE CIRCUIT BREAKER PANEL ASSEMBLY.

Applications for license under the following 20 patents may be addressed to: General Electric Company, Patent Counsel, Housewares Division, 1285 Boston Ave., Bridgeport, Conn., 06602.

2,581,212. ELECTRICALLY HEATED FABRIC.
2,723,336. THERMOSTATICALLY CONTROLLED ELECTRIC FLATIRON.
2,727,322. LATCH FOR PIVOTED FLATIRON HANDLE.
2,761,228. COMBINATION DRY AND STEAM FLATIRONS.

2,768,274. VARIABLE RESISTOR CONTROL SYSTEM.
2,791,045. STEAM FLATIRON.
2,816,195. SNAP ACTION SWITCH.
3,072,938. POWER OPERATED TOOTHBRUSH.
3,095,496. HAIR DRYER.
3,120,056. POWER OPERATED KNIFE.
3,142,852. AUTOMATIC TOOTHBRUSH.
3,143,697. TOOTHBRUSH STORAGE CASE AND BATTERY CHARGER.
3,152,272. MOTION TRANSLATING MECHANISM FOR TOOTHBRUSH POWER HANDLE.
3,152,398. POWER OPERATED SLICING KNIFE.
3,152,399. POWER OPERATED SLICING KNIFE HAVING FLUID FLOW CONTROL MEANS.
3,153,852. BLADE CONNECTION MEANS FOR POWER OPERATED SLICING KNIFE.
3,156,804. SLIDABLE SWITCH MECHANISM FOR AN ELECTRIC TOOTHBRUSH.
3,189,998. CUTTING BLADES FOR POWER OPERATED KNIFE.
3,203,095. POWER OPERATED KNIFE.
3,203,096. ELECTRIC SLICING KNIFE.
3,255,637. SEAL FOR ELECTRIC TOOTHBRUSHING DEVICE.
3,292,885. STORAGE MEANS FOR ELECTRIC KNIFE.
3,300,664. TOOTHBRUSH POWER HANDLE ASSEMBLY.
3,308,535. ELECTRIC SLICING KNIFE.
3,329,880. HAND-HELD BATTERY-OPERATED DEVICE.
3,348,116. ELECTRIC KNIFE STORAGE CASE AND BATTERY CHARGER.

Applications for license under the following 39 patents may be addressed to: Patent Counsel, Wire and Cable Department, Construction Materials Division, General Electric Company, 1285 Boston Ave., Bridgeport, Conn., 06602.

2,679,677. WOVEN GLASS ELECTRICAL INSULATING SHEET.
2,828,250. METHOD AND APPARATUS FOR THE ELECTROLYTIC OXIDATION OF COPPER WIRE.
2,831,050. CREPE PAPER INSULATION.
2,841,633. ELECTRICAL CABLE STRUCTURE.
2,854,732. PROCESS FOR THE PRODUCTION OF METALS.
2,922,804. BASIC LEAD p-NITROSOPHENOLATE.
2,930,083. EXTRUSION OF CROSS-LINKET POLYETHYLENE AND PROCESS OF COATING WIRE THEREBY.
3,008,201. APPARATUS FOR THE CONTINUOUS FORMATION OF INTERMEDIATES.
3,060,053. METHOD AND APPARATUS FOR ACCRETING MOLTEN COPPER ON A MOVING MEMBER.
3,060,054. METHOD AND APPARATUS FOR ACCRETING MOLTEN MATERIAL ON A MOVING MEMBER.
3,060,055. METHOD AND APPARATUS FOR ACCRETING MOLTEN MATERIAL.
3,060,056. METHOD AND APPARATUS FOR CONTINUOUSLY ACCRETING MOLTEN MATERIAL.
3,094,752. DIP FORMING TUBING.
3,106,600. LIQUID COOLED TRANSMISSION LINE.
3,134,150. SUSPENSION SYSTEM.
3,145,119. FLOAT CASTING.
3,148,169. CURABLE POLYETHYLENE COMPOSITION COMPRISING A PEROXIDE CONTAINING TERTIARY CARBON ATOMS, CLAY FILLER, AND AN ELECTRICAL CONDUCTOR INSULATED WITH THE COMPOSITION.
3,155,750. APPARATUS AND METHOD FOR INTRODUCING ADDITIVES TO AN EXTRUDER.
3,161,541. SYNTHETIC RESIN AND CONDUCTORS INSULATED THEREWITH.
3,161,809. HIGH FIELD SUPERCONDUCTIVE DEVICE.
3,164,896. PROCESS FOR CONTINUOUS MANUFACTURE OF TUBING.
3,171,866. PEROXIDE CURED POLYETHYLENE WITH POLYVINYL CHLORIDE FILLER AND WIRE COATED WITH THE SAME.
3,181,936. SUPERCONDUCTORS AND METHOD FOR THE PREPARATION THEREOF.
3,188,305. CROSSLINKING OF VINYL HALIDE RESINS.
3,207,719. POLYVINYL CHLORIDE COMPOSITIONS CURED WITH TIN HALIDES.
3,207,720. POLYVINYL CHLORIDE COMPOSITIONS CURED WITH A METAL HALIDE.
3,207,721. POLYVINYL CHLORIDE COMPOSITIONS CURED WITH A COBALT HALIDE.
3,207,825. PROCESS FOR EXTRUDING POLYTETRAFLUOROETHYLENE SILICONE RUBBER COMPOSITION.
3,227,777. VULCANIZING ETHYLENE-PROPYLENE COPOLYMERS WITH AN ALKENYLPOLYSILOXANE AND A BIS (ARALKYL) PEROXIDH.
3,235,960. PROCESS FOR THE CONTINUOUS FORMATION OF INTERMEDIATES.
3,264,692. INLET ORIFICE FOR CONTINUOUS CASTING APPARATUS.
3,286,018. POWER CABLE CONDUCTOR FOR REDUCING WINDAGE.
3,286,019. POROUS CONDUCTOR JACKET.
3,286,020. COVERING FOR POWER LINE CONDUCTORS TO REDUCE WINDAGE, CORONA LOSS AND RADIO FREQUENCY INTERFERENCE.
3,288,744. VINYL HALIDE RESINS STAFILIZED WITH TRIS - (HYDROXYMETHYL) AMINOMETHANE.
3,288,764. CURING OF CHLOROSULFONATED POLYETHYLENE.
3,288,879. VULCANIZATION OF RUBBER WITH AN ORGANO-HYDROGEN POLYSILOXANE AND A CHLOROPLATINIC ACID COMPOUND.
3,296,189. CHEMICALLY CROSS-LINKED POLYETHYLENE STABILIZED WITH POLYMERIZED TRIMETHYL QUINOLINE.
3,317,286. COMPOSITE SUPERCONDUCTOR BODY.

Patents Withdrawn From Register

General Electric Company hereby withdraws the following 5 patents from the Register of Patents Available for Licensing or Sale. The patents were listed as being available, in the OFFICIAL GAZETTE as indicated below:

2,571,803. ELECTROMAGNET CONTROL MECHANISM WITH TWO ARMATURES. July 1, 1952.
2,584,707. SELF-ALIGNING ARAMATURE. Nov. 4, 1952.
2,594,911. CAM MECHANISM. Oct. 9, 1956.
2,596,649. EDDY CURRENT DISK MECHANISM. Apr. 15, 1958.
2,610,233. SOLENOID COIL SUPPORT. Apr. 14, 1953.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF DECEMBER 18, 1967

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	6-23-64	6-19-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	11-27-64	7-23-62
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Manager. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping and Treating Processes.	3-17-65	5-15-62
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	10-28-64	6-28-62
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	5-15-64	9-25-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—E. J. SAX, Manager. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	1-27-65	9-12-63
SECURITY, GROUP 220—S. BOYD, Manager. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	1-26-65	7-30-64
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	6- 2-64	5-17-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	4-30-64	3-12-62
PHYSICS, GROUP 280—R. L. EVANS, Manager. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	4- 8-65	6-24-63
DESIGNS, GROUP 290—S. BOYD, Manager. Industrial Arts; Household, Personal and Fine Arts.	1- 9-67	12- 8-65

Total number of pending applications (excluding Designs)	176, 139
Total number of Design applications pending	3, 964
Total number of applications awaiting action (excluding Designs)	125, 616
Total number of Design applications awaiting action	1, 697
Date of oldest new application awaiting action	April 30, 1964
Date of oldest amended application awaiting action	March 12, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during February 1968, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*.

Patents ..... Numbers 2,540,074 to 2,543,743, inclusive
Plant Patents ..... Numbers 1,003 to 1,006, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager. Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	3- 3-66	11-12-64
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders; Woodworking; Tools; Cutlery; Jacks.	9-21-65	3-25-63
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	7-20-65	5-12-64
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	6- 6-66	4-22-65
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager. Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	6-20-66	11- 4-63
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager. Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	10-23-65	2-13-63

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

W. D. BYRON & SONS, INC. *v.* STEIN BROS. MFG. CO.

No. 7806. Decided May 25, 1967

[54 CCPA —; 377 F.2d 1001; 153 USPQ 749]

1. TRADEMARK—CANCELLATION—BURDEN OF PROOF—*R. Neumann & Co.* v. *Bon-Ton Auto Upholstery, Inc.*, AND *R. Neumann & Co.* v. *Overseas Shipments, Inc.* DISTINGUISHED.

"* * * we do not consider the *Neumann* cases to be controlling here, and we think the Board acted properly in distinguishing those precedents, both of which involved *only* opposition proceedings, on the ground that the instant consolidated case is primarily a cancellation proceeding. As mentioned, we agree with the following rationale stated by the Board, to the general effect that the petitioner in a cancellation proceeding bears a much heavier burden of proof than the opposer in an opposition proceeding * * *."

2. SAME—SAME—SAME—DECEPTIVELY MISDESCRIPTIVE MARKS.

"* * * we are not persuaded that appellant has discharged the heavy burden of proof required of a cancellation petitioner. While we are still fully aware of the public interest in avoiding deceptive and deceptively misdescriptive trademarks, as expressed in the *Neumann* cases, supra, we are not at all convinced in the instant case that the public interest requires cancellation of appellee's valuable trademark registration for TUFIDE. And balancing the equities as between the parties before us, we think that the damage to Stein resulting from cancellation of its section 2(f) registration would be greater than any damage Byron could foreseeably suffer from the continued existence of such registration."

3. SAME—SAME—FRAUD—BURDEN OF PROOF.

"Appellant argues that Stein originally obtained its TUFIDE registration fraudulently since it assertedly did not positively disclose that the goods in connection with which it used the registered mark were actually made of imitation leather, rather than genuine leather. We agree with the Board that appellant has failed to discharge the heavy burden of proof required of one alleging fraud in the procurement of a Patent Office registration by an adverse party."

AFFIRMED.

Kaye, Scholer, Fierman, Hays & Handler (*Sidney A. Diamond* of counsel) for appellant.

Hill, Sherman, Meroni, Gross & Simpson, Charles F. Meroni, Charles F. Meroni, Jr. for appellee.

Before WORLEY, *Chief Judge*, and RICH, SMITH, and ALMOND, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK [1]

ALMOND, *J.*, delivered the opinion of the court.

This is an appeal by opposer-petitioner Byron from the decision in favor of applicant-respondent Stein by the Trademark Trial and Appeal Board in a consolidated opposition and cancellation proceeding involving the marks TUFIDE and SOFTONE TUFIDE for various types of business and carrying cases, e.g. brief cases. Byron opposses the application [2] of Stein to register SOFTONE TUFIDE and a design for such cases, the notation SOFTONE being disclaimed, and petitions to cancel the Stein registration [3] granted under section 2(f) of the Trademark Act of 1946, 15 U.S.C. 1052(f), for TUFIDE per se. Appellant Byron is engaged in the business of producing leather by tanning the hides of cattle and selling such leather for

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.
[2] Serial No. 141,899, filed April 9, 1962.
[3] No. 508,691, issued April 19, 1949, on an application originally filed October 3, 1946.

use in manufacturing, inter alia, business and carrying cases. Appellee Stein's cases are not made of genuine leather, but rather of plastic material, specifically *tough* polyvinyl chlor*ide* which, according to appellee's brief, accounts for the origin of the term TUFIDE.

Appellant, on the other hand, contends that SOFTONE TUFIDE is the phonetic equivalent of "soft tone tough hide," terms suggestive of leather or hide. According to appellant, such terms as TUFIDE and SOFTONE TUFIDE, as applied to appellee's plastic business and carrying cases which are not made of leather or hide, are deceptive and/or deceptively misdescriptive within the purview of sections 2(a) and 2(e)(1) of the 1946 Lanham Act, 15 U.S.C. 1052(a)(e)(1). As in our companion case of *Steinberg Brothers, Inc.* v. *New England Overall Co., Inc.*, 54 CCPA —, — F.2d —, — USPQ —, heard and decided concurrently herewith, appellant here heavily relies on two recent precedents of this court, *R. Neumann & Co.* v. *Bon-Ton Auto Upholstery, Inc.*, 51 CCPA 934, 326 F.2d 799, 140 USPQ 245 (1964); and *R. Neumann & Co.* v. *Overseas Shipments, Inc.*, 51 CCPA 946, 326 F.2d 786, 140 USPQ 276 (1964).

[1] As in the companion NUHIDE case, we do not consider the *Neumann* cases to be controlling here, and we think the Board acted properly in distinguishing those precedents, both of which involved *only* opposition proceedings, on the ground that the instant consolidated case is primarily a cancellation proceeding. Since SOFTONE per se is disclaimed, the application to register the composite mark SOFTONE TUFIDE is, in essence, an application to reregister Stein's previously registered trademark TUFIDE per se, and appellant's chances of success in the opposition proceeding will accordingly depend on its ability to prevail in its desired cancellation of the TUFIDE registration. As mentioned, we agree with the following rationale stated by the Board, to the general effect that the petitioner in a cancellation proceeding bears a much heavier burden of proof than the opposer in an opposition proceeding:

It has often been stated that in a cancellation proceeding, as distinguished from an opposition or an ex parte proceeding, where long established and valuable rights may be involved, cancellation must be granted with due caution and only after a most careful consideration of all the facts and circumstances. [Citations omitted.] * * *

Among the "facts and circumstances" which the Board found persuasive in denying the petition to cancel, for each of which findings there is substantial support in the record, are the following, as set forth in the opinion below:

In the instant case, Stein's [§ 2(f) TUFIDE] registration issued in 1949, more than sixteen years ago. There is, moreover, evidence of record that Stein has, since 1937, continuously used "TUFIDE" as a trademark for its products, with sales thereof over this period of time exceeding thirty eight and a half million dollars. Stein has, over the years, likewise extensively advertised and promoted "TUFIDE" as a trademark for "plastic" products at a cost in excess of nine hundred thousand dollars. There can be no question, on this record, but that Stein has acquired a substantial goodwill in the mark "TUFIDE" and that, by reason thereof, possesses a valuable property right and interest in said mark. Furthermore, as a result of Stein's extensive use and advertising for more than twenty-five years, it is our opinion that purchasers generally recognize the term "TUFIDE" for what it is, namely, an indication of origin for Stein's non-leather products and are not deceived or misled by said mark in purchasing Stein's goods on the belief that they are made of leather. It is interesting to note that, notwithstanding Stein's extensive and continuous use on a nationwide scale since 1937, Byron did not or, in fact, was unable to produce a single instance wherein a customer or prospective customer for business cases and like goods

was misled by Stein's use of the mark "TUFIDE" into believing that the goods marketed thereunder were made of leather. * * * There is, however, uncontradicted evidence that in 1950–1952 the Federal Trade Commission requested and considered copies of Stein's advertising material relating to its products sold under the trademark "TUFIDE" but did not order the discontinuance of the use of said mark. * * *

Upon consideration of the evidence of record and arguments of counsel pertaining thereto, [2] we are not persuaded that appellant has discharged the heavy burden of proof required of a cancellation petitioner. While we are still fully aware of the public interest in avoiding deceptive and deceptively misdescriptive trademarks, as expressed in the *Neumann* cases, supra, we are not at all convinced in the instant case that the public interest requires cancellation of appellee's valuable trademark registration for TUFIDE. And balancing the equities as between the parties before us, we think that the damage to Stein resulting from cancellation of its section 2(f) registration would be greater than any damage Byron could foreseeably suffer from the continued existence of such registration.

One further issue raised by Byron warrants some discussion here. [3] Appellant argues that Stein originally obtained its TUFIDE registration fraudulently since it assertedly did not positively disclose that the goods in connection with which it used the registered mark were actually made of imitation leather, rather than genuine leather. We agree with the Board that appellant has failed to discharge the heavy burden of proof required of one alleging fraud in the procurement of a Patent Office registration by an adverse party. As stated in the opinion below:

Certainly, a fraudulent purpose or intent cannot be inferred merely from an assertion of exclusive rights in "TUFIDE" as a trademark. A perusal of the registration file, moreover, discloses that the specimens filed with the application prominently display the words "GENUINE PLASTIC TUFIDE" which clearly indicate to any interested party [including trademark examiners] the character of Stein's goods. Stein's advertising material has likewise consistently disclosed that "TUFIDE" products are made of a plastic material. We are unable to perceive any basis in fact for Byron's charge of fraud in these proceedings.

Having found no reversible error in the Board decision denying appellant's petition to cancel appellee's section 2(f) TUFIDE registration and dismissing appellant's opposition to appellee's SOFTONE TUFIDE application for registration, we affirm the Board decision.

AFFIRMED.

SMITH, *J.*, concurs in the result.

WORLEY, *Chief Judge*, did not participate.

U.S. Court of Customs and Patent Appeals

IN RE WILLIE FONG, AMON H. BROWN, WILLIAM L. WASLEY, ROBERT E. WHITFIELD, AND LOWELL A. MILLER

No. 7786. Decided June 15, 1967

[54 CCPA —; 378 F.2d 977; 154 USPQ 25]

1. PATENTABILITY—PROCESS—WORKING PROCESS CONTINUOUS.

"In affirming, the Board said: '* * * appellants have merely adapted the Miller et al. process to continuous operation which we believe to be well within the skill of a person versed in this art.' We agree."

2. PATENTABILITY—OBVIOUSNESS—TERMINAL DISCLOSURE—35 U.S.C. 103 AND 253.

Held that a terminal disclosure, under 35 U.S.C. 253 "cannot, of course, obivate a rejection based on obviousness in view of prior art under 35 U.S.C. 103."

3. SAME—REFERENCE—REFERENCE PATENT AS PRIOR ART—COMMON OWNERSHIP AND COPENDENCY—35 U.S.C. 102(e) AND 103.

"We must reject the premise that common ownership and copendency in themselves necessarily preclude consideration of a patent as a part of the prior art. A United States patent to another is a valid prior art reference when its United States filing date is earlier than the date of the applicant's invention. 35 U.S.C. 102(e); *Alexander Milburn Co.* v. *Davis-Bournonville*, 270 U.S. 390 (1926). Appellants' filing date, no earlier date having been proved, is their date of invention. A patent is 'to another' when the 'inventive entities' are different, *In re Land*, 54 CCPA 806, 368 F.2d 866, 151 USPQ 621 (1966), and may then be used as prior art to make the determination required by 35 U.S.C. 103. *Hazeltine Research, Inc.* v. *Brenner*, 382 U.S. 252, 147 USPQ 429 (1965); *In re Harry*, 51 CCPA 1541, 333 F.2d 920, 142 USPQ 164 (1964); see *In re Hilmer*, 53 CCPA 1287, 359 F.2d 859, 149 USPQ 480 (1966)."

4. SAME—SAME—SAME—SAME—DISCLOSURE IN REFERENCE PATENT DERIVED FROM APPLICANT—*In re Blout* CONSTRUED—35 U.S.C. 102(e).

"Appellants' brief, written before *In re Land* was decided, relies on *In re Blout*, 52 CCPA 751, 333 F.2d 928, 142 USPQ 173 (1964), in which it was decided that an earlier filed patent to Corley, which had been copending with the application on appeal, was not properly a prior art reference. The court, however, was there satisfied that the affidavit *evidence* showed no *prior* knowledge by Corley of the invention of Blout and Rogers. Corley, Blout, and Rogers all worked together. 'When the 102(e) reference patentee got knowledge of the applicant's invention *from him*, as by being associated with him * * * and *thereafter* describes it, he necessarily files the application *after* the applicant's invention date and the patent as a "reference" does not evidence that the invention, when made, was already known to others.' *In re Land*, supra. [Emphasis added.] There is no such evidence in this case."

5. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—STATEMENT BY EXAMINER CHALLENGED FOR FIRST TIME IN COURT.

"Appellants here challenge in this court, for the first time, the validity of the Examiner's 'one reason,' at least on this record, there being 'no evidence to indicate what quantity of acidic materials were present on unneutralized woolen fabrics.' We do not consider this argument. *In re Moureu*, 52 CCPA 1363, 345 F.2d 595, 145 USPQ 452 (1965). When an Examiner's statement is first controverted on appeal to us, especially for lack of evidentiary support, we are not only deprived of the benefit of his views and those of the Board on the particular point, but we also lack assurance that the appropriate support could not have been provided, absent the implicit acceptance of the statement's validity by appellants below."

6. PATENTABILITY—PROCESS OBVIOUSNESS—EXPRESS SUGGESTION IN REFERENCE NOT REQUIRED.

"Appellants do not controvert the Board's conclusion that heating the diamine to facilitate continuous processing is an old expedient. They merely point out that the Miller et al. patent does not suggest the specific temperatures claimed for that particular purpose. An express suggestion is, of course, not required. *In re Rosselet*, 52 CCPA 1533, 347 F.2d 847, 146 USPQ 183 (1965)."

7. SAME—PARTICULAR SUBJECT MATTER—"CONTINUOUS SHRINKPROOFING OF WOOL TEXTILES."

The refusal of certain claims in an application entitled "Continuous Shrinkproofing of Wool Textiles," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 174,315.

AFFIRMED.

T. Hayward Brown, Thomas J. Byrnes (*R. Hoffman*, of counsel) for appellants.

Joseph Schimmel (*Joseph F. Nakamura*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, SMITH, and ALMOND, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK [1]

RICH, *J.*, delivered the opinion of the court.

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

This appeal is from a decision of the Patent Office Board of Appeals affirming the final rejection of claims 1–11 in application Serial No. 174,315, filed February 19, 1962, entitled "Continuous Shrinkproofing of Wool Textiles." No claim has been allowed.

The only reference relied upon is U.S. Patent No. 3,078,138, issued February 19, 1963, to Miller, Whitfield, and Wasley, on an application filed March 27, 1961. It describes a process for shrinkproofing woolen textile material by forming a resin on its surface. We quote from the general statement of the invention:

> This is accomplished by serially applying to the wool the complementary agents required to form the desired polymer, these agents—in the preferred modification of the invention—being dissolved in mutually-immiscible solvents. Thus in a typical embodiment of the invention the wool is first impregnated with an aqueous solution of a diamine and then impregnated with a solution of a diacid chloride in a water-immiscible solvent such as carbon tetrachloride. * * * Under these conditions the diamine and diacid chloride react almost instantaneously at the interface between the phases, producing in situ on the fibers a high molecular weight, resinous polyamide which coats the fibers and renders them shrinkproof.

The patent also discloses the following general considerations:

> A preferred method involves immersing the wool in one solution, removing excess liquid as by use of squeeze rolls, immersing the wool with the second solution, again removing excess liquid, rinsing the treated fabric in water and then drying it. Conventional apparatus consisting of tanks, padding rolls, squeeze rolls and the like are generally used in applying the respective solutions. The amount of each solution applied to the textile may be varied by altering the residence time in the solutions, the pressure exerted by the squeeze rolls and by varying the concentration of the active materials in the respective solutions. To decrease carry-over of the solvent from the first treating solution to the second solution, the wool after its immersion in the first solution may be subjected to drying conditions such as a current of warm air to concentrate the solution carried by the wool.
>
> * * * * * * *
>
> Ordinarily, the treatment of the wool with the solutions of the complementary agents is carried out at room temperature as at such temperature the polymerization takes place very rapidly, that is, in a matter of a minute or less. If, however, a higher rate of polymerization is desired—as in continuous operation on long lengths of cloth—the second solution may be kept hot, for example, at a temperature up to around 150° C.

Appellants' invention is an adaptation of the basic process of Miller et al. to continuous processing. It includes control of five process parameters: (1) the pH of the woolen fabric, (2) the temperature of the diamine solution, (3) the residence time of the diamine solution on the fabric, (4) the amount of diamine solution retained by the fabric, and (5) the pressure applied in the final "padding" of the fabric. Claim 11 is illustrative:

> 11. A process for shrinkproofing long lengths of wool textile in continuous operation at a rate of at least 10 y.p.m. which comprises continuously applying the following steps in sequence: Providing wool textile having a pH in the range from 7 to about 9, passing the textile through an aqueous solution of a diamine maintained at a temperature about from 90 to 150° F., holding the textile in contact with excess diamine solution until the said solution has thoroughly and completely penetrated into the textile, pressing the textile to the extent necessary to remove all the diamine solution which is loosely associated with the textile in the form of surface deposits and collected in interstitial areas to provide a fabric wherein substantially all the retained diamine solution is coated on the fibrous elements of the textile and to provide a wet pickup in the range of about 30 to 60%, impregnating the fabric with a solution of a diacid chloride dissolved in an inert, volatile, essentially water-immiscible solvent, and pressing the fabric under a pressure of at least 100 lbs. per linear inch.

Other claims are directed to limitations on one of the above-listed parameters. Claim 1 is typical:

> 1. In the process of shrinkproofing wool wherein a wool textile is subjected in continuous operation at a rate of at least 10 y.p.m. to serial impregnation with (*a*) a solution of a diamine in water and then with (*b*) a solution of a bifunctional compound capable of forming a polymer with the diamine, said compound being dissolved in an inert, volatile, essentially water-immiscible solvent, the improvement which comprises *adjusting the pH of the textile to the range from 7 to about 9*, prior to impregnating it with the diamine solution. [Emphasis ours.]

The Examiner rejected appellants' claims as obvious in view of Miller et al. under 35 U.S.C. 103. 35 U.S.C. 102(e) is necessarily relied on to make the reference available. In his opinion, "the five limitations [the controlled parameters above referred to] relied upon by appellants as features which patentably distinguish their process from that of Miller et al. are either specifically disclosed as features of the Miller et al. process or are wholly obvious over the features of said process which are disclosed."

[1] In affirming, the Board said: "* * * appellants have merely adapted the Miller et al. process to continuous operation which we believe to be well within the skill of a person versed in this art." We agree.

Appellants point to the fact that their application and the copending Miller et al. patent are commonly owned.[2] They argue that the reference, therefore, may support only a double-patenting rejection. Since, in appellants' opinion, the rejection is properly double-patenting, they allege error in the use of the Miller et al. *disclosure* as prior art. See, e.g., *In re Hammell*, 51 CCPA 1469, 1472, 332 F.2d 796, 799, 141 USPQ 832, 834 (1964).

[3] We must reject the premise that common ownership and copendency in themselves necessarily preclude consideration of a patent as a part of the prior art. A United States patent to another is a valid prior art reference when its United States filing date is earlier than the date of the applicant's invention. 35 U.S.C. 102(e); *Alexander Milburn Co.* v. *Davis-Bournonville*, 270 U.S. 390 (1926). Appellants' filing date, no earlier date having been proved, is their date of invention. A patent is "to another" when the "inventive entities" are different, *In re Land*, 54 CCPA 806, 368 F.2d 866, 151 USPQ 621 (1966), and may then be used as prior art to make the determination required by 35 U.S.C. 103. *Hazeltine Research, Inc.* v. *Brenner*, 382 U.S. 252, 147 USPQ 429 (1965); *In re Harry*, 51 CCPA 1541, 333 F.2d 920, 142 USPQ 164 (1964); see *In re Hilmer*, 53 CCPA 1287, 359 F.2d 859, 149 USPQ 480 (1966).

Appellants would have us carve out an exception to 35 U.S.C. 102(e) in the guise of interpreting "to another." They recognize that in *In re Land*, *supra*, we decided that Land, as sole inventor, and Rogers, as sole inventor, were each "another" to Land and Rogers as joint inventors, despite the common ownership and copendency of the reference patents and application on appeal. They ask us to overrule that case because it fails to take into account modern research techniques in which groups rather than individuals make inventions. Ap-

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[2] Both the reference patent and the application on appeal are assigned to the United States of America as represented by the Secretary of Agriculture. Appellants have filed a terminal disclaimer so that any patent issued on their application will expire contemporaneously with the Miller et al. patent. 35 U.S.C. 253. Our disposition of the case does not require consideration of the disclaimer. [2] It cannot, of course, obviate a rejection based on obviousness in view of prior art under 35 U.S.C. 103. *In re Bowers*, 53 CCPA 1590, 359 F.2d 886, 149 USPQ 570 (1966).

pellants argue that the disclosure of these inventions can only be delayed by a system which makes available the patents issued to one part of a group as prior art against the applications of another part.

Appellants' argument is not without some basis. However, it predicates an elasticity of the statute which we do not find.[3] We are not dealing here with the judicially developed aspects of the law of double patenting, as appellants would have us assume, but with the legislatively declared contents of the "prior art." We decline to overrule *In re Land*, supra, and hold that the Miller et al. patent was properly cited as prior art against appellants' application.[4]

Appellants argue, however, that even if the Miller et al. specification is prior art, their invention is nonetheless unobvious. They rely on their claim limitations on the five process parameters to impart that unobviousness.

Appellants require control of the initial pH of the woolen fabric between the limits 7 and 9. The Examiner held that this was obvious inasmuch as—

> It is obviously somewhat less than sensible to effect diamine penetration of a substrate for the purpose of promoting polymer formation with monomers subsequently applied if the activity of the diamine in the substrate is allowed to be inhibited through salt formation resulting from a failure to effect the substrate's neutralization prior to the diamine treatment thereof.

The Board agreed. Appellants' argument below focused on the failure of the Examiner to appreciate the "real factor of significance—the ability of the diamine solution to penetrate into and exhaust onto the fabric." They argued:

> It is obvious that this mechanism of penetration and exhaustion of the diamine is totally unrelated to the subsequent reaction of the diamine and acid chloride because if the first step (penetration and exhaustion) is incomplete or non-uniform, *an inferior product will be attained even if there is proper reaction of diamine and acid chloride.*

The Board concluded:

> With respect to * * * neutralization of the wool, the Examiner has given one valid reason for its application and this suffices to make this step obvious. However, again the comparison made [in one of the examples] * * * is not sufficiently detailed to warrant the conclusion that this step is critical. The example does not give the pH of the carbonized wool nor its pH after treatment with the weak sodium carbonate solution. The claims are inclusive of treating neutral [pH 7] wool, as well as wool of pH up to 9.

We agree.

[5] Appellants here challenge in this court, for the first time, the validity of the Examiner's "one reason," at least on this record, there being "no evidence to indicate what quantity of acidic materials were present on unneutralized woolen fabrics." We do not consider this argument. *In re Moureu*, 52 CCPA 1363, 345 F.2d 595, 145 USPQ 452 (1965). When an Examiner's statement is first controverted on appeal

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[3] The facts in this case are similar to those in *In re Land* in that the separate inventive entities include some of the same individuals. This factor was argued in *In re Land* as determinative of whether the references were properly prior art against the application. In the case at bar, appellants' argument emphasizes the common assignee of the application and reference as the determinative consideration. We think this is the weaker argument. See *In re Ornitz*, 54 CCPA —, — F.2d —, 153 USPQ 4553 (1967), *In re LoPresti*, 52 CCPA 755, 333 F.2d 932,142 USPQ 176 (1964).

[4] "Appellants' brief, written before *In re Land* was decided, relies on *In re Blout*, 52 CCPA 751, 333 F.2d 928, 142 USPQ 173 (1964), in which it was decided that an earlier filed patent to Corley, which had been copending with the application on appeal, was not properly a prior art reference. The court, however, was there satisfied that the affidavit *evidence* showed no *prior* knowledge by Corley of the invention of Blout and Rogers. Corley, Blout, and Rogers all worked together. "When the 102(e) reference patentee got knowledge of the applicant's invention *from him*, as by being associated with him * * * and *thereafter* describes it, he necessarily files the application *after* the applicant's invention date and the patent as a 'reference' does not evidence that the invention, when made, was already known to others." *In re Land*, supra. [Emphasis added.] There is no such evidence in this case.

to us, especially for lack of evidentiary support, we are not only deprived of the benefit of his views and those of the Board on the particular point, but we also lack assurance that the appropriate support could not have been provided, absent the implicit acceptance of the statement's validity by appellants below.

[6] Appellants do not controvert the Board's conclusion that heating the diamine to facilitate continuous processing is an old expedient. They merely point out that the Miller et al. patent does not suggest the specific temperatures claimed for that particular purpose. An express suggestion is, of course, not required. *In re Rosselet*, 52 CCPA 1533, 347 F.2d 847, 146 USPQ 183 (1965).

We also agree with the Examiner and the Board that the limitations directed to the time of contact of diamine and fabric, the removal of excess diamine from the fabric, and the final padding pressure define the most obvious variants of the process disclosed by the reference where, indeed, they define any variant at all.

[7] The decision of the Board is affirmed.

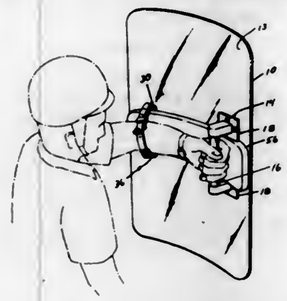
AFFIRMED.

PATENTS

GRANTED FEBRUARY 27, 1968

GENERAL AND MECHANICAL

3,370,302
PROTECTIVE SHIELD ASSEMBLY
Albert A. Karlyn, 81 Ridge Road, Wethersfield, Conn. 06109
Filed Feb. 25, 1966, Ser. No. 530,195
10 Claims. (Cl. 2—2.5)



1. A protective shield assembly for use by an individual comprising: a substantially transparent shield of relatively high impact-resistant synthetic plastic material, said shield having a generally curvilinear transverse cross section providing a concave inner surface; and arm-engageable means mounted on said inner surface of said shield including a releasable retaining assembly for encircling the upper forearm of the user, said retaining assembly being releasable by a force acting to pull said shield away from the arm of the user to free his arm therefrom, and holding means for engagement by the lower arm of the user for facile manipulation and positioning of said shield assembly.

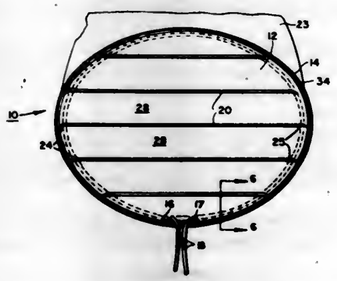
3,370,303
SLEEVELESS RAIN PROTECTING GARMENT
Hermann Tempelhof, Cortaillod, Switzerland, assignor to Etablissements H. Tempelhof, Neuchatel-Serrieres, Neuchatel, Switzerland
Filed Aug. 3, 1966, Ser. No. 569,909
Claims priority, application Switzerland, Aug. 19, 1965, 11,671/65
4 Claims. (Cl. 2—88)

This invention is directed to a sleeveless rain protecting garment, and particularly a garment which provides both mobility of the arms of the wearer and complete rain protection, even though mobility is achieved. This mobility and rain protection is achieved by providing a wrapping part which is arranged to extend across the back and shoulders of the wearer to terminate in edges separated from each other at the front of the wearer, and a frontal protective part which is positioned over the chest of the wearer. The edges of the wrapper are arranged to be detachably securable to flanges on the frontal protective part. Thus, complete rain protection is assured. The arms have mobility under the wrapping part, and may be extended out through the opening between the wrapping part and the flanges, when they are disconnected. Furthermore, the arms can be extended out between the edges of the wrapper and flanges when the fastening means permits such movement. In the preferred embodiment, the frontal protective part terminates at the flanges which detachably secure to the wrapper. However, in another embodiment, the frontal protective part is part of a complete sleeveless protective coat which extends around the back of the wearer and it may extend downward farther than the wrapper.



The invented rain protecting garment is characterized by at least one wrapping part which at least along its lateral edges is connectible with a frontal protective part, that is suitable for enclosing of the neck portion.

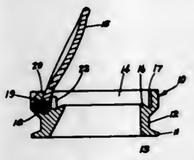
3,370,304
HAIR-PROTECTING HEAD COVERING
Eugene Pelletier, 155-A E. 71st St., New York, N.Y. 10017
Filed June 25, 1965, Ser. No. 466,913
5 Claims. (Cl. 2—174)



1. A hair-protecting substantially circularly-shaped head covering, said head covering comprising, in combination, a head cover made of flexible fabric material and having an area adapted to extend approximately from the hairline of a wearer to a substantial distance above the top of a wearer's head, said cover having a normally loose headband portion extending about the periphery thereof and forming an opening in said cover substantially larger than the normal human head, a plurality of elon-

gated resilient ribs secured to said cover for resiliently spreading the sides of said headband apart so as to hold said opening in an open, normally loose condition, and means operable for tightening said headband portion, substantially reducing the size of said opening, and securing said head covering onto the head of the wearer.

3,370,305
HEART VALVE WITH MAGNETIC HINGE MEANS
Bernard Goott, Minneapolis, Minn. (1457 Lowry Medical Art Bldg., St. Paul, Minn. 55402), and Robert T. Bruss, P.O. Box 5646, Minneapolis, Minn. 55417
Filed May 28, 1965, Ser. No. 459,634
8 Claims. (Cl. 3—1)

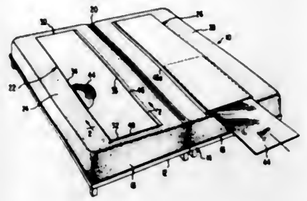


1. A prosthetic heart valve for replacement of malfunctioning natural heart valves comprising
(A) a generally annular rigid valve body,
(B) an annular external channel to receive a suture ring for attachment of said valve to living tissue,
(C) a central blood flow channel through said body,
(D) one end of said channel being of enlarged diameter,
(E) valve seat means at said enlarged end of said channel,
(F) a disc valving element seating in closed position on said valve seat means, said disc valving element being magnetically attractive over at least a portion of its periphery,
(G) magnetic hinge means adjacent said enlarged end of said blood flow channel magnetically engaging one edge of said disc valving element in pivotal relationship, and
(H) limit stop means adjacent said hinge means to restrict the movement of said disc valving element.

8. A check valve comprising
(A) a generally annular rigid valve body,
(B) a central fluid flow channel through said body,
(C) one end of said channel being of enlarged diameter,
(D) valve seat means at said enlarged end of said channel,
(E) a disc valving element seating in closed position on said valve seat means, said disc valving element being magnetically attractive over at least a portion of its periphery,
(F) magnetic hinge means adjacent said enlarged end of said flow channel magnetically engaging one edge of said disc valve element in pivotal relationship, and
(G) limit stop means adjacent said hinge means to restrict the movement of said disc valving element.

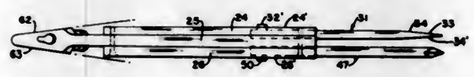
3,370,306
BODY SUPPORTING UNITS OF SLEEPING OR RECLINING FURNITURE OR EQUIPMENT
Henry H. Lovette, 2431 English Road, High Point, N.C. 27260
Filed Feb. 3, 1966, Ser. No. 524,938
8 Claims. (Cl. 5—327)

A box spring having a thin, pliable envelope hingedly attached along one side edge to the top of the box spring, and having an access opening along one end edge to removably receive a bed board. The envelope is approximately half the width of the box spring and is centrally



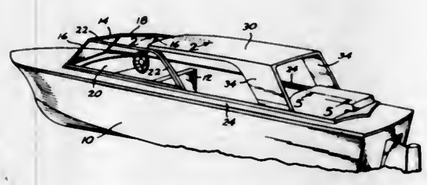
disposed so that if two such springs are side by side, the envelope can be swung to span the adjacent side portions of the two springs.

3,370,307
COMBINATION TOOL DEVICE
Ronald L. Beeks, Box 113, Goldendale, Wash. 98620
Filed Aug. 24, 1965, Ser. No. 482,110
2 Claims. (Cl. 7—7)



A tool comprising a wrench, the wrench having jaws with their forward ends inclined downwardly, said wrench having a handle projecting from the rearward end of one of the jaws, a pair of elongated housing plates extending substantially the length and height of said handle and abutting opposite sides of the handle in complementary relation, said housing plates each having channels which cooperate with the outer faces of the handle to form passageways with a rectangular cross-section, a pair of screwdrivers each having a stem with a rectangular cross-section slidably mounted in said rectangular passageways, said housing plate each having slots centrally of the height of the plates and extending along their length, and communicating with said passageways and of reduced height with respect to height of said passageways, said screwdriver stems having lugs projecting in opposing relation to one another out through said slots for moving said screwdriver stems along said passageway to project said screwdriver out the rear of said housing plates, pivotally mounted levers beneath the passageways to lock said stems in their projected position.

3,370,308
CONVERTIBLE HARDTOP ASSEMBLY FOR BOATS
Leo M. Krenzler, 311 E. Alexander Ave., Tacoma, Wash. 98421
Filed July 29, 1966, Ser. No. 568,807
7 Claims. (Cl. 9—1)



A hardtop has integral rear side panels carrying removable brackets mounting rollers for guiding support in

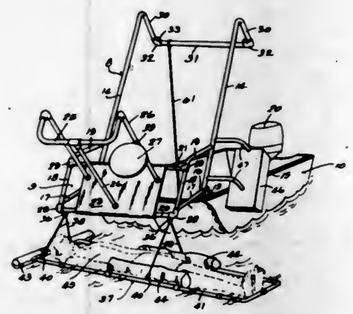
an elongated horizontal rear track secured to gunwales on a boat. Laterally spaced brackets secured removably to the hardtop adjacent the front of the latter pivotally mount rollers for guiding support in an elongated front track secured to side windows of the boat. The forward portion of the front track extends angularly forward and downward along the sides of the boat windshield to lower the front end of the hardtop into sealing engagement with a weather seal along the top edge of the windshield.

3,370,309
RETRACTABLE WHEEL SYSTEM FOR PONTOON RAFTS
Edward A. Fredelake, P.O. Box 164, Spearville Township, Ford County, Kans. 67876
Filed Nov. 7, 1966, Ser. No. 592,509
10 Claims. (Cl. 9—1)



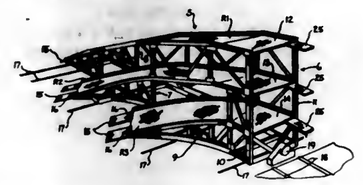
A retractable wheel system for a vessel having a leaf spring which is connected at one end to the frame of the vessel and at the other end to a main strut for a wheel by means of an auxiliary strut.

3,370,310
TILTING LIFT FRAME FOR SMALL BOATS
Clifford S. La Tour, Nashotah, Wis., assignor to Water Safety & Utility Research, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 22, 1965, Ser. No. 449,970
13 Claims. (Cl. 9—14)



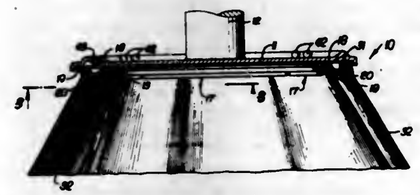
Disclosed herein is a tilting lift frame for rescue work, which is adapted for pivotal mounting to a boat hull. The frame has lever arms extending longitudinally of the hull which serve as handles to manipulate the suspension frame which overhangs forwardly of the hull. The suspension frame supports a stretcher for an injured person. The frame can be tilted forwardly for connection to the stretcher and then pivoted rearwardly to elevate the stretcher to a position above the water for travel to an aid station.

3,370,311
TRI-LEVEL LOADER AND UNLOADER FOR AUTOMOTIVE VEHICLES
George Demos, 4519 76th St., Racine, Wis. 53402
Filed Feb. 10, 1966, Ser. No. 526,518
6 Claims. (Cl. 14—72)



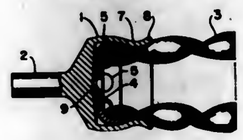
Automotive vehicles can be simultaneously loaded onto or unloaded from triple deck railroad cars by means of a supporting structure having superimposed top, bottom and intermediate decks at its front and separate inclined ramps for said decks, all of which extend downwardly and rearwardly therefrom. Two of said ramps have lower portions which extend laterally outwardly from the supporting structure to provide side entrances for the decks to which they lead.

3,370,312
DISPOSABLE STREET SWEEPER GUTTER BROOM
Simon Tamny, Los Angeles, and Robert E. Brown, Claremont, Calif., assignors to Wayne Manufacturing Company, Pomona, Calif., a corporation of California
Filed Apr. 11, 1966, Ser. No. 541,633
6 Claims. (Cl. 15—180)



The invention contemplates a disposable street sweeper gutter broom construction employing the general combination of an upper bristle retainer plate, an engaging first bristle supporting plate in the form of a sheet metal stamping having outwardly directed apertures to receive bristles held between the stamping and retainer plate, and a second and lower plate secured to the first plate in spaced relation and having apertures which pass and laterally support the bristles.

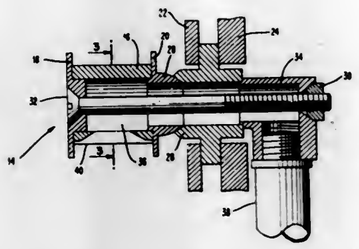
3,370,313
ROTARY BRUSHING TOOL
Brooks E. Nelson, Chagrin Falls, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 27, 1967, Ser. No. 618,912
9 Claims. (Cl. 15—198)



A power driven rotary end brush having a cup-shaped holder with a constricted but outwardly flared lip to facilitate radially outward flexing of the brush material

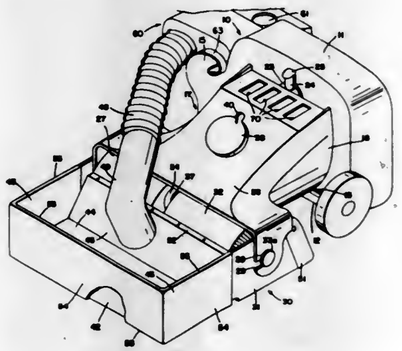
under the influence of centrifugal force, with the central portion of the tool within the cup being unobstructed to permit inward bulging and arcuate flexing of the brush material in the region of attachment of the same.

3,370,314
TAPE GUIDE AND CLEANER
Herbert Morello, Utica, N.Y., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 30, 1965, Ser. No. 468,416
4 Claims. (Cl. 15—308)



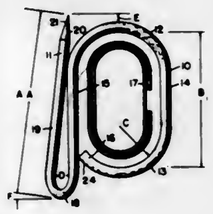
1. A tape guide assembly comprising a cylindrical element for receiving tape thereon, a pair of tape edge guide elements disposed on said cylindrical element to maintain said tape in alignment on said cylindrical element during operation, a mounting member, first means including a ball joint device for fixedly securing said cylindrical element and said pair of guide elements to said mounting member, and second means including a ball joint device for adjusting the relative position of said cylindrical element with respect to said mounting member prior to fixedly securing said cylindrical element and said pair of guide elements to said mounting member.

3,370,315
RUG CLEANER ATTACHMENT
Charles H. MacFarland, Rocky River, and Alexander A. Papp, Cleveland, Ohio, assignors to The Scott & Fetzer Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 4, 1965, Ser. No. 423,180
2 Claims. (Cl. 15—320)



1. In a rug cleaning device, a power driven brush mounted for rotation in a forward-downward and rearwary-upward direction around a horizontal axis, a suds confining and distributing chamber mounted ahead of said brush, said chamber including means for leveling and spreading suds confined therein so that an even layer of suds is laid on the rug ahead of the brush for substantially the entire length of the brush, means for generating suds and for delivering the generated suds to the suds confining and distributing chamber, a receptacle for dirty suds mounted ahead of said brush, doctoring means between said brush and said receptacle for removing from the brush the suds that it has picked up, whereby as said rug cleaning device is advanced suds that have been laid down by said suds confining and distributing chamber are used by the brush to clean the rug, and each increment of suds that is picked up by the brush in the course of such cleaning is carried partly around the brush and removed by the doctoring means prior to the completion of a single turn of the brush.

3,370,316
FASTENER FOR CURTAINS, DRAPERIES AND THE LIKE
William E. Stieler, 6832 Marlette Road, Marlette, Mich. 48453
Filed Jan. 24, 1966, Ser. No. 522,631
8 Claims. (Cl. 16—87.2)

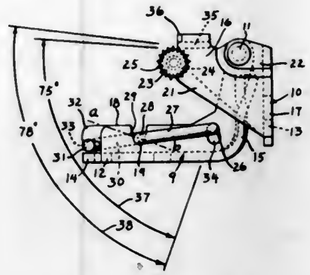


The invention herein disclosed relates to a new construction of drapery hanger, so designed that it is inexpensive to manufacture yet adequate for use with heavy draperies. When constructed from wire, it includes an oval ring arcuate at top and bottom with straight connecting portions. The free end of the ring is in actual contact with the inner straight portion or separated from it by less than the wire thickness. Said inner straight portion extends beyond the adjacent arcuate portion and is return bent to extend at a slight angle with said inner straight portion, terminating in a sharp point slightly beyond the opposite arcuate portion. The hanger may be constructed by bending metal wire into the above defined shape or it may be molded from any suitable material into said shape.

3,370,317
DOOR HINGES WITH TORSION BAR HOLD-OPEN MEANS
Joseph H. Marchione, Rockford, Ill., assignor to Atwood Vacuum Machine Company, Rockford, Ill., a corporation of Illinois
Filed Nov. 16, 1964, Ser. No. 411,445
25 Claims. (Cl. 16—145)

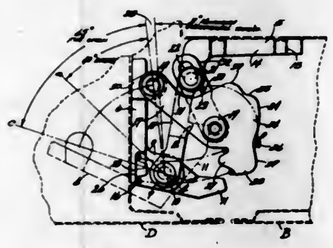
The hinge, in one form, has a single scalloped roller as a striker mounted on a vertical pin for rotation relative to one plate of the hinge, the other plate carrying a vertical torsion bar with the upper end bent in a semicircle to provide a laterally extending arm with a substantially vertical detent portion projecting from its outer end, which is supported on the plate independently of the other plate so as to maintain a preload spring tension, the detent portion being disposed in the path of arcuate movement of the striker roller and movable relative to the torsion bar by deflection of said arm by said

roller in a direction to increase the spring tension in said bar when said roller comes into engagement with said detent in the door opening and closing movement of the door for a hold-open action in fully opened position, the scalloped periphery of the roller causing the detent to drop into a scallop upon each engagement, thereby forcing the roller to turn through a certain angularity in each movement of the roller past the detent. There is friction means resisting turning of the roller so that



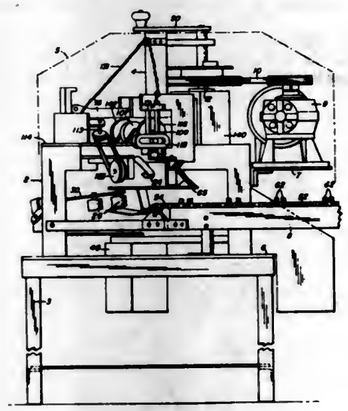
the same scallop is engaged by the detent in each operation in the door opening and closing operation until the roller is turned to a new position. In another form, two scalloped rollers are used on the same plate, disposed in laterally spaced relation, both arranged to engage and move past the same detent at different points in the door movement, where the door is to be held open in both the extreme open position and an intermediate mid-open position, the door swinging freely otherwise.

3,370,318
AUTOMOBILE DOOR HINGE WITH TWO-POSITION TOGGLE TYPE HOLD-OPEN
Joseph H. Marchione, Rockford, Ill., assignor to Atwood Vacuum Machine Company, Rockford, Ill., a corporation of Illinois
Filed Feb. 23, 1966, Ser. No. 529,447
10 Claims. (Cl. 16—145)



1. In combination with a door hinge including a body hinge member and a door hinge member pivotally connected together, a hinge hold-open comprising an elongated cam lever pivotally mounted at one end on one of said members for swinging movement in a plane substantially parallel to the plane of relative movement of said members, said lever including a cam shaped portion on one side thereof intermediate its ends with a hold-open detent recess provided therein, a cam follower on the other of said members engageable with said cam in positions of said hinge members between the open and closed positions of the door, an elongated toggle link pivotally connected at one end with said cam lever intermediate the ends thereof and pivotally connected at its other end on the same member carrying the cam follower, said link having an elongated slot longitudinally of said link at one of said pivots to allow a predetermined amount of lost motion, and compression spring means extending between the other end of said cam lever and the first mentioned hinge member on which the elongated cam lever is pivoted, said follower being engageable in said hold-open detent recess to hold the door open in a predetermined position between open and closed positions of the door, and being engageable with said cam also near the outer end of said cam lever to hold the door open in fully opened position.

3,370,319
CRAB PROCESSING APPARATUS
Daniel E. Houghton and Emmett F. Deady, Arlington, Va., assignors to the United States of America as represented by the Secretary of the Interior
Filed Oct. 21, 1965, Ser. No. 500,456
15 Claims. (Cl. 17—2)

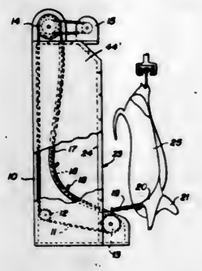


Crab processing wherein clean crab cores are produced by a cyclically sequenced apparatus having a crab carrier and crab transfer mechanism synchronously rotatable on separate axes driven together for operation concurrently with crab rendering devices which function in openings and recesses in the carrier and mechanism at stations around the apparatus. At a first of these stations a crab is properly oriented in an opening for subsequent processing, and in this opening at a second station a cardioid shaped crab core is punched out and displaced to a recess wherein the core is cleaned of its carapace and viscera. At a third station the core in the recess is further cleaned of its ventral covering, and transferred to a fourth station whereat the core is dislodged from the recess into a container therefor.

3,370,320
HIDE GUIDES FOR HIDE PULLERS
Edward Arvid Johnson, 506 Kildare Ave. E., Transcona, Manitoba, Canada
Filed Nov. 23, 1965, Ser. No. 510,143
Claims priority, application Canada, Dec. 15, 1964, 918,766
24 Claims. (Cl. 17—21)

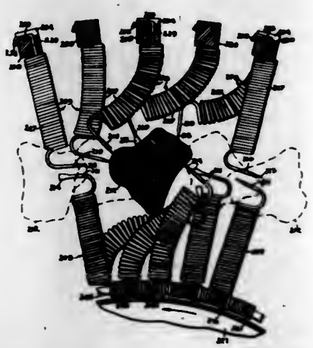
This device consists of a pair of hide guides used in conjunction with a hide puller wherein the hide is held close together as it is stripped from the carcass with the sides folding in upon one another so that any dirt or

debris is collected within the trough formed by the hide. Additionally further guide means extend from the hide



guides towards the upper end thereof which may be adjusted as to the distance therebetween.

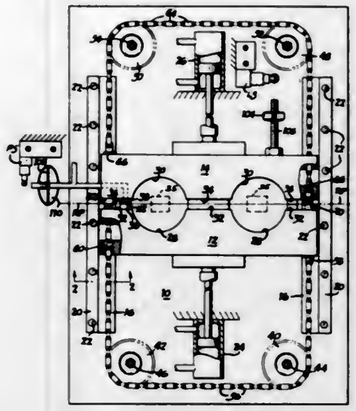
3,370,321
METHOD FOR REMOVING MEAT FROM BONES
Stephen A. Paoli, 821 Westchester Drive, Rockford, Ill. 61107
Original application Sept. 6, 1963, Ser. No. 307,148, now Patent No. 3,256,555, dated June 21, 1966. Divided and this application June 29, 1965, Ser. No. 482,650
11 Claims. (Cl. 17—45)



1. A method of removing meat from bone and comprising the steps of providing relatively movable yieldable cleaning elements, subjecting a meat-laden bone to said yieldable cleaning elements with random tumbling motion so as to expose substantially its entire area to the action of said cleaning elements thereby removing meat from the bone, and simultaneously moving the bone in opposition to its tumbling motion along a predetermined path as an incident to exposure to said yieldable cleaning elements, said path being defined by said cleaning elements and having an axis external to the bone, collecting the removed meat, and ejecting the bone as it reaches the end of said path.

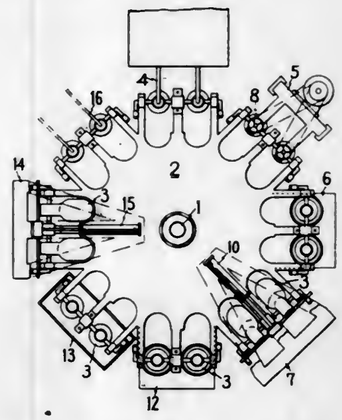
3,370,322
BLOW MOLDING APPARATUS
Casimir William Nowicki, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Aug. 16, 1963, Ser. No. 302,688
6 Claims. (Cl. 18—5)

1. Blow molding apparatus comprising a frame, a pair of mold half platens mounted on said frame at opposite sides of an imaginary stationary reference plane, means supporting said platens on said frame for guided movement toward and away from each other and said reference plane, motor means coupled to each platen, means for actuating said motor means to simultaneously drive said platens toward each other and said reference plane to a mold closed position or to simultaneously drive said platens away from each other and said reference plane to a mold open position, sprocket means mounted in said frame for free rotation at locations spaced outwardly from said reference plane beyond the mold open position of said platens, means defining an endless chain trained



about said sprocket means and extending between said sprocket means in oppositely movable runs extending parallel to the direction of movement of said platens, means fixedly coupling one of said platens to one of said runs, and means fixedly coupling the other platen to the other of said runs to thereby maintain said platens at equal distances from said reference plane throughout their full range of movement relative to said frame.

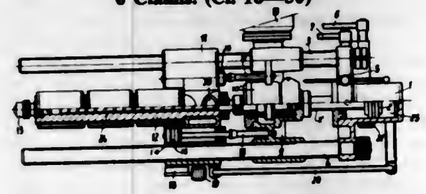
3,370,323
APPARATUS FOR MOLDED PLASTIC PRODUCTS
Morio Sato, Tokyo, Japan, assignor to Kyowa Kako Kabushiki Kaisha, Katsushika-ku, Tokyo, Japan
Original application July 14, 1965, Ser. No. 471,848. Divided and this application Dec. 14, 1965, Ser. No. 513,688
1 Claim. (Cl. 18—26)



An apparatus for producing molded plastic articles comprising a rotatable disc frame having a plurality of equally spaced molds rotatably and tiltably mounted on the periphery of the disc frame. A series of operating stations including a material pouring unit, an agitating

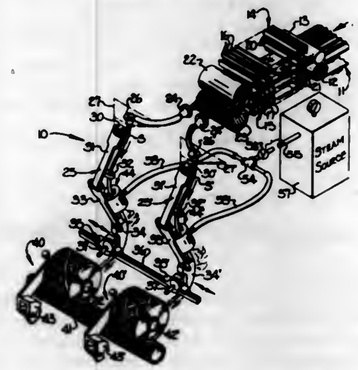
means, and a high-frequency heating furnace are provided at relative positions about the periphery corresponding to the mold positions. A means for laterally turning the molds is provided, having a ring frame mounted adjacent the periphery of the rotatable disc frame and having its center at the pivot of the molds for lateral turning, and having mounted rotatably and coaxially therein a rotatable inner ring frame having an inside vacant portion for passage of the molds therethrough. A pair of clip arms inwardly extend from the inner ring frame to receive therebetween the molds passing by the lateral turning station and a limit switch, between the clip arms, and a motor combination is provided and geared to the inner circumference of the inner ring for turning the inner ring frame, when a mold enters the clip arms, about the lateral pivot of the mold.

3,370,324
MOLD INJECTION UNIT
Karl Hehl, Lossburg, Wurttemberg, Germany, assignor to Arburg Maschinenfabrik Hehl & Sohne, Lossburg, Wurttemberg, Germany
Filed Oct. 5, 1965, Ser. No. 493,052
Claims priority, application Germany, Oct. 6, 1964, A 47,258
6 Claims. (Cl. 18—30)



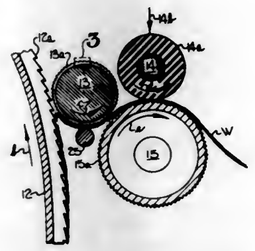
A device for injecting a mass of plastic into a mold, the operating flexibility of the device and the speed at which it can be operated being enhanced by mounting the conveyor screw for axial sliding movement in the injection cylinder, by controlling the axial movement by means of the piston of a stationary hydraulic cylinder, and by controlling the rotation of the screw by a separate rotary drive.

3,370,325
GILLING MACHINE
John G. Wellman, Johnsonville, S.C., assignor to Wellman Industries, Inc., a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,347
1 Claim. (Cl. 19—66)



A steam treatment chamber vertically disposed on and carried by a swing arm of a gilling machine for steam treatment of wool sliver passing therethrough to effect a relaxation of the natural crimp in the fibers prior to winding the sliver into a package.

3,370,326
METHOD AND APPARATUS FOR FORMING A WEB OF HIGHLY PARALLELIZED TEXTILE FIBERS
Marvin A. Law, Spray, N.C., assignor to Fieldcrest Mills, Inc., Spray, N.C., a corporation of Delaware
Filed Sept. 20, 1965, Ser. No. 488,370
5 Claims. (Cl. 19—106)



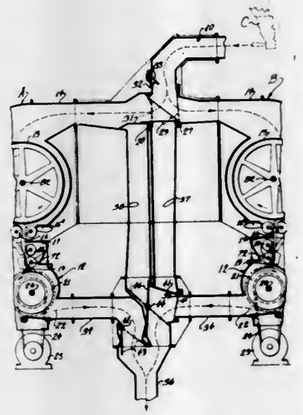
A method and apparatus of obtaining high parallelization of textile fibers in a web coming from a doffer cylinder of a carding machine wherein the web is detached from the doffer cylinder and passed through the nip of a pair of drafting rolls at a linear speed considerably in excess of the surface speed of the doffer cylinder to impart draft to the web and parallelization to the fibers thereof, and wherein a combing action is imparted to the web prior to passage through the nip of the drafting rolls to increase the parallelization of the fibers thereof by engaging the web with a slower moving toothed surface at such a location that the trailing ends of fibers of at least average staple length are engaged by the toothed surface while their leading ends are passing through the nip of the drafting rolls.

3,370,327
APPARATUS FOR CLEANING LINT COTTON AND THE LIKE
Donald W. Van Doorn, Columbus, Ga., assignor to Lummus Cotton Gin Company, a corporation of Georgia
Filed Mar. 6, 1967, Ser. No. 620,895
6 Claims. (Cl. 19—205)

Apparatus designed for placement following cotton gins and which is effective to clean the lint cotton coming from the gins, said apparatus consisting essentially of two separate lint cleaners, and there being provided means for passing the cotton selectively through the cleaners either in tandem, or simultaneously, from the gin to both cleaners in substantially equal quantities, or all of the cotton from the gin through a selected one of the lint cleaners only or, to by-pass both lint cleaners completely.

In recent years there has been a steady trend of harvesting cotton containing more and more trash. This is due primarily to the ever increasing shortage of labor and the resulting development of machine harvesting systems which gather much trash, such as leaves, stems, hulls and stalks with the seed cotton. As a result of such dirty cotton, there has been increasing pressure on ginners to provide ginning equipment which will remove this trash from the cotton coming from the gin. The most effective machines to remove this type of foreign matter from seed cotton have proven to be lint cleaners which clean the cotton fiber or lint after the seed has been removed in the ginning process. At first, one stage of lint cleaners was introduced immediately following the

gin and later, a second stage was introduced, and still later, in some cases, even three stages of lint cleaners are being used to remove the foreign matter from the ginned cotton. Recently, many tests conducted by government and independent research groups have shown that the use of saw type lint cleaners, these being the types predominantly used, result in a certain amount of fiber damage. Some textile mills requiring high quality cotton fiber, free of neps and with maximum staple length, have demanded that no more than one stage of saw type lint cleaners be used on the cotton purchased by them. However, since the average gin must gin cotton for the government loan and for a multitude of private cotton buyers, most of which buyers presently pay a premium for cleaner cotton rather than pay a premium for the preservation of staple length and reduction of neps, there is a need that the gins be able to gin cotton for maximum cleanliness for some customers and for maximum fiber quality at the sacrifice of cleanliness for other customers.



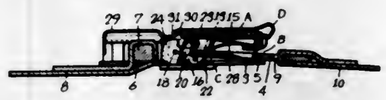
With the foregoing in mind I have developed and in this application disclose and claim a lint cleaner ducting and valving system by means of which two lint cleaners, preferably of the saw type, may be associated with the lint system in such fashion that the cotton may be operated upon selectively by the two lint cleaners. That is to say, by means of my invention the ginned cotton from a lint flue may be passed in tandem through the two lint cleaners, or, all of it through a selected one of the lint cleaners, or, the cotton may be divided substantially equally between the two lint cleaners or, both lint cleaners may be completely by-passed. In the case of passing the cotton through two saw type lint cleaners in tandem, I obtain maximum cleaning, but such working results in some fiber degradation. In the same system, by switching a few simple valves and shifting a quick change drive mechanism on the feed works, the system may be set up to split the lint cotton equally between the two lint cleaners. In this case each machine processes cotton at half the rate it would normally process the same when the machines are run in series, thereby accomplishing a much more effective cleaning job than can be accomplished if the cotton were passed through only one lint cleaner, by-passing the second one. Thus, in the case just mentioned the fiber degradation is held to a minimum by subjecting the cotton to only one stage of saw type lint cleaning and the trash content of the processed cotton is reduced compared to the use of one machine singly. Furthermore, since the cotton is processed at half the normal rate when the split option is employed, the cotton is handled more gently and the fiber damage is reduced below that which would occur if one lint cleaner were used singly and treated the fiber at twice the feed rate. Still further, whenever necessary or desired, by a simple setting of the valve arrangement both lint cleaners may be by-passed completely.

3,370,328
TYING DEVICE AND METHOD OF AND APPARATUS FOR FORMING THE SAME
Frank E. Hilton, Portland, Oreg., assignor to Package Containers, Inc., Portland, Oreg., a corporation of Oregon
Filed Jan. 30, 1964, Ser. No. 341,305
18 Claims. (Cl. 24—16)



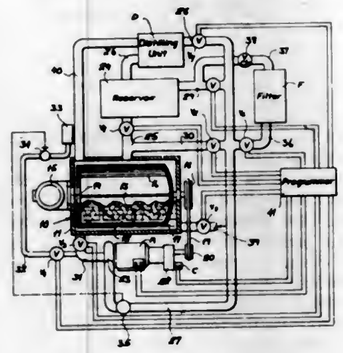
This application discloses a method of making a wire-reinforced tying device having an advertising panel portion from a single continuously moving web of sheet material and a single continuous strand of wire. The method is performed in an apparatus having mounted thereon a roll of relatively wide paper web and a roll of wire both of which are unrolled and drawn through the apparatus in a continuously moving web and strand respectively. The apparatus includes means spaced along the conveyor path for performing in sequence various operations on the paper web, including imprinting the web with a legend, and then applying adhesive to a side edge surface portion of the web. Thereafter the wire and web are drawn together through a folding device wherein the adhesive-coated edge portion of the web is folded over the wire. The folded edge then passes between frictionally engaged pressure rolls which press the glued surfaces of the edge together to form a continuous wire-reinforced seam. Subsequently, a rotating slitter blade downstream from the pressure rolls periodically penetrates the passing web just inwardly of the seam to make a single longitudinal slit in the web. Downstream from the slitter, three spaced cutter blades on a single rotating cutter shaft make three successive transverse cuts in the passing web, each of which cuts is spaced to intersect the same longitudinal slit and sever a tying device in its final shape from the web upon each revolution of the cutter shaft. Thereafter, vacuum segregating means separates the finished tying devices from the resulting paper scrap, and collecting apparatus stacks the finished tying devices in neat piles.

3,370,329
BUCKLE DEVICE
Takezo Takada, 1741 Hikotomi, Inaemachi, Echi-gun, Shiga-ken, Japan
Filed Mar. 31, 1966, Ser. No. 539,146
Claims priority, application Japan, Apr. 12, 1965, 40/28,435; Nov. 19, 1965, 40/94,206; Nov. 30, 1965, 40/97,268
4 Claims. (Cl. 24—230)



A buckle device for a safety belt in which a guide member slidably mounted on a base member forms with the latter a gap receiving an insert to which one end of the belt is fastened and including a lever pivotally mounted on the guide member and cooperating with the roller means for maintaining the insert in the gap in one position of the lever and for releasing the insert in another position of the lever.

3,370,330
METHOD OF MILLING WOOL-CONTAINING FABRICS
Johannes Helmut Sieber, Neuass, near Augsburg, Germany, assignor to Firma Bohler & Weber KG., Augsburg, Germany, a corporation of Germany
Application May 8, 1963, Ser. No. 278,955, now Patent No. 3,330,015, dated July 11, 1967, which is a continuation-in-part of application Ser. No. 160,640, Dec. 19, 1961. Divided and this application May 3, 1965, Ser. No. 461,224
Claims priority, application Germany, Dec. 23, 1960, B 60,633
5 Claims. (Cl. 26—19)



1. A method of milling a wool-containing fabric, comprising the steps of dispersing water in an organic vehicle containing a dry-cleaning solvent and present in a quantity sufficient to provide a liquor ratio from substantially 1:2 to 1:50 based upon the weight of said fabric to be treated, said water being dispersed in the presence of a quantity of a surface-active agent equal to a small fraction of that of the dispersed water and sufficient to stabilize the water dispersion but less than that required to solubilize said water, said quantity of surface-active agent ranging between substantially 0.1% and 10% of the weight of said fabric;

immersing said fabric in said vehicle while agitating said fabric therein for a period of time compatible with the fabric treated and at a temperature of said vehicle of about 25° C. sufficient to result in substantial absorption of water from said vehicle by said fabric but less than that at which said fabric becomes felted;

removing the fabric from said vehicle; and thereafter drying said fabric.

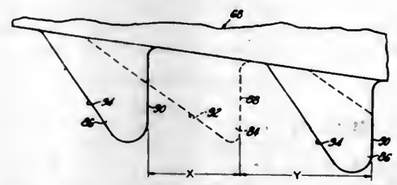
3,370,331
SPARKPLUG AND PROCESS OF MANUFACTURING THE SAME
Howard J. Beardslee, Jr., Defiance, Ohio, assignor to The Zeller Corporation, Defiance, Ohio, a corporation of Ohio
Filed Apr. 1, 1963, Ser. No. 269,270
5 Claims. (Cl. 29—25.12)

3. In a method of making a resistor sparkplug having a resistor within a ceramic insulator and having a pair of conductive vitreous seals at opposite ends of said resistor adjacent an electrode and a conductor respectively, the improvement which consists in first protecting the resistor by impregnating the outer surface with a non-conducting coating to increase the diameter thereof to such an extent that it completely fills the cavity in said ceramic insulator, and then subjecting said seals and coated resistor to endwise pressure while heating to vitrification temperature to thereby compact and vitrify said



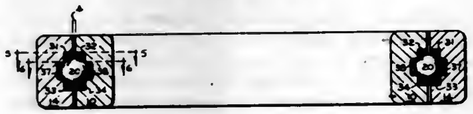
seals, said coating which completely fills the cavity preventing the entry of any vitrifiable material between the resistor and the ceramic body.

3,370,332
CONICAL MILLING CUTTER
Albert J. Kane, Rockville, Conn., assignor to The Capewell Manufacturing Company, Hartford, Conn., a corporation of Connecticut
Application Mar. 11, 1965, Ser. No. 446,766, now Patent No. 3,331,265, dated July 18, 1967, which is a continuation of application Ser. No. 275,816, Apr. 26, 1963. Divided and this application June 2, 1967, Ser. No. 643,166
8 Claims. (Cl. 29—103)



A conical milling cutter for manufacturing saw blades having burr-free -teeth with fully milled cutting edges and a positive forward rake wherein the cutter is provided with identical teeth arranged in longitudinal and peripheral rows and identical teeth of a different tooth form arranged in alternate longitudinal and peripheral rows with unequal distance between each longitudinal row of teeth and the longitudinal row of teeth on each side of it.

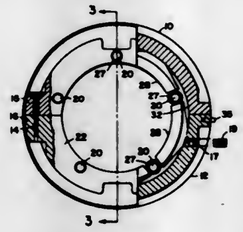
3,370,333
BALL BEARING MANUFACTURING METHOD
Christian D. Gibson, Greene, N.Y., assignor to The Raymond Corporation, Greene, N.Y., a corporation of New York
Origiual application Oct. 19, 1964, Ser. No. 404,988, now Patent No. 3,332,728, dated July 25, 1967. Divided and this application June 12, 1967, Ser. No. 645,104
5 Claims. (Cl. 29—148.4)



Method of manufacturing a ball-bearing by forcing sets of hardened racewires together on a set of balls while

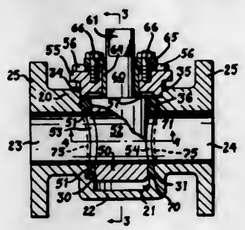
rotating the racewires, to cold-work the corners of the racewires to provide bearing seats arcuate in cross-section. A number of industrial applications, many of which relate to material-handling apparatus, require the use of large diameter ball bearings capable of rotatably carrying massive loads.

3,370,334
METHOD OF MAKING TILTING SHOE JOURNAL BEARINGS
Karol Pilarczyk, Morrisville, and James R. Prairie, Fallsington, Pa., assignors to De Laval Turbine Inc., Trenton, N.J., a corporation of Delaware
Original application Oct. 28, 1964, Ser. No. 407,090, now Patent No. 3,318,643, dated May 9, 1967. Divided and this application Feb. 17, 1967, Ser. No. 616,938
3 Claims. (Cl. 29—149.5)



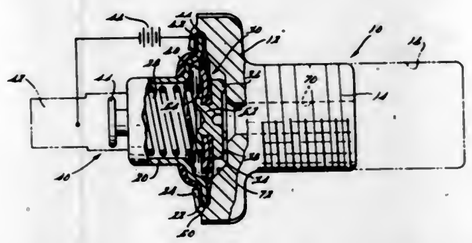
Shoes for tilting shoe journal bearings are formed by machining a metal ring, and babbitting its internal bore, and cutting the ring into segments. The cuts are made so that small pieces are removed which have parallel faces. The faces of the bearing shoes converge toward the center of the bore, and the shoes may be inserted into a housing and held in place by pins parallel with the bearing axis and engaging the end faces of the shoes.

3,370,335
METHOD OF MAKING A PLUG VALVE HAVING A FLUOROCARBON SLEEVE
Jacob B. Freed, Dayton, Ohio, assignor to The Duriron Company, Inc., Dayton, Ohio, a corporation of New York
Application Feb. 21, 1963, Ser. No. 260,952, now Patent No. 3,206,163, which is a continuation of application Ser. No. 38,618, June 28, 1960. Divided and this application Nov. 3, 1964, Ser. No. 414,049
5 Claims. (Cl. 29—157.1)



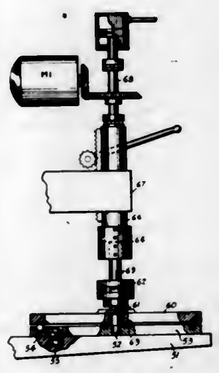
A valve body including pockets and grooves has a fluorocarbon sleeve assembled therein by assembling a blank sleeve into the body, forcing a dummy tapered plug into the sleeve, heating the thus assembled combination to force portions of the sleeve into the pockets and grooves. The combination, with the plug held in place is cooled so that a portion of this sleeve is held in tension. The dummy plug is removed, ports are cut in the sleeve and the remaining components of the valve are assembled.

3,370,336
RESILIENT MEMBER CALIBRATION METHOD
Anthony K. Otto, Ann Arbor, Mich., assignor to King Seeley Thermos Co., Ann Arbor, Mich., a corporation of Michigan
Filed Jan. 4, 1966, Ser. No. 518,640
10 Claims. (Cl. 29—173)



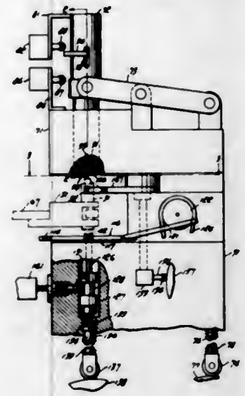
1. A method of varying an effective characteristic of a resilient member comprising the steps of placing the resilient member in a condition responsive assembly with the resilient member distorted to provide a preload force on a condition responsive element within the assembly, applying a predetermined force against the condition responsive element opposing said preload force and of a magnitude in accordance with a condition to be determined, applying heat to said resilient member at a sufficient rate to raise the temperature of the resilient member and vary the preload force, and ceasing the application of heat so that the ultimate preload force is approximately the same as the predetermined force.

3,370,337
BALL BEARING MANUFACTURING METHOD
Christian D. Gibson, Greene, N.Y., assignor to The Raymond Corporation, Greene, N.Y., a corporation of New York
Original application Oct. 19, 1964, Ser. No. 404,988, now Patent No. 3,332,728, dated July 25, 1967. Divided and this application June 30, 1967, Ser. No. 650,417
7 Claims. (Cl. 29—201)



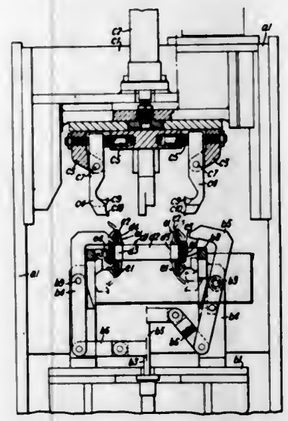
A press device including upper and lower platens having circular recesses to carry racewires and hardened balls spaced around the recesses, with means for simultaneously relatively rotating said platens and forcing them together to form arcuate seats on said racewires. A number of industrial application, many of which relate to material-handling apparatus, require the use of large diameter ball bearings capable of rotatably carrying massive loads.

3,370,338
ASSEMBLY APPARATUS
Winford T. Nowell, Groveland, Mass., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 27, 1965, Ser. No. 490,558
4 Claims. (Cl. 29—203)



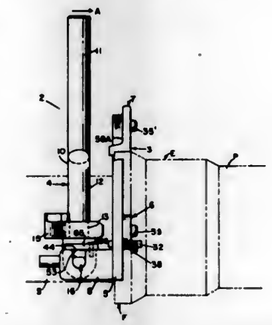
An assembly apparatus for assembling a disc in a prescribed location within a hollow cylindrical body having openings wherein the disc is inserted in a position within the body adjacent the openings and a pair of jaws move into the openings beneath the disc to support it while a ram crimps wall portions of the body adjacent the openings against the jaws to secure the disc in place.

3,370,339
MACHINE FOR RELEASING WINDING GUIDES FROM WOUND ELECTRIC MOTOR PARTS
Jean Soulet, Asnieres, and Michel Fert, Paris, France, assignors to General Motors Corp., Detroit, Mich., a corporation of Delaware
Filed Oct. 4, 1965, Ser. No. 492,409
Claims priority, application Great Britain, Dec. 31, 1964, 52,972
5 Claims. (Cl. 29—205)



A stator winding guide releasing machine having a reciprocatory head member which supports a plurality of finger members, one for each pair of winding guides to be removed, each having two oppositely directed tooth portions arranged to engage a corresponding winding guide. Upon each stroke of the head member in a first direction, the tooth portion of each finger member directed in the direction of the motion of the head member engages a corresponding winding guide and upon each stroke of the head member in the opposite direction, the tooth portion of each finger member directed in the opposite direction engages a corresponding winding guide to impart a rotary motion to the respective engaged winding guides to disengage the respective guides from the overlying circumferential windings.

3,370,340
TOOL ASSEMBLY
Beauford E. Steely, 5831 Velasco St., Dallas, Tex. 75206
Continuation-in-part of application Ser. No. 457,334, May 20, 1965. This application June 17, 1965, Ser. No. 464,810
4 Claims. (Cl. 29—237)



This invention is a tool for use by plumbers and provides a means for assembling threadless pipe of the type often having an end bell and spigot and adapted to be forceably joined through an intermediate flexible sealing gasket. The necessary force to join the spigot of one pipe to the bell of another pipe may be applied through an elongated lever which terminates in a yoke that is pivoted to another yoke adjacent the joint.

3,370,341
METHOD OF AND APPARATUS FOR USE IN TIGHTENING A NUT AND BOLT ASSEMBLY
Robert T. Allsop, Storton, near Stourbridge, England, assignor to G.K.N. Screws & Fasteners Limited, Birmingham, England, a British company
Filed Dec. 20, 1965, Ser. No. 514,796
5 Claims. (Cl. 29—413)

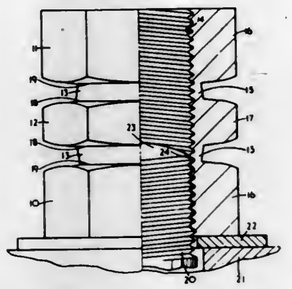
1. Method of tightening nuts in each of two nut and bolt assemblies comprising:

(a) providing a compound nut member comprising two internally threaded nut bodies disposed in axial alignment and a wrenching section located in between said nut bodies and connected to each nut body by a neck section adapted to shear upon application of a predetermined torque thereto,

(b) applying one end of said compound nut member to the first bolt of said two assemblies so as to cause threaded engagement between a first of said two nut bodies and the thread of said first bolt,

(c) applying torque to said wrenching section to cause tightening of said first nut body upon said first bolt and continuing application of torque to cause shearing of the neck section between said first nut body and said wrenching section,

(d) removing said wrenching section and the attached second of said two nut bodies from the assembly of said first bolt and nut body,
(e) applying said second nut body to the second bolt of said two assemblies so as to cause threaded engagement between said second nut body and the thread of said second bolt,

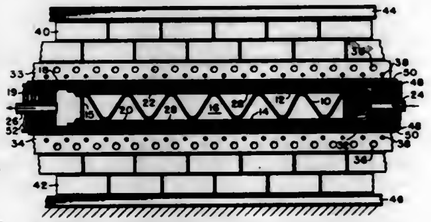


(f) applying torque to said wrenching section to cause tightening of said second nut body upon said second bolt and continuing application of torque to cause shearing of the neck section between said second nut body and said wrenching section, and
(g) removing said wrenching section from the assembly of said second bolt and nut body.

3,370,342
FLUXLESS SOLDERING PROCESS FOR RARE EARTH CHALCOGENIDES
Bernell E. Argyle, Yorktown Heights, and Reid W. Kaplan, Putnam Valley, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
No Drawing. Filed May 7, 1965, Ser. No. 454,162
3 Claims. (Cl. 29—472.7)

An eutectic alloy consisting of 60% by weight of bismuth and 40% by weight of cadmium is a very effective solder for the rare earth chalcogenides and, in particular, for the europium chalcogenides.

3,370,343
METHOD OF CLEANING AND FLUXLESS BRAZING OF ALUMINUM AND ALUMINUM ALLOYS
Geoffrey Martin, Nashville, Tenn., assignor to Avco Corporation, Nashville, Tenn., a corporation of Delaware
Filed Mar. 17, 1965, Ser. No. 440,551
2 Claims. (Cl. 29—494)

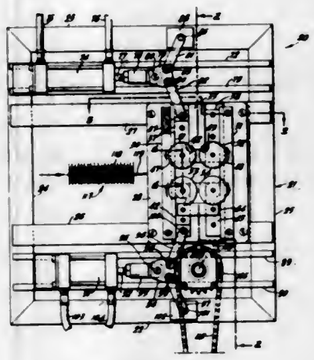


The disclosed method comprises a rigorous series of steps for removing aluminum oxide from the surface of aluminum or aluminum alloy components prior to brazing in an inert atmosphere without the use of fluxes.

3,370,344
METHOD OF BONDING ALKALI METALS TO CONVENTIONAL CONDUCTORS
George Feick III, Needham, and Paul Edward Doherty, Lexington, Mass., assignors, by mesne assignments, to Simplex Wire and Cable Company, Cambridge, Mass., a corporation of Massachusetts
No Drawing. Filed Aug. 17, 1965, Ser. No. 480,480
8 Claims. (Cl. 29—502)

1. The method of joining a first electrical conductor of a metal selected from the group consisting of alkali metals, alkaline earth metals and alloys and mixtures thereof, to a second electrical conductor having a metallic surface of contact by interposing between said first electrical conductor and said surface of contact a layer of mercury which alloys with the metal of said first conductor and with the metal of said surface of contact of said second conductor at temperatures at which said metals do not alloy with each other, and maintaining contact under alloying conditions for a time sufficient for said mercury to form alloys with the metals of said first conductor and said surface of contact.

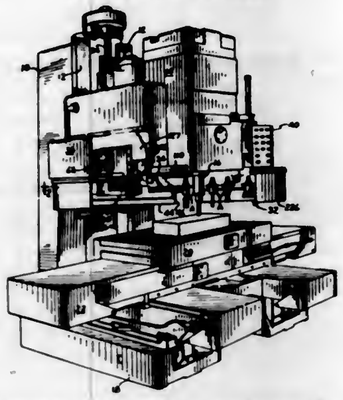
3,370,345
BRANCH-POINTING METHOD AND APPARATUS
Andrew Mattie, Montoursville, Pa., assignor, by mesne assignments, to American Technical Machinery Corp., Mount Vernon, N.Y., a corporation of New York
Filed June 15, 1965, Ser. No. 463,995
19 Claims. (Cl. 29—505)



13. In the method of pointing a bristled article, the steps which comprise: providing a twisted wire article having generally radial bristles, and rolling said article under increasing pressure toward one end of the article to permanently deform said bristles in the direction of rolling to form a pointed end thereon.

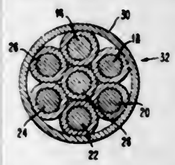
18. Apparatus for pointing an article having bristles between twisted wires, said apparatus comprising a frame, a pair of rolls, journal means supporting said rolls in generally coplanar relation on said frame for rotation about generally parallel axes to receive a bristled article therebetween, mounting means mounting said journal means for relative movement normal to said axes to move said rolls toward and away from each other, first drive means for rotating said rolls in opposite directions to feed a received article through the nip of said rolls, and second drive means for moving said journal means during rotation of said rolls to move said rolls together and apply increasing pressure to a received article.

3,370,346
MECHANISMS FOR TOOL CHANGERS
Robert A. Lehmkuhl, Appleton, and Robert E. Reed, Kaukauna, Wis., assignors to Giddings & Lewis, Inc., a corporation of Wisconsin
Original application Sept. 19, 1962, Ser. No. 224,626. Divided and this application Oct. 11, 1965, Ser. No. 516,803
4 Claims. (Cl. 29—568)



A tool storage magazine latch mechainsm for tools. A spring biased shaft is engageable with the downwardly turned lip on the flange of a tool and is movable to release the tool by a tool transfer shuttle which carries the tool to the spindle of a machine tool.

3,370,347
METHOD OF MAKING SUPERCONDUCTOR WIRES
Richard L. Garwin and Arthur S. Nowick, Scarsdale, and Donald P. Seraphim, Bedford Hills, N.Y., assignors to International Business Machines Corporation, New York, N.Y. a corporation of New York
Continuation of application Ser. No. 222,396, Sept. 10, 1962. This application May 26, 1966, Ser. No. 559,659
9 Claims. (Cl. 29—599)



1. A method of making a superconductor wire having a given critical magnetic field comprising the steps of:
(a) placing a superconductor and non-ferromagnetic metal which is superconductive and non-ferromagnetic at a given critical temperature in intimate contact with a material which remains in its normal state at said given temperature, said material being taken from the group consisting of aluminum-zinc and silver chloride, said superconductor metal and said material being such that the depth of free interchange of electrons between said superconductor metal and said material is shorter than the magnetic field penetration depth in said superconductor metal, said superconductor metal having an initial critical magnetic field which is smaller than said given critical magnetic field of said superconductor wire,
(b) stretching said metal and said material so as to shape said metal and material into an elongated form,
(c) dividing the elongated metal and material into a plurality of segments,
(d) assembling said segments into a bundle,
(e) stretching said bundle so as to shape said bundle into an elongated form and
(f) continuing to stretch said superconductor metal until a cross-sectional dimension thereof is reduced to at least approximately the magnetic field penetration depth of said superconductor metal.

3,370,348
PROCESS FOR PREPARING ARRAYS OF MAGNETIC CIRCUIT ELEMENTS
James M. Brownlow, Crompond, and Kurt R. Grebe, Beacon, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Original application June 29, 1962, Ser. No. 206,326, now Patent No. 3,229,265, dated Jan. 11, 1966. Divided and this application Mar. 18, 1965, Ser. No. 440,954
3 Claims. (Cl. 29—604)



1. The process of fabricating a connected sintered ferrite array of magnetic storage elements which comprises:
(a) depositing on the surface of an electrically conductive wire a first continuous coating of a wax-like separating material;
(b) thereafter depositing on the surface of said separating material a second continuous coating of a mixture of a thermosetting resin binder and a ferrite material;
(c) mounting said ferrite-resin coated conductive wire on two separate frames to form thereby a first series of parallel multiple coated conductive wires on one frame and a second series of parallel multiple coated conductive wires on the remaining frame;
(d) joining said wires into an array by contacting said multiple coated wires in said first series with said multiple coated wires in said second series while maintaining said ferrite-resin coatings on said wires sufficiently fluid that the ferrite resin coatings intermingle and intimately join at the points of contact;
(e) heating the thus assembled array to a predetermined temperature at which said mixture of a thermosetting resin binder and ferrite material is partially cured and attains sufficient mechanical strength to become self-supporting and now continue heating to a temperature above said predetermined temperature to remove said separating material;
(f) then heating to pyrolyze said thermosetting resin binder in said assembled array;
(g) thereafter sintering said assembled array by heating at a temperature above the pyrolysis temperature so that said ferrite material becomes polycrystalline in form and then cooling by air quenching to produce thereby the connected sintered ferrite array of magnetic storage elements.

3,370,349
METHOD OF MANUFACTURING ELECTRICAL CONDUCTING WINDING
Daniel Hritzay, Winchester, Mass., asignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Original application July 25, 1963, Ser. No. 297,649, now Patent No. 3,283,276, dated Nov. 1, 1966. Divided and this application Jan. 28, 1966, Ser. No. 539,601
12 Claims. (Cl. 29—605)

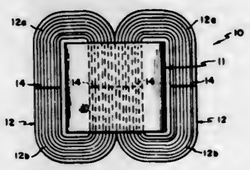
1. The method of making an electrical winding comprising:
(a) providing contiguous and rigidly aligned turns of at least one superconductive conductor in the form of an endless belt defining first and second major

surfaces in the width direction, said turns having a circumference sufficient to permit said belt formed therefrom to be wound on itself to provide a plurality of layers having a central opening; and



(b) bonding to said first major surface of said belt a strip of low resistance and nonmagnetic material having a width and length substantially equal to respectively the width and circumference of said belt.

3,370,350
METHOD OF FASTENING CORES OF ELECTRO-MAGNETIC DEVICES
Frank G. Logan, Annapolis, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Mar. 24, 1965, Ser. No. 442,556
4 Claims. (Cl. 29—606)



An electromagnetic apparatus having a coil of electrical windings and a laminated core. The laminated core comprises a plurality of C-shaped core members which are secured together by epoxy resin, to form a composite O-shaped core.

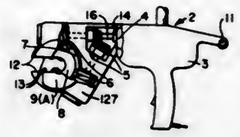
3,370,351
METHOD OF MANUFACTURING ELECTRICAL CONNECTORS
Eugene G. Freehauf, Ontario, and William P. Dugan, Monterey Park, Calif., assignors to General Dynamics Corporation, Pomona, Calif., a corporation of Delaware
Filed Nov. 2, 1964, Ser. No. 408,283
14 Claims. (Cl. 29—625)



Broadly, the disclosure relates to a method of making integral conductor paths and through-hole tubes in circuit positioner boards on which components are to be mounted. According to the method, a temporary backing material is applied to the board; holes are formed through the assembly; the circuit is printed on the board; the holes are through-plated along with the desired circuit; and finally the backing material is stripped from the assembly to leave through-hole tubes extending from the back of the positioner board.

3,370,352
MULTIPLE PURPOSE PIPE TOOL ASSEMBLY
Beauford E. Steely, Dallas, Tex., assignor to Cranford Corporation, Dallas, Tex., a corporation of Texas
Filed July 26, 1965, Ser. No. 474,836
5 Claims. (Cl. 30—97)

This invention is a multiple purpose tool for use by plumbers and pipefitters, and provides a means for power cutting and power threading, and performing other power operations on a pipe, even when the pipe is of a continuous



length and is installed in place in a horizontal, vertical or other direction.

3,370,353
WIRE CUTTING TOOL
Bernard Weissman, 304 Ashland Place, Brooklyn, N.Y. 11217, and Joseph P. Moffa, Indianapolis, Ind.; said Moffa assignor to said Weissman
Filed Apr. 8, 1966, Ser. No. 541,330
7 Claims. (Cl. 30—233)



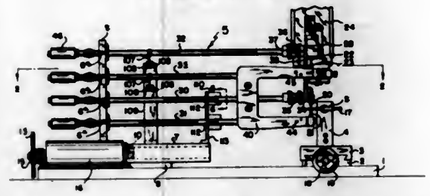
A precision measuring wire cutter embodying a first shearing plate having apertures of various diameters, a second shearing plate having apertures similar in size and position to said apertures, means for relatively moving the plates and means in the form of a stepped plate for limiting the forward travel of a workpiece inserted through the apertures when they are in registry, the stepped plate being movable relative to the shearing plates to bring any of the steps of said stepped plate selectively into registry with any of a plurality of apertures of various diameters.

3,370,354
GEOMETRICAL INSTRUMENT AND METHOD FOR FINDING ANY FRACTION OF AN ANGLE
Daniel Schiff, 747 Pleasant St., Framingham, Mass. 01701
Filed Apr. 26, 1965, Ser. No. 450,618
8 Claims. (Cl. 33—1)



A method, and a geometrical instrument for carrying out such method, of dividing an angle into any desired number of fractional parts by means of a family of curves, each representing a given fraction into which the angle is divided by placing one leg thereof along the fixed X axis line and the other leg tangent to the curve.

3,370,355
PROFILER
Erwin W. Graham, Willoughby, Ohio, assignor to The Pipe Machinery Company, Wickliffe, Ohio, a corporation of Ohio
Filed June 20, 1966, Ser. No. 558,828
8 Claims. (Cl. 33—23)

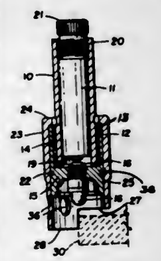


The profiler herein disclosed comprises a parallelogram frame, preferably normally rectangular, of which one end frame member is fixed in position on a support, and a profile follower and scriber are mounted on the opposite end frame member in fixed relation thereto and to each other both endwise of, and in all directions transversely of, said other end frame member. The frame members are pivotally connected together at the corners of the frame for rocking about parallel axes, preferably by frictionless spring pivots.

Duplicate frames may be mounted on the same support for profiling opposite faces of a specimen concurrently and scribing the two profiles concurrently in their true relation to each other.

The profile follower is shaped and mounted so that the same surface of the point of the follower at all times engages the specimen of the surface.

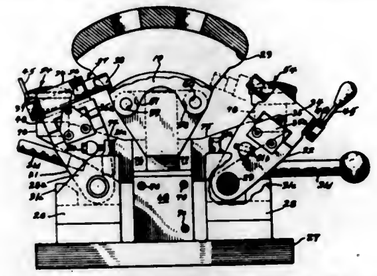
3,370,356
EDGE FINDING TOOL FOR MACHINISTS
Henry W. G. Jend, 2537 Chelton Road, Colorado Spring, Colo. 80909
Filed Aug. 30, 1965, Ser. No. 483,729
1 Claim. (Cl. 33—169)



A tubular shank containing a battery, adapated to be gripped in a drill chuck, said shank having a body member, containing an electric lamp, rotatably mounted thereon and insulated therefrom so that when said body member electrically contacts a workpiece, a circuit will be closed to said shank to illuminate said lamp from said battery.

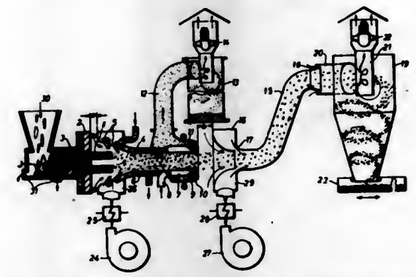
3,370,357
GAGE FOR CHECKING THE PARALLELISM OF ELEMENT IN A DISC BRAKE ASSEMBLY
Paul J. Jessen, 313 Sheridan Road, Kenosha, Wis. 53140, and William A. Tigges, 415 11th St., Racine, Wis. 53403
Filed Mar. 23, 1966, Ser. No. 536,804
5 Claims. (Cl. 33—181)

The invention has reference to a gage for use while assembling the elements of a disc brake assembly. In a disc brake assembly, the housing of the caliper assembly is provided with an elongated slot into which the disc, which is fastened to and rotates with the wheel hub, projects. The caliper housing also has a mounting pad formed thereon. The gage has two centering means



for insertion into the caliper housing slot at either end thereof and two indicating means individually reflecting the condition of one of the centering means. The gage thus reflects the condition of parallelism or non-parallelism of the slot with reference to the mounting pad.

3,370,358
PROCESS AND APPARATUS FOR WORKING UP RUBBER
Paul Esser, Leverkusen, Heinz Gröne, Leverkusen-Steinbuchel, Edgar Muschelknautz, Leverkusen, and August-Peter Weiss, Dormagen-Horrem, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed Mar. 4, 1966, Ser. No. 531,998
Claims priority, application Germany, Apr. 17, 1965, F 45,841
12 Claims. (Cl. 34—10)

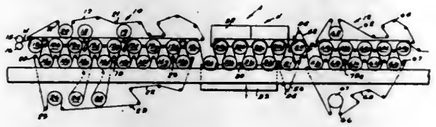


Process and apparatus for drying comminuted rubbers by subjecting the wet rubber to the action of an extruder whereby compressing water out of the mass, entraining the rubbery particles in cool air surrounded by a cooled surface whereby the zone through which the entrained rubber passes is surrounded by water, separating the cool air from the rubber, re-entraining the rubbery particles in warm air whereby additional water is removed, and separating the warm air from the rubber. The apparatus comprises a screw extruder, a cooled conduit, and a second conduit in stream-aligned relationship together with appropriate feed, separating, and product collection means.

3,370,359
WEB DRYING METHOD AND APPARATUS
Edward D. Beachler, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed May 10, 1965, Ser. No. 454,575
19 Claims. (Cl. 34—18)

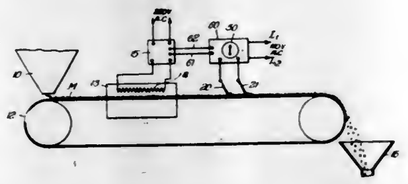
1. The method of drying a wet fibrous web having a moisture content which, if reduced will cause web shrinkage comprising the steps of:

(a) passing the web over a rotating heated cylinder,
(b) impinging a plurality of air streams over the area of the web passing over the heated cylinder on the opposite side of the web from the heated cylinder, to create a film of expansible gas between the web and the surface of the heated cylinder, which in co-operation with the heated air carried to the undersurface of the web causes a lifting action of the web from the cylinder, and



(c) tensioning the web within a prescribed range to allow the gas created and the air carried into the space between the web and the heated cylinder to lift the web from the cylinder only a distance sufficient to eliminate contact of the web with the cylinder.

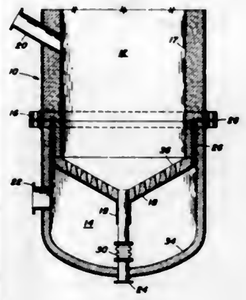
3,370,360
APPARATUS FOR ANALYZING MOISTURE CONTENT
Thomas R. Smith, 710 W. 11th St. S., Newton, Iowa 50208
Continuation of application Ser. No. 177,584, Mar. 5, 1962. This application Nov. 18, 1966, Ser. No. 595,535
19 Claims. (Cl. 34—48)



1. In an apparatus for analyzing the moisture content of material, electrodes spaced apart a fixed distance adapted to electrically contact the material to be analyzed for conducting electrical current through the material contacting said electrodes to measure the electrical resistance of such material, pulse generating means including a discharge means having a normally effectively infinite electrical resistance through which a predetermined charge is discharged for producing electrical pulses and controlled by the electrical resistance of the material contacting said electrodes for varying the frequency rate of the pulses substantially proportional to the electrical resistance between said electrodes, and means responsive to the frequency rate of the pulses produced by said pulse generating means for producing a signal indicative of the moisture content of the material.

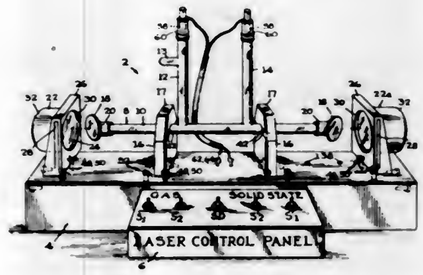
3,370,361
GRID FOR FLUIDIZED SOLID VESSELS
Salvatore A. Guerrieri, Rowayton, Conn., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed Apr. 27, 1965, Ser. No. 451,297
8 Claims. (Cl. 34—57)

This invention relates to a novel distributing grid for use in distributing one or more vapor streams to achieve effective fluidizing contact with a bed of particles. The grid of the present invention includes an upper cylinder portion having an outwardly extended flange, and a lower generally conical perforated portion, the upper



cylindrical portion being smaller than the inside dimension of the reactor body in which the grid is mounted so that the grid is spaced inwardly therefrom.

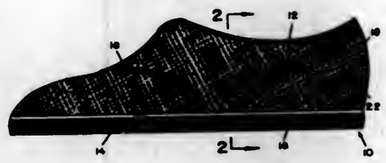
3,370,362
TEACHING AID FOR DEMONSTRATING GAS AND SOLID STATE LASERS
James S. Dodson, 1348 E. Ocean View Ave., Norfolk, Va. 23503
Filed Apr. 4, 1966, Ser. No. 539,875
20 Claims. (Cl. 35—19)



1. A device for demonstrating the operating principle of an optical laser or other phenomena of stored energy and trigger release comprising:
(a) A simulated laser assembly including a laser tube sub-assembly fabricated of a clear, light-conducting material;
(b) variable light producing means associated with said laser tube sub-assembly and adapted to be connected with an electrical power source means; and
(c) an electrical circuit including a plurality of switch means interconnecting the light producing means and the power source means, said switch means being independently operable for effecting energization of the light producing means to simulate progressive stored energy level build-up of a laser.

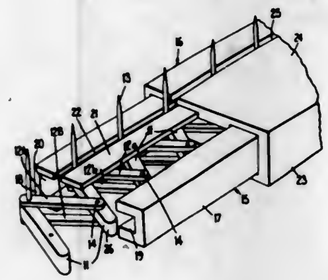
3,370,363
FOOTWEAR UPPERS
Don L. Kaplan, 118 Baker Hill Road, Great Neck, N.Y. 11023
Filed Apr. 5, 1965, Ser. No. 445,587
11 Claims. (Cl. 36—9)

Fabric material for use in footwear uppers having discontinuous portions coated with an abrasion-resistant material, the remainder of the exterior surface being uncoated by the coating composition. The discontinuous or discrete areas are preferably deposited by a printing technique. The fabric, when formed into an article of



footwear has abrasion-resistant properties, but the uncoated areas improve bonding of a foxing strip which secures the fabric upper to the footwear sole.

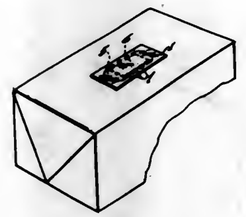
3,370,364
DEVICE FOR STRETCHING FABRIC
David C. Cumbers, Pontypool, England, assignor to British Nylon Spinners Limited, Pontypool, England
Filed June 7, 1965, Ser. No. 461,856
Claims priority, application Great Britain, June 9, 1964, 23,781/64
3 Claims. (Cl. 38—102.4)



A stenter comprising a pair of oppositely disposed, spaced-apart, inwardly-facing channel members slidably disposed in an outer casing which has a longitudinal slot therein coextensive with the channel members. A plurality of fabric holding pins extend from the slot and are carried by an expansible and contractible lattice disposed within the channel members. The lattice includes a plurality of arm members having opposite ends slidable in the channel members and link members pivotally interconnecting one end of each arm member to the midpoint of the adjacent arm member.

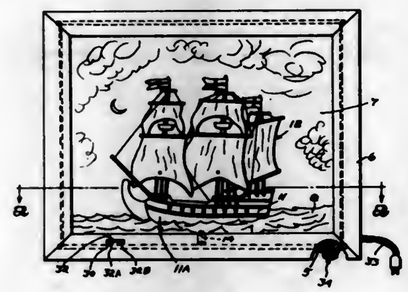
3,370,365
MEANS FOR SECURING A PACKING SLIP TO A PACKAGE
Jack Thomas Vosbikian, 127 Adrienne St., Blackwood, N.J. 08012
Filed Oct. 15, 1965, Ser. No. 496,382
1 Claim. (Cl. 40—10)

The invention relates to a label for securing an invoice to a package and consists of a novel construction and arrangement and consists of a top strip having adhesive on its bottom face and a protective strip secured by the adhesive to the bottom of the top strip and having a removable blank portion when the bottom strip is peeled off of the top strip. The blank portion remains on the top strip so that when an invoice is placed on a package, the blank portion covers the invoice and the adhesive surrounding the blank portion when the top strip is placed against the package, secures the invoice in place. The top strip may have a perforated line defining the con-



tour of the blank portion, enabling the removal of that portion of the top strip together with the blank portion adhering to it, to permit the removal of the invoice from the package.

3,370,366
THREE DIMENSIONAL MARINE PICTURE
Peter Van Zanten, Farmington, Maine 04938
Filed Aug. 6, 1964, Ser. No. 387,947
5 Claims. (Cl. 40—28.1)

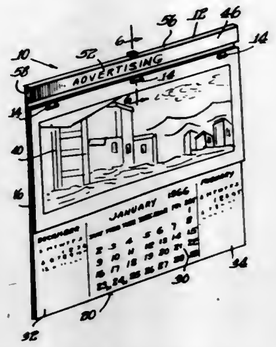


1. In a three dimensional marine picture, a base, a layer on said base whose surface simulates water, said layer having an opening exposing said base, a model sailboat whose hull fits within said opening and includes a transverse pivotable connecting with said base, and electrically operated means on said base and concealed by said layer, said means including a connection with said hull operable to so pivot said ship as to affect a pitching motion thereof relative to the surface of said layer, a portion of said boat engaging the margins of said opening during at least a part of said motion, said engagement producing sounds suggesting the creaking of said boat as it pitches and rolls.

3,370,367
CALENDAR ASSEMBLY
Harry J. Stratton, 449 N. Main St., Chagrin Falls, Ohio 44022, and Harold I. Snyder, R.R. 3, Dover, Ohio 44622
Filed Mar. 17, 1966, Ser. No. 535,119
10 Claims. (Cl. 40—119)

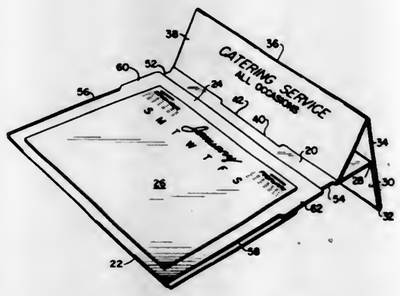
A calendar assembly comprising a support structure including a hanger member and a support panel. The hanger member, which includes laterally spaced arms extending therefrom, is mounted on a wall or support surface. The

support panel, on the lower portion thereof includes a calendar and on the upper portion thereof indicia explaining the artistic features of pictorial sheets, which along with the support panel are hung from the hanger arms by means of apertures in the upper portions of the panel



and sheets. When hung on the hanger arms, the pictorial sheets cover only the indicia and the fasteners used to attach the calendar to the support panel. The pictorial sheets may be changed at any time without disturbing the calendar and vice versa.

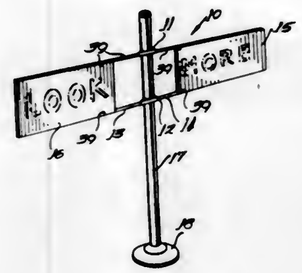
3,370,368
DISPLAY MOUNTS
Don F. Paschal, St. Charles, Ill., assignor to Chronicle Publishing Company, St. Charles, Ill., a corporation of Illinois
Filed Nov. 16, 1966, Ser. No. 594,917
4 Claims. (Cl. 40—120)



A foldable calendar mount comprising a main easel panel one edge of which rests on the supporting surface and having a pivoted supporting leg assembly along the other edge. The supporting leg assembly extends above and below the plane of the main easel panel and is further provided along the upper edge with a panel which engages the main easel panel and thus acts to maintain the assembly in operative position.

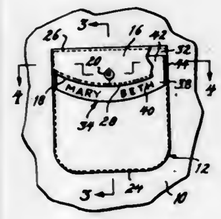
3,370,369
SIGN POST DISPLAY
Arthur J. Look, Elmhurst, Ill., assignor to Prevue Display Services, Chicago, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 457,589, May 21, 1965. This application Feb. 23, 1967, Ser. No. 629,345
13 Claims. (Cl. 40—125)

A display which generally comprises two specially constructed brackets adapted to be fixedly secured to a support post, in spaced relation. The brackets are self-adjusting, upon tightening, to various diameter support posts and are adapted to receive the ends of two U-shaped placard support holders. The holders may be of any dimension and the brackets spaced accordingly



to support them, by first fixedly securing one of the brackets and adjustably positioning and securing the other bracket to receive the ends of the holder. Display placards and the like are fitted over the arms of the holders.

3,370,370
POCKET IDENTIFICATION
Bernard Lippman, % B. Lippman, 180 Madison Ave., New York, N.Y. 10016
Filed Nov. 29, 1965, Ser. No. 510,242
2 Claims. (Cl. 40—129)

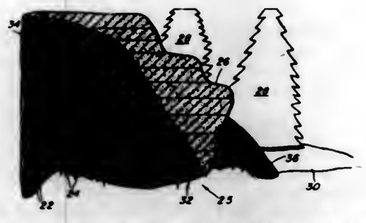


A pocket identification comprising a rectangular piece of cloth secured along three of its edges to an article of clothing to form a pocket with an open top, a flap extending downwardly from the unsecured edge and overlapping a portion of the pocket forming material, with an indicia-carrying insert between the flap and the pocket forming material and fastening means for removably mounting the insert.

3,370,371
ANIMATED DISPLAY DEVICE
John Swarbrick, 480 S. Maple St., Nokomis, Ill. 62075
Filed Aug. 3, 1964, Ser. No. 387,107
6 Claims. (Cl. 40—137)

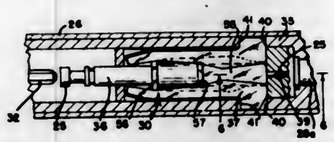
1. An animated display device comprising a pair of members having mutually spaced planar portions,
one of said portions having thereon spaced parallel lines extending in a predetermined direction thereover,
the other of said portions having thereon a decorative scene depicting a falling object and including a transparent area,
said transparent area having thereon a series of spaced curved lines,

said curved lines being of substantially parabolic shape and comprising uniformly accelerated motion curves related to the true perspective distance said object must fall in said scene,
said other portion being located between said one portion and the point of observation of said device,
illumination means positioned to radiate through said two planar portions,



the optical projections of said parallel lines toward said point of observation intersecting said curved lines so as to form a series of moires,
and means for moving one of said portions with relation to the other whereby said moires move in a predetermined pattern and at a predetermined speed which realistically simulates the falling of said object.

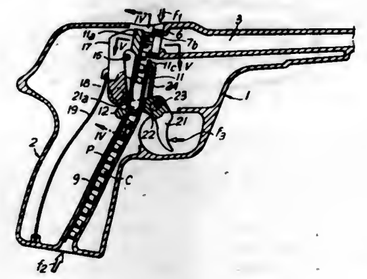
3,370,372
BOLT ASSEMBLY FOR FIREARMS
Vern C. Thompson, R.R. 3, Mora, Minn. 55051
Filed Aug. 22, 1966, Ser. No. 574,154
5 Claims. (Cl. 42—16)



A bolt assembly for a firearm is provided with radially pivotal locking lugs having spaced apart cam follower surfaces thereon, and a slidable expander member having first and second cam surfaces thereon, the reciprocal movement of said expander member within the bolt assembly causing said cam surfaces to act against said cam follower surfaces so as to pivot the locking lugs in and out of complementary apertures in the receiver portion of the firearm barrel. A spring-biased cartridge extractor is slidably mounted in a bolt assembly and carries two projecting elements on the forward end thereof which act to sequentially release a spent cartridge casing from spring-loaded cartridge rim retaining members on the bolt head and then to expel the cartridge casing from the firearm.

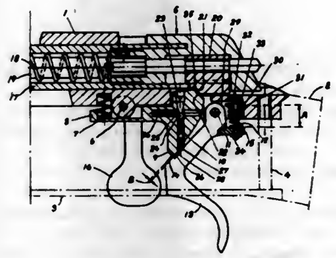
3,370,373
TOY-GUN DESIGNED TO CAUSE A CAPS-STRIP SUBSEQUENT EXPLOSION, BESIDES SHEARING AND EXPULSION OF SAID STRIP PORTIONS UPON A CAP EXPLOSION
Giampiero Ferri, Via A. Stoppani 38, and Jori Marinai, Via A. Stoppani 29, both of Florence, Italy
Filed Aug. 9, 1966, Ser. No. 571,282
Claims priority, application Italy, Aug. 18, 1965, 18,633/65
5 Claims. (Cl. 42—54)

A toy-gun is disclosed comprising a case having a stock and a hollow barrel into which stock strips of caps are fed through guide means in the stock to a firing element located at the rear end of the barrel. The upper end of the guide means is pivotally mounted and is biased to remain free of the firing element. The firing element has a cap-severing blade integral with it. A percussion element is provided in back of the pivotally mounted portion of the ammunition guide means, the percussion element being actuated by trigger means which also has



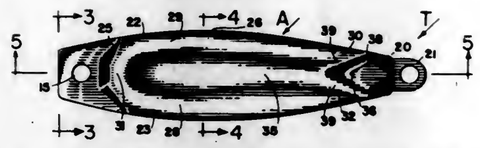
means for moving the caps one by one to the firing position. The percussion element is caused to strike the rear face of the pivotally mounted guide element which is forced against the firing pin to explode the cap positioned in the upper end of the guide means while the blade is severing and ejecting a previously fired cap.

3,370,374
FIRING MECHANISM WITH MEANS FOR ADJUSTING TRIGGER-SEAR OVERLAP
Sven Gunnar Olof Larsson, Huskvarna, Sweden, assignor to Husqvarna Vapenfabriks Aktiebolag, Huskvarna, Sweden
Filed Jan. 24, 1966, Ser. No. 522,498
Claims priority, application Sweden, Jan. 27, 1965, 1,039/65
5 Claims. (Cl. 42—69)



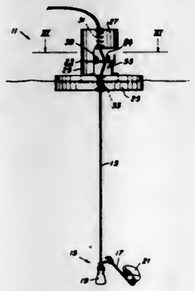
A firearm in which a breech bolt is axially displaceable in and withdrawable from a receiver with such breech bolt having a striker and striker spring. A sear mounted on the receiver is provided with a lug for releasably holding the striker in a cocked position and the sear is provided with a shoulder. A spring pressed trigger mounted on the receiver and having a cocking shoulder for releasably holding the sear in its operative position by the engagement of and the overlapping of the sear shoulder. The cocking shoulder on the trigger is retractable from the sear upon the pulling or squeezing of the trigger. A turnable adjusting means is operably related to the sear and the trigger for adjusting the amount of the overlap and such adjusting means is arranged so as to be accessible from the upper side of the receiver upon the removal of the breech bolt. The adjusting means is capable of reducing the overlap only to a predetermined safety limit.

3,370,375
FISH LURE
Gino J. Ottonello, 1452 Adobe Drive, Pacifica, Calif. 94044
Filed July 22, 1965, Ser. No. 473,918
2 Claims. (Cl. 43—42.45)



A fish lure having a weighted elongated body with an upper and lower face, each of said faces having a lengthwise channel formed therein, the upper channel being closed at the forward end of the lure by a raised projection and terminating in a raised projection forming branched troughs, and the channel on the lower face being open at the forward end and terminating in the same manner as the upper channel.

3,370,376
FISH BAIT FLOAT MEANS
George L. Winn, 1677 Beard, Memphis, Tenn. 38112
Filed Feb. 23, 1966, Ser. No. 529,431
7 Claims. (Cl. 43—44.88)



6. Fish bait float means for use with a fishing line and fish bait means attached to said line, said fish bait float means comprising a body including means for buoyantly supporting said fish bait float means in water, guide means supported by said body for normally guiding said fishing line along an imaginary line, a pawl member pivotally mounted on said body on a substantially horizontal axis between upper and lower positions and including friction means for frictionally engaging said fishing line at a place offset from said imaginary line when said pawl member is in an intermediate position between said upper and lower positions, means pivotally mounting said pawl member on said body for pivot of said pawl member by said fishing line between said upper and lower positions relative to said intermediate position to carry said friction means out of engagement with said fishing line and permit slippage of said fishing line relative to said pawl member, and means attached to said body for releasably holding said pawl member in said intermediate position.

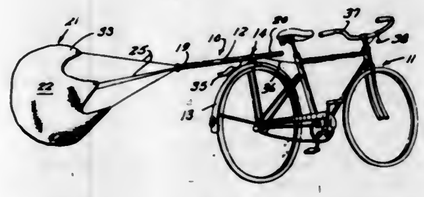
3,370,377
GYROSCOPIC TOP
Everett W. Frangos, 96 Euclid Ave., Lynn, Mass. 01904
Original application Aug. 19, 1963, Ser. No. 302,872, now Patent No. 3,287,846, dated Nov. 29, 1966. Divided and this application Nov. 25, 1966, Ser. No. 596,952
1 Claim. (Cl. 46—50)

A gyro action toy is provided in which a rotor is mounted for rotation about an axis and driven by means of a string wound about the rotor hub and by rapidly



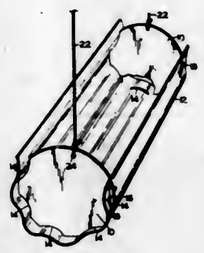
pulling the string a high speed of rotation is imparted to the rotor, this in turn providing a gyro effect for the toy.

3,370,378
TOY PARACHUTE DEVICE
William J. Simonini, Jr., 432 S. Hubbard St., Algonquin, Ill. 60102, assignor of one-half to Herbert D. Drain, Algonquin, Ill.
Filed Oct. 21, 1965, Ser. No. 500,052
7 Claims. (Cl. 46—228)



5. A toy device for use with a pedal-driven riding vehicle, comprising
a bracket for attachment to the vehicle,
an open-ended tubular casing supported by said bracket,
a parachute having cords fastened to said casing from the trailing end thereof,
releasable means for confining said parachute in a collapsed state about said trailing casing end, and
manually operated means for releasing said releasable means to permit said parachute to open.

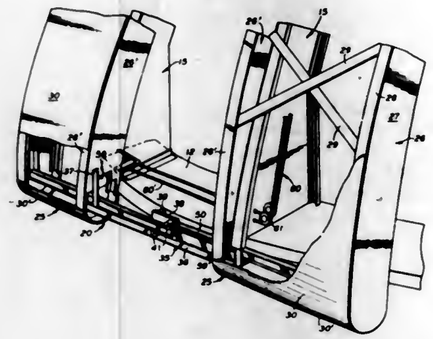
3,370,379
HANGING FLOWER HOLDER
Gordon S. Gleason, Rte. 1, Box 331, Clackamas, Oreg. 97015
Filed Sept. 12, 1966, Ser. No. 578,879
6 Claims. (Cl. 47—34)



1. A flower container comprising a pair of end walls having a bottom edge and side edges, a body member including a sheet of flexible material wrapped around the bottom and side edges of said end walls to form a container closed at the bottom, sides and ends and open at the top, said body member having means defining a plurality of longitudinal depressions extending from end to
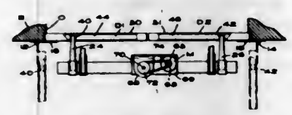
end thereof, means defining transverse slots in said body member, said slots being disposed adjacent each end of said body member and being located only in the depressed portions thereof whereby in the wrapped position of said body member a portion of said end walls project outwardly therethrough, and holding means connected with the projecting portion of said end walls to hold said body member in wrapped position on said end walls.

3,370,380
SHUTTER OPERATING APPARATUS FOR AN OBSERVATORY DOME
Nicholas G. Petros, North Canton, Ohio, assignor to Astro-Tec Manufacturing, Inc., Canal Fulton, Ohio, a corporation of Ohio
Filed June 30, 1965, Ser. No. 468,351
6 Claims. (Cl. 49—40)



A bi-parting shutter operating apparatus for an observatory dome having a viewing aperture defined by meridional mullions with a transom spanning the mullions, a plurality of bearing rollers carried by the transom, and a translating track attached to each of the shutters and extensible into the other of the shutters and movably supported by the bearing rollers, thereby providing shutter operating apparatus which is totally contained within the shutters in a closed position to eliminate weather exposure and minimize wind loading and aerodynamic lift.

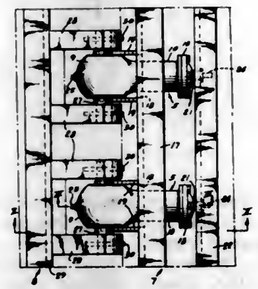
3,370,381
OPERATING MECHANISM FOR A HINGED DOOR
Allan E. Wetter, Bloomfield Township, Oakland County, Mich., assignor to Byrne Doors, Inc., Ferndale, Mich., a corporation of Michigan
Filed June 1, 1965, Ser. No. 460,176
9 Claims. (Cl. 49—107)



The door operating mechanism includes pivoted operating arms having followers engaging tracks on hinged door leaves. The leaves swing through arcs of approximately 90° from closed to open positions. The arms are rotated through angles of approximately 270° in order to swing the leaves between opened and closed positions. Clockwise rotation of the arms produces clockwise swinging of the leaves, and vice versa. The arms extend substantially at right angles to the leaves in both the closed and the opened positions of the leaves.

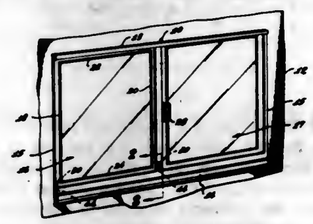
There is a first limit switch associated with each leaf which is operated when the leaf is opened. There is a second limit switch associated with each leaf which is operated when the leaf is closed. The first limit switches are effective when both are operated to automatically deactuate the power means for the arms, but are ineffective when only one of them is operated to deactuate the power means. Likewise the second limit switches are effective when both are operated to deactuate the power means, but are ineffective when only one of them is operated to deactuate the power means.

3,370,382
HATCH COVER WITH PISTON LEVER ROTARY ACTUATORS
Rollin Douglas Rumsey, Buffalo, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Sept. 20, 1965, Ser. No. 488,573
8 Claims. (Cl. 49—340)



In an assembly comprising a fixed structure having an opening therein such as a hatchway and a cover movable about a hinge axis at a joint between closing and open positions with respect to the opening, one or more crank lever rotary actuators selectively effect opening and closing movements with the head portion of the actuator rotatably mounted on a shaft non-rotatably fixed to the structure on the hinge axis while a tubular crank arm portion of the actuator is fixed to the cover, with reaction means operating between the shaft and the actuator within the actuator to cause swinging movement selectively about the shaft to effect corresponding opening and closing movements of the cover.

3,370,383
REVERSIBLE SLIDING DOOR AND WINDOW CONSTRUCTION
Harry M. Riegelman, Rolling Hills, Calif., assignor to Ador Corporation, Fullerton, Calif., a corporation of California
Filed Feb. 3, 1965, Ser. No. 430,126
12 Claims. (Cl. 49—425)



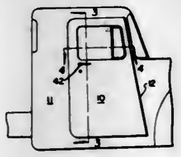
1. In a reversible sliding sash having normally upper and lower rail members and normally left and right stile members, the combination comprising:

a pair of guide flanges extending vertically along each stile member;

roller means having a pair of longitudinal guide grooves adapted to be engaged by the pair of flanges at the lower end of each stile, each roller means being vertically slidable along its respective stile;

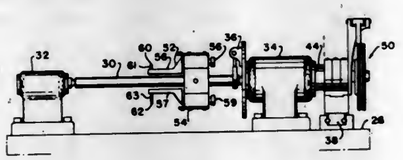
and means for selectively clamping each roller means in any desired vertical position along the respective stile member.

3,370,384
AUTOMOTIVE VEHICLE DOOR AND METHOD OF MAKING SAME
George E. Hafer and Charles S. Willis, Salt Lake City, Utah, assignors, by mesne assignments, to Ibex Motor Truck Corp., Salt Lake City, Utah, a corporation of Utah
Filed June 17, 1964, Ser. No. 375,818
10 Claims. (Cl. 49—502)



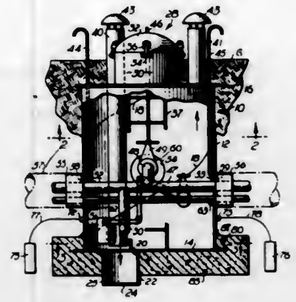
1. A vehicle door, comprising an interior framework of lightweight, hollow-core-forming, frame members having mutually opposite, broad faces corresponding to the outside and inside faces of the door, respectively; inside and outside fiberglass panels; adhesive means bonding said panels to the respectively corresponding faces of said framework whereby a hollow core is formed interiorly of the door, between the fiberglass panels, the peripheral edge faces of said framework forming the peripheral edge faces of the door; means in said door for receiving a vehicle window and window-operating mechanism, and means including a door handle for opening and closing said door.

3,370,385
WHEEL DRESSER
Stewart F. Miller, Roseville, Frank Pernack, Birmingham, and Carl J. Radtke, Warren, Mich., assignors to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan
Filed May 24, 1965, Ser. No. 458,142
7 Claims. (Cl. 51—5)



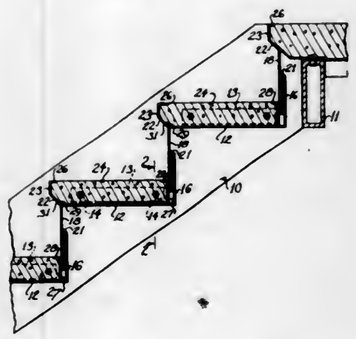
A wheel dresser for a gear grinder mounted for movement in a helical path along the axis of a work gear support comprising separate profile and periphery trimmers, each including an elongated diamond holder, means for swinging the trimmers in planes perpendicular to the axis, means for shifting the profile trimmers by predetermined increments parallel to the wheel axis, in which the holders extend generally perpendicular to the plane of the wheel.

3,370,386
MANHOLE
Joseph L. Martin, Wadsworth, Ohio, assignor, by mesne assignments, to New England Realty Co., Barberton, Ohio, a corporation of Ohio
Filed Oct. 22, 1965, Ser. No. 500,687
7 Claims. (Cl. 52—19)



A prefabricated manhole, for use with underground conduit systems, which is water tight against ground water, which is vented, constructed to be securely anchored in the ground, and which has external fittings for attachment to conduits.

3,370,387
PREFABRICATED STAIR
William Fred Sivley, Rte. 2, Box 274, Pinson, Ala. 35126
Filed Apr. 1, 1966, Ser. No. 539,435
5 Claims. (Cl. 52—188)

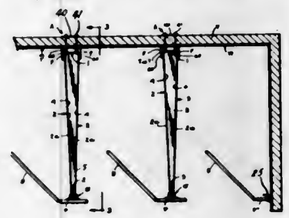


A prefabricated stair having horizontal tread members secured rigidly between stringers. Upper and lower vertical riser sections are adjustably connected to each other with the lower riser section being rigidly connected at its lower end to its tread member and the upper riser section being rigidly connected to a superjacent tread member.

3,370,388
VERTICAL WALL SUSPENDED COMPARTMENTS
Harold J. Dielman, Lyndhurst, Ohio, assignor to The Sanymetal Products Company, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Jan. 6, 1964, Ser. No. 335,876
25 Claims. (Cl. 52—239)

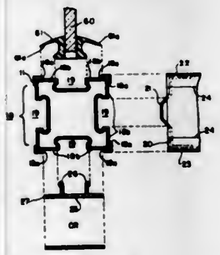
8. A cubicle assembly designed for cantilever suspension from a vertical room wall and in spaced relation to the room floor and ceiling, including in combination; a dividing partition generally wedge-shaped in horizontal

section, means for rigidly securing the base end of said dividing partition in spaced relation to and in cantilever suspension from a vertical room wall, a front wall forming pilaster fixed to the front end of said wedge-shaped dividing partition and having a vertical length substantially corresponding to the vertical length of said dividing partition, and a door swingably mounted on a jamb edge of said pilaster; said dividing partition including a vertical base frame member, side facing panels secured to said vertical base frame member and tapering forwardly therefrom, internal reinforcing members extending between the inner surfaces of said facing panels, and upper and lower cap members secured to the upper and lower horizontal ends of said facing panels; said



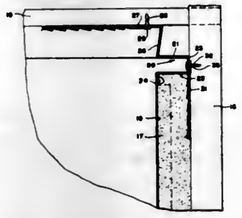
securing means including a frontal member designed to be rigidly connected to the front face of the vertical room wall, a plurality of spaced studs rigidly projecting forwardly from said frontal member and through aligned holes in the vertical base frame member of the dividing partition, a leveling nut and clamp nut threadably applied to each of said studs on opposite sides of said base frame member, a series of spaced tension applying and leveling pads each presenting a head portion designed to brace against said frontal members and threaded stem section threadably connected to said base frame member, and spaced access openings along the rear vertical edge of said side facing panels through which a clamp nut manipulating tool may be inserted.

3,370,389
WALL PARTITIONS
Joseph Macaluso, Clark, N.J., assignor, by mesne assignments, to Royalmetal Corporation, a corporation of Delaware
Filed Mar. 17, 1965, Ser. No. 440,367
14 Claims. (Cl. 52—239)



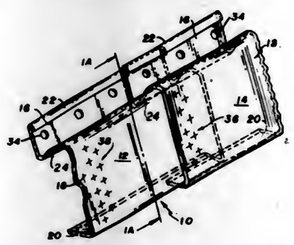
A wall partition unit having a tubular post member with a recess running parallel to the longitudinal axis of the tubular post member and with a channel set back within the recess also running parallel to the longitudinal axis post and adapted to receive and engage an insertable member. In addition, the wall partition unit has a panel with a recess running parallel to the longitudinal axis of the panel strip and a channel set back within the recess also running parallel to the longitudinal axis of the panel strip and adapted to receive and engage an insertable member. Further the wall partition unit has a panel with a first edge disposed in the chanel of the tubular post member and a second edge engaging the panel strip.

3,370,390
WALL CASING
Bruce M. Livermore, 1424 Howard St., Chicago, Ill. 60626
Filed Jan. 28, 1965, Ser. No. 428,725
10 Claims. (Cl. 52—287)



A wall casing provided at the juncture of a wall and ceiling and which includes an open sided channel between the ceiling and the upper boundary of a wall panel, providing a separation between the ceiling and wall.

3,370,391
RESILIENT STRUCTURAL BEAM
Harlan C. Dupuis, Orinda, and Deane W. Rockwell, Alameda, Calif., assignors to Kaiser Gypsum Company, Inc., Oakland, Calif., a corporation of Washington
Filed Sept. 7, 1965, Ser. No. 485,167
6 Claims. (Cl. 52—346)

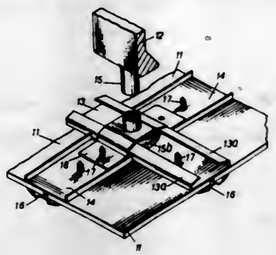


A resilient runner or structural beam useable in wall, and ceiling structures and the like and comprised of a pair of offset spaced planar bearing portions and an intermediate sinuously curved integral web connecting said planar bearing portions together. One of the arcuate sections making up said web having a greater arcuate extent and more generous radius than another arcuate section making up said web. One of the arcuate sections is also directly connected to one planar bearing portion and another arcuate section is directly connected to the other planar bearing portion as well as to the first mentioned arcuate section.

3,370,392
MOUNTING OF LININGS FOR THERMAL INSULATION
Neil A. Roberts, Formby, and William J. Hannah, Liverpool, England, assignors to The Mersey Insulation Company Limited, Bootle, England
Filed May 11, 1965, Ser. No. 454,941
10 Claims. (Cl. 52—479)

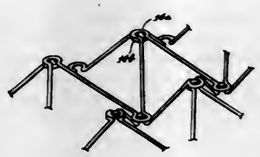
A framework supporting insulation panels in a clearance position from a structural surface wherein the structural surface has non-metallic spacing pieces each terminating

in first mounting flanges. The framework includes U-shaped supporting strips fitted on the first mounting flanges and retaining strips secured by screws to said sup-



porting strips with the insulation panels firmly sandwiched therebetween, the screws passing through a clearance left between the edges of adjacent insulation panels.

3,370,393
SPACE STRUCTURE HAVING INTEGRAL ATTACHMENT MEANS
Jesse R. Hale, 14020 Budlong, Gardena, Calif. 90247
Continuation-in-part of application Ser. No. 419,357, Dec. 18, 1964. This application Apr. 19, 1965, Ser. No. 449,186
7 Claims. (Cl. 52—613)

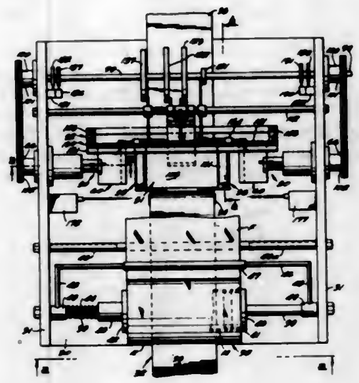




A space structure formed from welded wire mesh has loops or tangs integrally formed at the weld joints thereof to provide means for attaching such structure to other structural members. The structural members may be bent to form pyramidal truss core units with the loop attachment means forming the apices thereof to provide means for attaching the core units to flat structural members between which such core units are sandwiched.

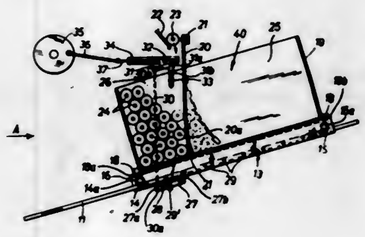
3,370,394
PACKAGING APPARATUS AND METHOD OF PACKAGING
Wesley C. Taylor, Columbus, Ohio, assignor of one-half to The Cottingham Paper Co., Columbus, Ohio, a corporation of Ohio
Filed Jan. 7, 1966, Ser. No. 519,217
11 Claims. (Cl. 53—33)

9. The method of wrapping an article in a film of resiliently pliable material consisting of releasably gripping the film along longitudinal, marginal edge portions and revolving the gripped portion of the film to form a tubular envelope surrounding the article, stretching the film transversely during the formation of the tubular envelope, releasing the marginal end portions of the tubular envelope, folding the released marginal end portions of the tubular envelope and into contacting engagement therewith before



the film has completely contracted, and sealing together the overlapped film portions which are in contacting engagement.

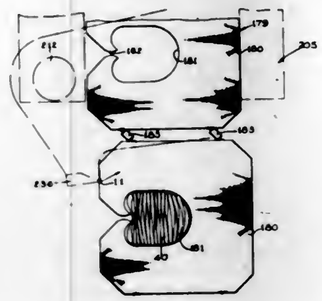
3,370,395
BOBBIN DEPOSITING MECHANISM
Walter Siegenthaler and Kaspar Laager, Zurich, Switzerland, assignors to Maschinenfabrik Scharer, Zurich, Switzerland
Filed June 17, 1965, Ser. No. 464,754
Claims priority, application Switzerland, July 30, 1964, 10,008/64
9 Claims. (Cl. 53—64)



A bobbin depositing mechanism for loading bobbins from a winding machine into a magazine comprised of a carriage for movably supporting the magazine and means for step-wise moving the magazine as it is filled with bobbins. A flexible wall is attached to a stationary support and depends downwardly into the magazine extending transversely of the direction of travel of the magazine. The flexible wall divides the magazine into a bobbin receiving compartment and another compartment and directs the bobbins in proper orientation into the bobin receiving compartment. The lower end of the flexible wall is unsupported and is free to move in the direction of the axis of travel of the magazine. A sensing device is positioned in the upper region of the bobbin receiving compartment for actuating an indexing means when the compartment is filled, which releases the carriage for a step-wise movement of the bobbin magazine. The carriage is disposed on an inclined support arrangement

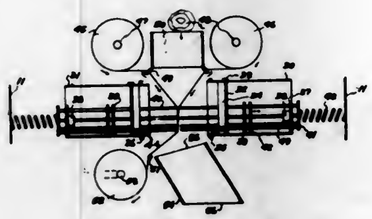
whereby it moves downwardly on the support under the effect of gravity.

3,370,396
BAG CLOSING MACHINE
Allen D. Paxton and Jack H. Holmes, Yakima, Wash., assignors to Kwik Lok Corporation, Yakima, Wash., a corporation of Washington
Filed Apr. 20, 1965, Ser. No. 449,532
3 Claims. (Cl. 53—138)



A non-skid device for engaging a side edge of a flat plastic strip embodying a series of integrally united but separable bag closures to separate the lowermost closure from the strip following the application of said closure to the neck of the bag to close the latter.

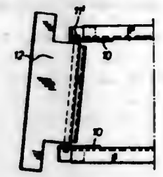
3,370,397
HEAD LETTUCE PACKAGING MACHINE
Maurice C. Brigman, Royal Oak, Mich., assignor to Brigman Associates, Inc., Royal Oak, Mich, a corporation of Michigan
Filed Apr. 28, 1965, Ser. No. 451,492
7 Claims. (Cl. 53—180)



A head lettuce packaging machine by which a head of lettuce is enclosed within and between a pair of opposed strips of plastic and the strips heat sealed throughout 360° to provide a substantially air tight package.

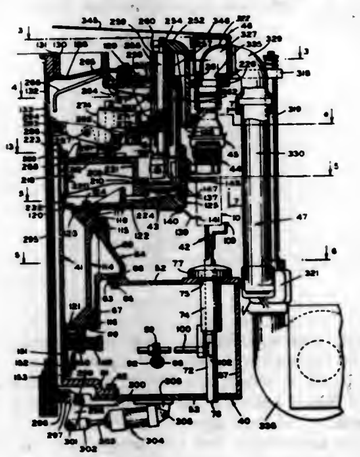
3,370,398
BOBBIN DEPOSITING APPARATUS
Kaspar Laager, Kusnacht, Zurich, Switzerland, assignor to Maschinenfabrik Scharer, Seestrasse, Erlenbach, Zurich, Switzerland
Filed Apr. 30, 1965, Ser. No. 452,110
Claims priority, application Switzerland, May 8, 1964, 6,030/64
2 Claims. (Cl. 53—248)

A bobbin box is provided with guide means for receiving bobbins from a winding machine. The bobbins are deposited in at least one vertical row between the guide means in the box. The bobbin box includes an apparatus for depositing the bobbins in a vertical row between the guide means, the apparatus comprises pivotally mounted flap members which extend into the path of fall of the bobbins. Weight means are adjustably posi-



tioned on each flap member so that the point of equilibrium of the flap member is changeable by adjusting the position of the weight. The axis for pivotally mounting the flap members may be either in substantial parallel relationship with the vertical plane containing the axes of the falling bobbins or it may be at an inclination to the vertical plane.

3,370,399
CONTAINER TOP SEALING APPARATUS
Harry B. Egleston, Livonia, Mich., assignor to Ex-Cell-O Corporation, Detroit, Mich.
Filed Apr. 15, 1965, Ser. No. 448,545
27 Claims. (Cl. 53—379)



This invention relates to a continuous motion container end heating and sealing machine for use on thermoplastic coated paperboard. The machine provides for sealing jaws to operate in a timed relationship with a selective heating unit. The sealing jaws act on the container panels to hold them in a predetermined relationship permitting the selective heating unit to act on the container panels with a minimum of heat necessary to insure proper sealing. A safety device is provided to automatically move the heating means out of heating position when the machine is stopped. A plenum structure is provided to permit two heating temperatures during each cycle. The heater system provides for moving heated air from a stationary burner to a rotating point of use.

3,370,400
METHOD AND COMPOSITION FOR PURIFYING WASTE GASES FROM THE GAS PHASE OXIDATION PROCESS FOR THE PRODUCTION OF PHTHALIC ANHYDRIDE

Gunthard Hoffmann and Achim Striebeck, Marl, Germany, assignors to Chemische Werke Huls A.G., Marl, Germany

No Drawing. Filed Feb. 1, 1966, Ser. No. 523,860
Claims priority, application Germany, Feb. 6, 1965, C 35,031
6 Claims. (Cl. 55—73)

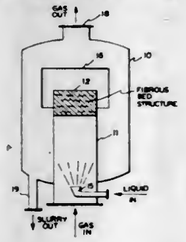
1. In a process for the production of phthalic anhydride by the gas phase oxidation of a starting material comprising naphthalene, wherein after the phthalic anhydride product is substantially completely removed from the gas phase, a waste gas is removed, said waste gas comprising 0.01–2.0 grams of 1,4-naphthoquinone per cubic meter of said waste gas,

the improvement comprising removing said 1,4-naphthoquinone from said waste gas by the step of washing said waste gas with an aqueous solution saturated with phthalic acid and containing 10–40% maleic acid based on the weight of the aqueous solution; and solvent extracting the 1,4-naphthoquinone from the resultant aqueous maleic acid solution with a water-immiscible organic solvent.

3,370,401
PROCESS AND APPARATUS FOR WET SCRUB REMOVAL OF DUST AND MIST FROM GASES

Robert L. Lucas, Newark, and Harold F. Porter, Hockessin, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 371,261, June 1, 1964. This application Feb. 1, 1967, Ser. No. 613,324
2 Claims. (Cl. 55—90)



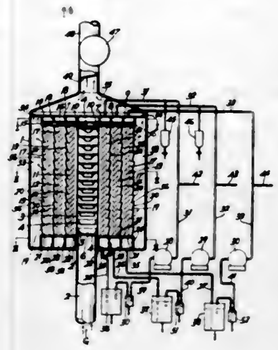
Process and apparatus for web scrub removal of dust and mist from gases in which the polluted gas is sprayed with a liquid in which the dust is relatively insoluble, the gas and liquid are then passed at a velocity in excess of the flooding velocity through a fibrous bed structure of pore size sufficiently fine and length of path sufficiently long to thoroughly contact the dust and mist with the liquid, and the dust and mist are separated as a liquid slurry, while the cleansed gas is withdrawn as a separate fraction.

3,370,402
METHOD AND APPARATUS FOR CLEANING CONTAMINATED GAS

Yoshiyuki Nakai and Tetsuya Yokogawa, Yokohama, Japan, assignors to Kanagawa Prefecture, Yokohama, Japan, a corporation of Japan

Filed May 6, 1966, Ser. No. 548,230
Claims priority, application Japan, July 8, 1965, 40/40,992
12 Claims. (Cl. 55—94)

A method and apparatus for cleaning contaminated gas in which the contaminated gas is fed in transverse direction through a plurality of preferably cylindrical and coaxially arranged screens on which liquid films are formed so that the contaminations contained in the gas



are removed by the liquid forming the films, and in which the cleaned gas and the liquid containing the contaminations are then fed away from each other in opposite directions.

3,370,403
ENVIRONMENTAL CONTROL UNIT

Anthony N. D'Elia, 3555 Netherland Ave., Riverdale, N.Y. 10471, and Edward M. Stolarz, R.F.D. 2, Horton Drive, Yorktown Heights, N.Y. 10598

Filed Oct. 21, 1966, Ser. No. 588,537
1 Claim. (Cl. 55—106)

An environmental control unit comprising a combination in a housing of an electrostic precipitator disposed adjacent to the inlet to the housing, a fan disposed in the housing for drawing air through the inlet and past the precipitator and discharging treated air through the outlet, a humidifier in the housing for delivering water vapor and droplets between the inlet and the outlet, a dehumidifier in the housing between the precipitator and the outlet for selectively removing water vapor from air passing through the precipitator and a control arrangement for selective operation of the various elements.

3,370,404
AIR CLEANER FOR ATTACHMENT TO PAINT BOOTH DOORS

Charles Leroy Leeper, 3224 Bonnie Drive, Fort Worth, Tex. 76116

Filed Mar. 20, 1967, Ser. No. 624,257
1 Claim. (Cl. 55—233)

A light weight, compact air cleaning and conditioning unit for attachment to the outside of one of the doors of a paint booth of a type which is commonly used for painting automobiles, for example, and having filter panels therein through which air is drawn, usually by

means of an exhaust fan at the opposite end of the booth.

According to the invention the incoming air is thoroughly cleaned and conditioned, before passing through the



filter panels, to improve the quality of the work, to safeguard the health and comfort of persons working in the booth, and to increase the useful life of the filter panels.

3,370,405
VACUUM CLEANER FILTER BAGS AND METHOD OF MANUFACTURING SAME

John J. Fesco, Baldwin, N.Y., assignor to Studley Paper Company, Inc., a corporation of New York

Filed Dec. 18, 1964, Ser. No. 419,304
5 Claims. (Cl. 55—368)



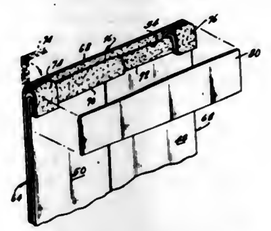
1. A disposable vacuum cleaner filter bag having a front wall, a rear wall, opposing end walls between said front and rear walls, and upper and lower end closures, and an intermediate wall disposed between said front and rear walls and coextensive therewith, said intermediate wall having an air-flow aperture defined therein, and said front wall having an air inlet aperture defined therein, said front wall, said rear wall and said intermediate walls having common end closures.

3,370,406
VACUUM CLEANER FILTER BAG

John J. Fesco, Baldwin, N.Y., assignor to Studley Paper Company, Inc., a corporation of New York

Filed Nov. 29, 1963, Ser. No. 326,978
4 Claims. (Cl. 55—377)

1. A vacuum tube filter bag comprising an elongated tubular bady formed of air pervious sheet material, said body having opposing front and rear panels interconnected by pleated side walls, said panels and walls being integral, said body being closed at one end thereof and open at the other end thereof, said pleated side walls being retained against expansion at said open end, and said open end constituting a mouth defined by a continuous circular edge and folded means integral with said

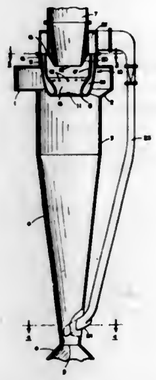


body for reinforcing only a semi-circular portion of said mouth.

3,370,407
GAS CLEANING DEVICE

Julian Morawski, 1507 Pacific Ave., Manhattan Beach, Calif. 90266

Filed July 8, 1963, Ser. No. 293,431
1 Claim. (Cl. 55—413)



1. A device for separating particulate material from a gas comprising

a chamber having a first end,

inlet means at said first end for discharging into said chamber in a rotational pattern in one direction a quantity of gas and particulate material,

said chamber having an axis,

an outlet tube at said first end extending axially therein,

said chamber having an inwardly tapering second end provided with an opening adapted for connection to a receptacle for particulate material,

and means for removing peripheral portions of the gases approaching said outlet tube,

said means including a diffuser,

said diffuser having an inlet axially inwardly of the end of said outlet tube,

an inner wall adjacent said diffuser inlet,

said inner wall diverging toward said first end,

an outer wall surrounding said inner wall in a spaced relationship therewith defining a zone between said walls,

said inner and outer walls being joined at the inlet to said diffuser,

said walls being curved where they are so joined thereby to provide a rounded entrance to said diffuser,

restricted aperture means in said inner wall for providing communication to the zone between said inner and outer walls,

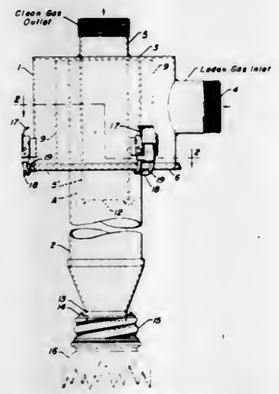
said inner and outer walls terminating at a point circumscribing said outlet tube,

a restrictor means adjacent said termination of said inner wall for accelerating the velocity of gases adjacent the surface of said inner wall,

thereby lowering the pressure at said termination of said outer wall for decreasing the pressuer in said zone between said walls and causing boundary layer flow through said restricted aperture means,

and means circumscribing said outlet tube beyond said termination of said inner and outer walls for receiving material therefrom and conducting said material to a means for separating particulate matter therefrom.

3,370,408
CENTRIFUGAL SEPARATOR WITH REMOVABLE SEPARATOR SECTION
Jack A. Lehrer and Donald P. Ross, Port Chester, N.Y., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Jan. 28, 1965, Ser. No. 428,795
3 Claims. (Cl. 55—429)



1. A centrifugal separator comprising:

(1) an upper substantially cylindrical housing section having a top closure member and an open bottom;

(2) a gas inlet port through the sidewall of said upper housing and a cleaned gas outlet port through said top closure member;

(3) a lower detachable separator tube assembly comprising:

(a) a flange-like bottom closure plate positioned across the open bottom of said upper housing and having a peripheral gasket retaining edge portion and a ring form of gasket seated therein engaging the lower side edge of the upper housing and providing a seal therewith;

(b) at least one vertical separator tube attached to and extending through said bottom closure plate, said separator tube having an open upper end portion terminating within said upper housing near the top closure member and an open lower end portion terminating below said bottom closure plate;

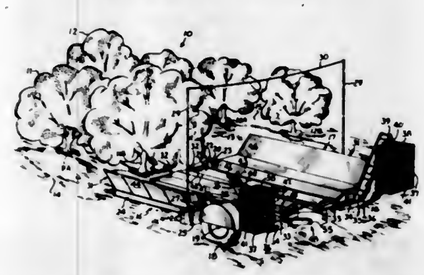
(c) at least one vertically elongated slot in the wall of the upper portion of said separator tube within the upper housing;

(d) a curved vertical vane means positioned tangentially from the side of said upper portion of the separator tube adjacent to and substantially coextensive with said elongated slot, said vane means being carried by said separator tube assembly;

(4) a cleaned gas off-take pipe depending from the top closure member of said upper housing, the upper end of said off-take pipe extending axially through the separator tube and connecting with said outlet port, the lower end of said off-take pipe being open and spaced below said bottom closure plate and above the lower end of the separator tube; and

(5) a quickly releasable clamping means connecting between said upper housing section and said lower detachable tube assembly holding said bottom closure plate against the lower peripheral edge of said upper housing section, said clamping means including lug members spaced apart from one another and disposed around the periphery of said bottom closure plate and projecting from the edge thereof, clamping members spaced around the periphery of said upper housing and each clamping member being operatively associated with a respective one of said lug members, each clamping member having a pivoted and retractable lower hook member which releasably hooks over and tightly engages the end of the lug member associated therewith.

3,370,409
TREE CROP HARVESTING MACHINES AND CONNECTORS FOR LINKING THE SAME TOGETHER
Jack V. Stong, Neosho, Mo., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Dec. 14, 1964, Ser. No. 418,023
15 Claims. (Cl. 56—328)



A fruit harvester having a pair of components embracing a tree and couplings connecting the components and serially separable and reconnectible as the harvester passes by the trees to accommodate passage of trees between these components.

3,370,410
SPINNING DEVICE
Marshall McKew, Wernersville, and Zelus S. DeLong, Sinking Spring, Pa., assignors to Caron Spinning Company, Rochelle, Ill., a corporation of Illinois
Filed Jan. 29, 1965, Ser. No. 429,052
10 Claims. (Cl. 57—12)

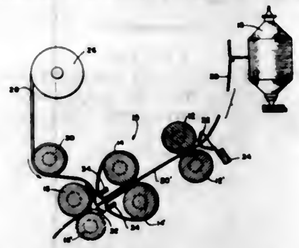
1. A core-spinning device, comprising, in combination:

a drafting system with the fiber path inclined forwardly downwardly and including a set of front rolls providing a nip between them and with the upper front roll disposed forwardly of the lower front roll;

a system for feeding a roving to said drafting system;

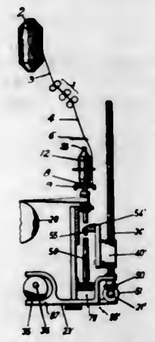
a core yarn feeding system; and

freely movable guide means disposed immediately adjacent and behind the nip of the front rolls for positively guiding a drafted roving and a core yarn to-



gether at said guide means before they reach the nip of the front rolls.

3,370,411
METHOD AND APPARATUS FOR REPLACING BOBBIN TUBES ON SPINNING OR TWISTING MACHINERY
Günter Schulz and Wolfgang Igel, Ebersbach (Fils), Germany, assignors to Firma Zinser Textilmaschinen GmbH, Ebersbach (Fils), Germany
Filed Dec. 17, 1965, Ser. No. 514,575
Claims priority, application Germany, Dec. 23, 1964, Z 11,245
18 Claims. (Cl. 57—52)

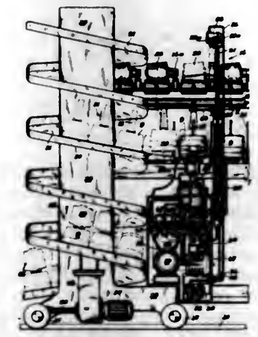


A method of and apparatus for removing full bobbins wound on tubes on a series of spindles of a spinning or twisting machine using a tube gripping arrangement wherein the tube gripping arrangement is moved between a tube receiving means for supporting both full bobbin tubes and empty tubes and the spindles under control of a control means for effecting substantially simultaneous removal of full bobbins from the spindles and replacement thereof by empty tubes, the gripping arrangement being guided on one arm of a pivotably bell crank under control of a mechanical or hydraulic system.

3,370,412
APPARATUS FOR USE IN CONNECTION WITH TWO-FOR-ONE TWISTING MACHINES FOR AUTOMATICALLY CHANGING BOBBIN UNITS
Gustav Franzen, Neersen, near Krefeld, Hans Zeller, Monchengladbach, and Klaus Nimtz, Krefeld, Germany, assignors to Palitex Project-Company, GmbH, Krefeld, Germany
Filed Dec. 19, 1966, Ser. No. 602,877
Claims priority, application Germany, Dec. 24, 1965, P 38,426
12 Claims. (Cl. 57—53)

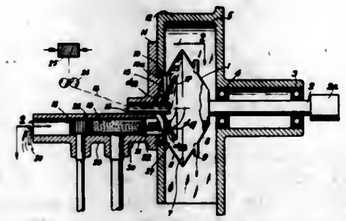
1. For the automatic exchange of bobbin units of two-for-one twisting machines with a spindle rail supporting spindles and with winding-up means for winding up twisted yarn from said spindles, an apparatus which includes:

a displaceable magazine having a first section located at a level higher than said spindle rail for receiving prepared bobbin units for supply to said spindles, said magazine also including a second section arranged at a level lower than the level of said spindle rail for receiving exchanged bobbin units, and gripper means displaceable in unison with said magazine and including a first gripper adjustable



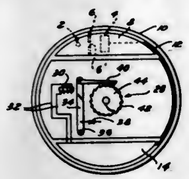
as to height and turnable about a vertical axis for transferring bobbin units from said spindles to said magazine and vice versa, said gripper means also including a second gripper adjustable as to height and turnable about a vertical axis and operable to withdraw winding-up sleeves from the respective bobbin units in the magazine and to transfer said winding-up sleeves to said winding-up means, and vice versa.

3,370,413
SPINNING DEVICE
Jaroslav Rajnoha, Tyniste nad Orlici, Miloslav Kubovy, Dolni Dobrouc, and Vitalij Zestkov, Usti nad Orlici, Czechoslavakia, assignors to Vyzkumny Ustav Bavlnarsky Ustin nad Orlici, Czechoslovakia
Filed July 20, 1966, Ser. No. 566,617
Claims priority, application Czechoslovakia, Nov. 16, 1965, 6,822/65
12 Claims. (Cl. 57—58.95)



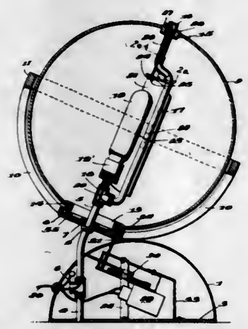
1. A spinning device comprising, in combination, a rotary spinning chamber having an axis of rotation and an aperture; and stationary means including a closure part closing said aperture, and a separator part located in said spinning chamber, said closure part and said separator part having confronting surfaces forming a gap outwardly widening in radial direction, said stationary means being formed with an inlet channel having an inlet opening in said gap on said confronting surface of said closure part, and with an outlet passage for yarn spun in said spinning chamber having an outlet opening for spun yarn located in said axis of rotation and in said spinning chamber.

3,370,414
ELECTRONIC TIMEPIECE
Julian Lazrus, Roslyn, N.Y., Lewis H. Strauss, Potomac, Md., and William P. Canning, North Woodbury, Conn., assignors to Benrus Watch Company, Inc., New York, N.Y., a corporation of New York
Filed June 22, 1965, Ser. No. 465,907
20 Claims. (Cl. 58—23)



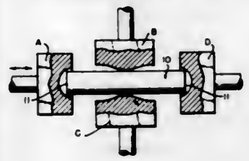
1. A timepiece comprising a housing, a source of radioactivity in said housing, a radioactivity counter in said housing in radioactivity-receiving relationship with said source and having an electrical output corresponding to the rate of reception of radioactivity thereby, said source and said counter being in operatively fixed relation such that the rate of reception of radioactivity by said same counter corresponds to the rate of emission of radioactivity from said source, control means electrically connected to said counter output so as to be actuated at a rate corresponding to said output, and time display means operatively connected to said control means so as to be driven thereby.

3,370,415
GLOBAL CLOCKS
Hubert A. McIlvaine, 418 Austin Ave., Geneva, Ill. 60134
Filed Sept. 9, 1964, Ser. No. 396,804
7 Claims. (Cl. 58—44)



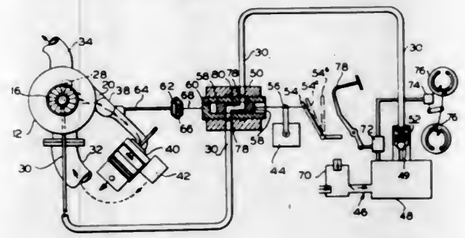
1. A global clock comprising a base including a hollow shell, clock mechanism mounted within the shell, a support mounted on the base and extending upwardly in an oblique direction, a cup mounted on the support, a ring journaled on the cup for turning movement with respect thereto, means forming an opertaive driving connection between the clock mechanism and said ring, a globe fixed to the ring to rotate therewith, a second ring carried by the cup and extending around the globe externally thereof in a plane normal to the axis of rotation thereof, said globe having map portions depicted thereon with respective lines of longitude dividing the globe into time bands, indicia carried by the ring and cooperating with the time bands thereon, illuminating means mounted within the globe, a second support member carried by the first-mentioned support member and extending upwardly therefrom through the globe with a portion of the globe journaled thereon, a shade for the illuminating means, and means mounting the shade on the second support member for tilting movement relative thereto.

3,370,416
CHAIN LINK PLATES AND METHOD OF MAKING
William R. Edgerton, West Hartford, Conn., assignor to Hewitt-Robins Incorporated, Stamford, Conn.
Filed Dec. 8, 1964, Ser. No. 416,761
6 Claims. (Cl. 59—5)



A method of forming chain link plates from blanks having a variable volume of material whereby the desired thickness of the plates immediately adjacent the points of maximum stress, i.e., the openings in the link plates, can be precisely achieved even though the other portions of the plate may be undersized. Further, the grain flow pattern within the plates adjacent the holes is arranged by the process to provide greater strength and durability, and the product thus formed by such process is also covered.

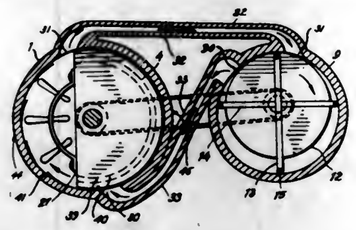
3,370,417
LOAD ACCELERATED TURBOCHARGER
Robert P. Koziara, Arlington Heights, Ill., assignor to International Harvester Company, a corporation of Delaware
Filed Jan. 12, 1966, Ser. No. 520,170
12 Claims. (Cl. 60—13)



Load accelerated turbosupercharger, normally operably driven by exhaust products from an engine to enable an air-supercharging rotor in the turbosupercharger to supply supercharged air to said engine, and being augmentatively driven at times with air injection under primary control of the accelerator pedal of said engine. Air injecting means for the purpose is operatively disposed relative to the rotor to apply a jet of compressed air to augment the acceleration of the rotor, generally at low speeds, and whenever either the accelerator pedal has a setting calling for rapid acceleration, or takes an appropriate pedal setting in sudden reaction to peak power demands on the engine.

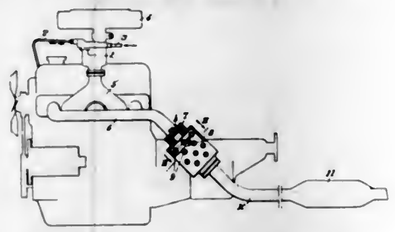
3,370,418
ROTARY STIRLING CYCLE ENGINES
Donald A. Kelly, 58—06 69th Place, Maspeth, N.Y. 11378
Filed Oct. 24, 1966, Ser. No. 588,799
7 Claims. (Cl. 60—24)

1. A dense gas rotary Stirling cycle engine comprising a first cylinder, a truncated rotor within said cylinder, multiple rings mounted on said truncation, multiple impeller blades mounted on said rings, a shaft to support said truncated rotor, two end plates to enclose said first cylinder, multiple ports within one of said end plates, and bearings within said end plates to support said shaft,



a second cylinder in line with said first cylinder, a slotted rotor within said second cylinder having a short blind hole for said shaft, two movable vanes at right angles within said rotor, sealing means in said movable vanes, two end plates to enclose said second cylinder, multiple ports within one of said end plates which freely communicate with the multiple ports within one of the said end plates of said first cylinder, bearing means for said first and second cylinders, means for sealing said shaft where it projects from the said first cylinder.

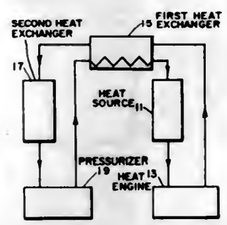
3,370,419
DEVICE FOR PURIFICATION OF THE EXHAUST GASES OF INTERNAL COMBUSTION ENGINES
Paul Augustin Albert Ketzer, 191 Rue de Courcelles 17, Paris, France
Filed June 27, 1966, Ser. No. 560,451
7 Claims. (Cl. 60—30)



In an internal combustion engine, the combination of means for introducing into a combustion cylinder of said engine a liquid fuel and a liquid catalyst for favoring combustion, said catalyst being capable of retaining at least some of its catalyzing power on passing through said cylinder, an exhaust circuit for the exhaust of the exhaust gases from said engine into the atmosphere, and baffle means disposed in said exhaust circuit, at a region where the temperature of the exhaust gases is normally at least 500° C., for collecting at least a portion of the catalyst carried along by the exhaust gases.

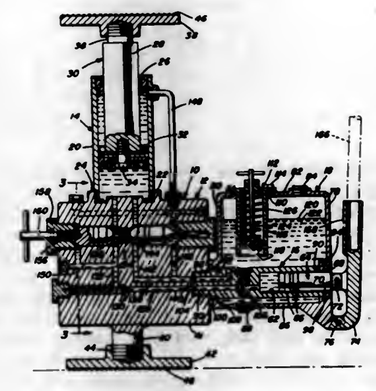
3,370,420
THERMALLY DISSOCIATIVE GAS POWER CONVERSION CYCLE
Kenneth P. Johnson, Walnut Creek, Calif., assignor to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio
Filed Oct. 19, 1965, Ser. No. 497,616
10 Claims. (Cl. 60—36)

A thermally dissociative gas power cycle having a reversibly thermally dissociative gaseous working fluid in a closed cycle. Within the closed cycle, the working fluid flows progressively through a pressurizing means for exerting pressure on the fluid, a recuperator heat exchanger to heat the fluid, a heat source to further heat the fluid, a heat engine for the conversion of energy, back



through the recuperator heat exchanger to give off excess retained heat, then to a precooler heat exchanger to allow further cooling of the fluid and return to the pressurizing means to complete the closed cycle.

3,370,421
PORTABLE HYDRAULIC JACK WITH SWIVELLING OIL RESERVOIR
Clarence J. Piper, 901 7th Ave. N., Fargo, N. Dak. 58102
Filed Dec. 7, 1965, Ser. No. 512,187
7 Claims. (Cl. 60—52)

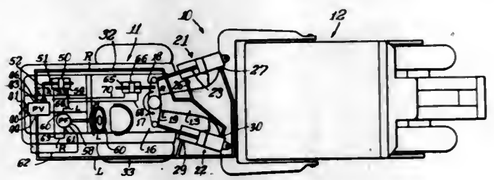


A fluid pump assembly provided with a shank portion, a fluid inlet and a fluid outlet opening through the shank portion with a fluid reservoir journalled on the shank portion independent of axial displacement relative thereto and fully encircling and enclosing at least one section of the shank portion through which the fluid inlet opens, the shank portion including a second section thereof disposed outwardly of the interior of said reservoir and through which the outlet for the fluid pump assembly opens.

3,370,422
STEERING CONTROL SYSTEM
Robert L. Carlson, Chicago, and Julius F. Marquardt, Westchester, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Mar. 10, 1966, Ser. No. 533,137
2 Claims. (Cl. 60—52)

A vehicle steering system having a steering control adapted to develop hydraulic fluid flow to the steering

actuators at a rate proportional to the rate of movement of the steering control means. Hydraulic feed-back means are provided to neutralize the flow of steering fluid upon a steering movement of the vehicle.

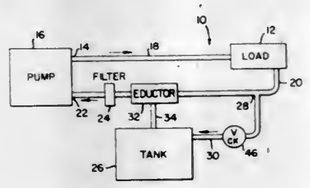


3,370,423

VARIABLE FLOW HYDRAULIC SYSTEM WITH RESERVE FLUID EDUCTOR

Donald R. Vaughan, Woodland, Calif., assignor to Woodland Manufacturing Company, Woodland, California

Filed May 27, 1966, Ser. No. 553,331
12 Claims. (Cl. 60—52)



1. In a hydraulic fluid flow system: a hydraulic pump having a fluid inlet; a first conduit coupled to said inlet and extending outwardly from said pump for directing a return flow of hydraulic fluid thereto; a tank adapted to contain a supply of said fluid; a second conduit placing said tank in fluid communication with said first conduit at a location thereon spaced from said inlet, whereby a portion of said return flow will be directed into and retained within said tank; and fluid passage means interconnecting said tank and said first conduit at a second location on the latter between the pump and said first location and being disposed for drawing said fluid into said first conduit from said tank in response to the fluid pressure at said inlet, whereby variations in the volume rate of flow of said fluid to said inlet can be effected to permit said pump to satisfy changing load conditions of said system.

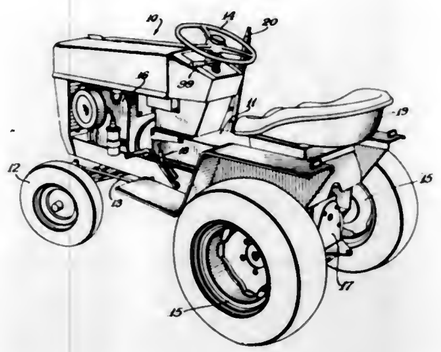
3,370,424

HYDROSTATIC TRANSMISSION DRIVE PUMP SWASH PLATE CONTROL

William C. Swanson, Clarendon Hills, and Marvin D. Jennings, Naperville, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Mar. 7, 1966, Ser. No. 532,256
10 Claims. (Cl. 60—53)

A hydrostatic transmission drive pump swash plate control including a driven arm and a drive plate coaxially carried by a shaft secured to the swash plate, the drive plate being rotatably mounted on the shaft and the drive arm being secured to the shaft for rotation therewith, bias means interposed between the drive plate and the driven arm, a second plate having a cam slot mounted for rotation about an axis parallel to the shaft, a cam follower carried by the driven plate member and engageable with the cam slot, and linkage means operably connecting second plate member to an operator control lever.

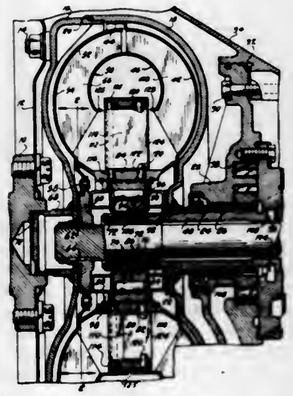


3,370,425

HYDROKINETIC TORQUE CONVERTER MECHANISM HAVING A STATOR WITH BLADES OF VARIABLE GEOMETRY

Lawrence Au, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Aug. 1, 1966, Ser. No. 569,216
6 Claims. (Cl. 60—54)



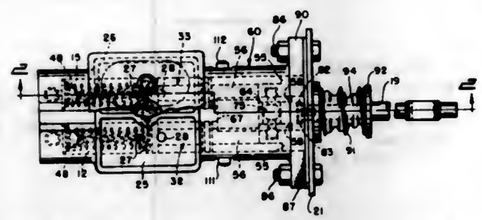
This specification describes a hydrokinetic torque converter having a bladed impeller, a bladed stator and a bladed turbine. The stator has blades of variable geometry. Each stator blade includes a pivot pin at its leading edge and an anchor pin adjacent its trailing edge. The span of the blade between the anchor pin and the pivot pin deflects under the influence of hydrodynamic forces caused by the toroidal fluid flow in the torque converter circuit. Flexure of the blades results in optimum blade geometry for both high torque ratio driving conditions and for operation of the converter at speed ratio approaching the coupling condition.

3,370,426

MASTER PISTON ACTUATOR

Clarence C. Fay, 17211 Edgewater Drive, Lakewood, Ohio 44107

Filed Nov. 12, 1965, Ser. No. 507,381
6 Claims. (Cl. 60—54.5)



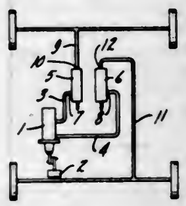
This invention provides in a system for operating at least one pair of pistons movable along parallel axes in response to a single force and applied along an axis which is parallel to the piston axes means which coact between the pistons and the point of application of the force for dividing the force into unequal components which are applied to the pistons to move them along their respective axes.

3,370,427

AUXILIARY CONTROL FOR DUAL AUTOMOTIVE BRAKE SYSTEMS

Henry E. Branson, Chicago, Ill., assignor to Stromberg Hydraulic Brake and Coupling Company, Chicago, Ill., a corporation of Illinois

Filed Mar. 10, 1966, Ser. No. 533,171
7 Claims. (Cl. 60—54.5)



This invention is for use in connection with the conventional type of dual automotive brake control systems where one or more master cylinders under control of the driver actuates the brakes. The purpose of this invention is to provide in association with each of the two or more elements of the dual system, separate means which may be controlled by an instructor to control all the brakes of the dual system independent of a student control of the master cylinder. Each of the instructor control cylinders is provided with check valves so that the control of the student is not interfered with until the instructor has operated his control and taken over the braking system.

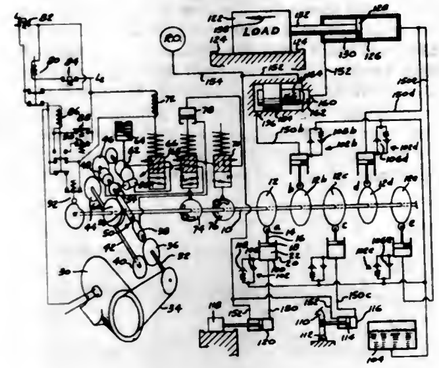
3,370,428

DECELERATING AND RETURN DEVICE FOR MACHINE ELEMENT

Walter H. Van Deberg, Berkley, Mich., assignor to Earl A. Thompson Manufactering Co., Ferndale, Mich., a corporation of Michigan

Continuation-in-part of application Ser. No. 467,166, June 1, 1965. This application Nov. 7, 1966, Ser. No. 592,444
20 Claims. (Cl. 60—54.5)

20. A device for retarding a moving mass comprising in combination a variable volume fluid pressure chamber for opposing movement of the mass in one direction having a passage for flow of fluid therefrom, a source of relatively low pressure connected to the chamber through said passage, means for moving a mass throughout a path in said direction against the force of pressure in the chamber to express fluid through the passage to the source, means for increasing the pressure in the chamber to decelerate the mass rapidly, and means responsive to the speed of the mass for subsequently reducing the pressure in the chamber substantially to the pressure of the source to decelerate the mass slowly.

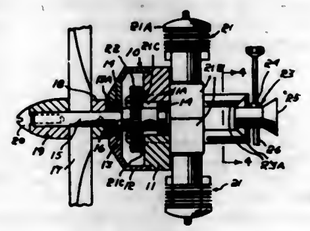


3,370,429

COMBINED ENGINES

William A. Brice, South Portland, Maine, assignor, by mesne assignments, to Ametek, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 14, 1965, Ser. No. 495,980
4 Claims. (Cl. 60—97)



At least two engines of the two cycle, two stroke type are combined into a single assembly with a single output power shaft by mounting of the engines on interconnecting means that journals the power shaft, with the crankshafts of the individual engines connected to the power shaft in a timing-driving relationship. Each engine retains its separate crankcase with the fuel intake in the crankcase chamber communicating with a single carburetor through connections of equal length and cross sectional area.

3,370,430

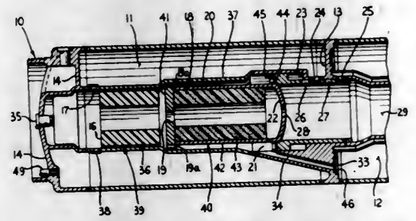
ROCKET MOTOR

Harold Davies, Morris Plains, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed Oct. 23, 1964, Ser. No. 406,040
5 Claims. (Cl. 60—251)

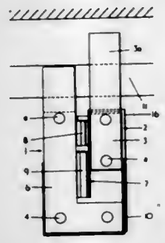
1. A prepackaged liquid powerplant comprising annular liquid oxidizer and fuel tanks axially aligned, a central header disposed between said tanks having a central open-

ing forming a common wall therebetween, a combustion chamber centrally positioned in said powerplant having peripheral sets of orifices communicating with said tanks, an axially slidable two position valve means having corresponding sets of orifices, said orifices registerable with said combustion chamber orifices in at least one position of said valve means, a first gas generator comprising an outer casing centrally disposed in said powerplant in axial relation with said combustion chamber containing a centrally perforated solid propellant grain, a second gas generator axially aligned with said first gas generator and centrally positioned in said powerplant between said combustion chamber and said first gas generator comprising an outer casing terminating in an orifice containing end plate, a centrally perforated solid propellant grain in said last-mentioned casing, said last-mentioned solid propellant



grain selected to have a lower burning temperature than said first gas generator propellant and having dispersed throughout its mass particulated, energy augmenting combustible material, orifice means interposed between said first and second solid propellant grains, igniter means for initiating combustion of said first gas generator solid propellant grain, means defining an annular gas passage between said second gas generator casing and a wall of one of said tanks, said passage terminating in an annular chamber defined by portions of said second gas generator casing, one of said tanks and said valve means, at least one gas passage from said annular chamber to the other of said tanks for supplying gas pressure thereto, and rupturable means in said tank walls responsive to gas pressure generated by said gas generator for admitting gas under pressure to said tanks.

3,370,431
MINE ROOF SUPPORTS
William J. Adcock, London, and William V. Sheppard, Horley, England, assignors to Coal Industry (Patents) Limited, London, England, a British company
Filed July 25, 1966, Ser. No. 567,424
Claims priority, application Great Britain, Aug. 3, 1965, 33,133/65
11 Claims. (Cl. 61—45)



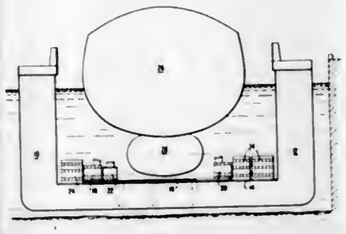
1. A roof support unit for a longwall system of mining comprising two different support elements, each element having a floor beam on which is mounted two or more props and a roof beam supported on said props and extending beyond said props in cantilever manner and further comprising advancing means for moving the two elements of the support unit relative to one another in the direction of advance of the support unit, the roof beam of one element of the support unit having a first part which extends in the direction of advance of the support unit parallel to and spaced laterally from the roof beam of the other element and a second part extending transversely from the first part and to the rear of the other element with respect to the direction of advance to the support unit.

3,370,432
ICE PROTECTIVE SLEEVE FOR PILINGS
Roger M. Butler, Janis Bumbulis, and Leander B. Simpson, Sarnia, Ontario, Canada, assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Aug. 3, 1965, Ser. No. 476,894
6 Claims. (Cl. 61—54)



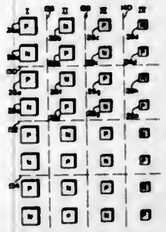
The present invention is directed towards providing apparatus and a method for preventing the gradual and almost universal jacking out of pilings subject to adverse winter environment. In accordance with the invention a tubular collar of a buoyant foam plastic material is positioned, surrounding and spaced from the piling. The interior annular space between the sleeve and the piling is filled with any suitable anti-freeze solution which is of a density less than water and insoluble therein. In this way ice forming on the surface of the water and freezing will freeze tightly against the exterior surface of the protective sleeve; and when said ice lifts to the changes in the water level, it will lift the sleeve and not the piling.

3,370,433
BLOCKING SYSTEM FOR DRY DOCKS
Arden L. Burnett, 6301 Nicholson St., Falls Church, Va. 22044
Filed Dec. 2, 1966, Ser. No. 598,756
2 Claims. (Cl. 61—64)



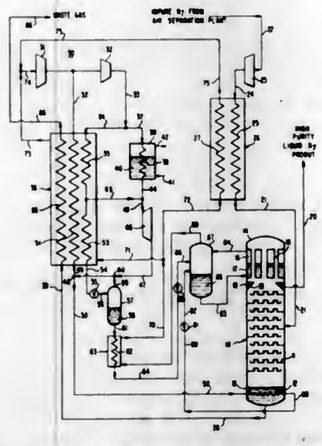
For high block dry docking of ships in order to standardize on usable block heights and permit automatic and/or remote positioning of the blocks under water, such blocks are effectively cut substantially in half in their horizontal plane. The upper halves are movably supported on the upper surfaces of a series of elevatable platforms arranged on the dock floor and the lower halves are arranged for movement on the dock floor proper to support the platforms in their elevated positions.

3,370,434
THERMOELECTRIC HEAT EXCHANGER
Cecil J. Mole, Murrysville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 1, 1966, Ser. No. 598,461
11 Claims. (Cl. 62—3)



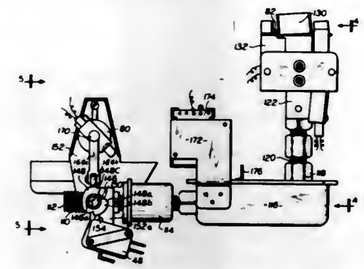
1. In a thermoelectric device, a first conduit for conveying one fluid, a second conduit for conveying another fluid the conduits being disposed substantially parallel and in proximity to each other throughout substantially their lengths such that a space is present therebetween, a plurality of thermoelectric elements each comprising wafers of thermoelectric material disposed in said space and having their opposite faces in thermal contact with both of the conduits, the area and length of the thermoelectric wafers progressively varying from one end of the conduits to the other end, and means for passing electrical current through the thermoelectric elements for heating one face of the elements and for cooling the other face so as to provide for maximum efficiency of heating the fluid in one conduit and cooling the fluid in the other conduit as the temperatures of each of the fluids change in flowing through their respective conduits.

3,370,435
PROCESS FOR SEPARATING GASEOUS MIXTURES
John E. Arregger, Twickenham, England, assignor to Air Products and Chemicals, Inc., Allentown, Pa., a corporation of Delaware
Filed July 29, 1965, Ser. No. 475,700
9 Claims. (Cl. 62—28)



Process for separating gaseous mixture in a fractionating operation producing low boiling point gaseous fraction and high boiling point liqiud fraction in which a compressed refrigerant is cooled and expanded to effect partial liquefaction providing a liquid part and a gaseous part and in which the gaseous part is passed in heat interchange with the high boiling point liquid fraction to provide reboil for the fractionating operation and then with the liquid part used to effect liquefaction of low boiling point gaseous fraction as reflux for the fractionating operation.

3,370,436
COMBINED GAS AND ELECTRIC CONTROL SYSTEM FOR REFRIGERATOR APPLIANCES
Pat Romanelli, Bronx, N.Y., assignor to Ram Domestic Products Company, Northvale, N.J., a partnership
Filed Dec. 12, 1966, Ser. No. 600,820
10 Claims. (Cl. 62—148)

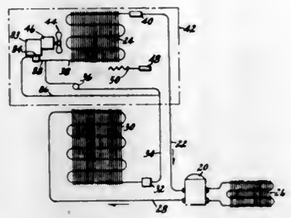


1. In a refrigerator having a compartment cooled by a refrigerator system operable alternately by heat supplied from an electric heater element energized by a source of electrical power and a gas burner connected to a gas supply source through a gas supply line, the improvement comprising a control system for alternate and selective automatic operation of said electric heater element and gas burner, said control system comprising a gas control section and an electric control section, said electric control section including a first electrical circuit for connecting said electric heater element to said source of electric power for energization of said heater element, said gas control section including a manually-operable valve and an electrically-operable valve in said gas supply line and individually operable to shut off the flow of gas to said burner, an electrically-energized ignition element positioned proximate to the mouth of said gas burner, a second electrical circuit for connecting said ignition element and said electrically-operable valve to said source of electrical power, whereby said electrically-operable valve is opened to permit gas to flow through said gas supply line to said burner and said ignition element is energized to ignite the gas flowing from the burner mouth, said control system also including manually-operable selector means having a first position in which it completes said first electrical circuit and opens said second electrical circuit, a second position in which it completes said second electrical circuit and opens said first electrical circuit, and a third position in which it opens both first and second electrical circuits, said selector means being operatively coupled to said manually-operable valve for opening the same when said selector means is brought to its second position, and closing the same when brought to its second and third positions.

3,370,437
DEFROSTING SYSTEM
James W. Jacobs, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 14, 1966, Ser. No. 557,420
4 Claims. (Cl. 62—160)

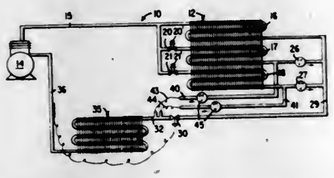
1. Refrigerating apparatus including a refrigerant circuit comprising a motor compressor unit and a condenser means and an evaporator means, fan means for circulat-

ing a medium in heat transfer relation with one of said means, a fan motor for driving said fan means, means including a valve for defrosting said evaporator means,



and periodic operating means connected to and operated by said fan motor for periodically moving said valve from one position to another for defrosting said evaporating means.

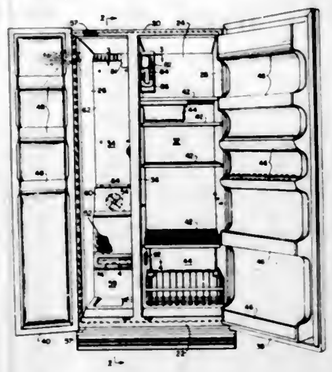
3,370,438
CONDENSING PRESSURE CONTROLS FOR REFRIGERATION SYSTEM
Harold H. Hopkinson, Manlius, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed May 4, 1966, Ser. No. 547,512
3 Claims. (Cl. 62—196)



1. In a refrigeration system including a compressor with suction and discharge sides, refrigerant expansion means, and an evaporator series-connected between said expansion means and the suction side of said compressor, the combination of: condenser means arranged between the discharge side of said compressor and said refrigerant expansion means, said condenser means including at least two coil sections circuited to provide parallel refrigerant flow paths; first valve means between at least one of said condenser coil sections and the discharge side of said compressor effective when actuated to interrupt flow of refrigerant from said compressor to said one coil section; a conduit for returning refrigerant and lubricant trapped in said one condenser coil section to said system, said conduit communicating with said system downstream of said refrigerant expansion means, and including a restricted portion to control the flow of returning refrigerant and lubricant from said one condenser coil section to said system; and second valve means for preventing flow of refrigerant from the other of said condenser coil sections into said one condenser coil section.

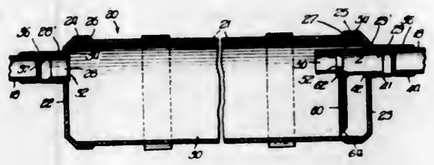
3,370,439
REFRIGERATORS
Francis L. Rivard and Earl K. Harley, Greenville, Mich., assignors to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed June 1, 1966, Ser. No. 554,435
8 Claims. (Cl. 62—419)

Refrigerators in which fresh food and frozen food compartments are arranged in side-by-side configuration and in which air is caused to flow over an evaporator through an air passage and duct system to maintain the two com-



partments at the desired temperatures without the formation of visible frost.

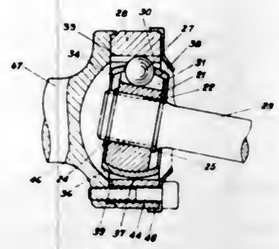
3,370,440
SUCTION ACCUMULATOR
Edward P. Kellie, Detroit, Mich., assignor to AC & R Components, Incorporated, Chicago, Ill., a corporation of Illinois
Filed Jan. 6, 1966, Ser. No. 519,114
9 Claims. (Cl. 62—503)



A suction line accumulator adapted to prevent liquid slugs of refrigerant and/or lubricant from passing into the compressor, together with means in said accumulator for atomizing accumulated liquid refrigerant and/or lubricant and directing the atomized liquids from the accumulator.

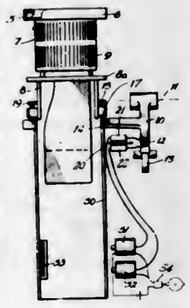
3,370,441
CONSTANT VELOCITY NONTELESCOPIC JOINT
Erich Aucktor, Offenbach am Main, Germany, assignor to Lohr & Bromkamp G.m.b.H., Offenbach am Main, Germany
Filed Oct. 20, 1965, Ser. No. 498,304
Claims priority, application Germany, June 10, 1965, L 50,884
5 Claims. (Cl. 64—21)

A constant velocity nontelescopic joint is disclosed which includes inner and outer joint elements each provided with longitudinal grooves and which includes a plurality of balls guided in said grooves for transmitting torque between said joint elements. The longitudinal center lines of these longitudinal grooves open in wedge-fashion in pairs alternately in opposite directions or cross one another in pairs with alternate opposite inclination. A cage is disposed between the joint elements for retaining the balls in coplanar fashion during all relative positions of the two joint elements. The cage is nondisplaceably guided only on one of said joint elements whereas it has a clearance relative to the other joint element. The



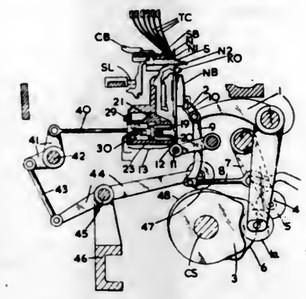
cage and the balls in the grooves form the only means for holding the joint elements together.

3,370,442
SEAMLESS HOSIERY MACHINE
Charles Albert Tonkin, Ivanhoe, Victoria, Australia, assignor to Nagata Seiki Company Limited, Toshima-ku, Tokyo, Japan
Filed Sept. 12, 1960, Ser. No. 55,205
Claims priority, application Australia, Sept. 16, 1959, 52,820/59
5 Claims. (Cl. 66—55)



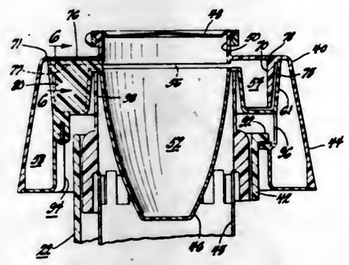
1. In a circular knitting machine of the vacuum take-up type having a transparent take-up tube, means for controlling the overall length and proportions of an article of hosiery being knitted comprising the combination of a gradation cam having a profile determined by the required proportions of the article to be knitted and rotated in time relation with the knitting cycle of the machine, means operable by the gradation cam to effect relative axial movement between the sinkers and the needles to effect proportional variations in the length of the stitch of the main yarn from a nominal length during the knitting cycle, two photo-electric cell devices, two independent light sources to pass beams of light transversely through the take-up tube of the machine at a predetermined point along the length thereof to activate the respective photo-electric cell devices, switch means connected to said light source and adapted to connect the light source to a power supply to energise said light sources at a predetermined point in the knitting cycle, and an adjuster operable by said photo-electric cell devices so as to increase the nominal stitch length a fixed predetermined amount throughout the remainder of the knitting cycle if neither of the beams of light are broken by the article being knitted and to decrease the nominal stitch length by a similar amount if both beams of light are broken by said article.

3,370,443
STRAIGHT BAR KNITTING MACHINE WITH ELECTROMAGNETIC SELECTION
William Bentley, Woodhouse Eaves, and Raymond Blood, Shepshed, England, assignors to William Cotton Limited
Filed Apr. 14, 1965, Ser. No. 448,115
Claims priority, application Great Britain, Apr. 18, 1964, 16,162/64
12 Claims. (Cl. 66—82)



A straight bar knitting machine having independently movable and frictionally mounted needles in the needle bar. The needles normally move in unison with said bar to produce a plain knit fabric. Solenoid operated sliders mounted transverse of the needles at plural levels are selectively projected into the path of selective needle butts when the bar is moved upward to limit the upward movement of selected needles to form stitches other than plain; for example, tuck or miss stitches.

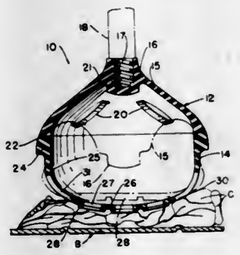
3,370,444
DISPENSING APPARATUS FOR WASHING MACHINE AGITATOR
Richard H. Wolters, Centerville, Ohio, assignor to General Motors Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 375,188, June 15, 1964. This application Apr. 29, 1966, Ser. No. 559,360
11 Claims. (Cl. 68—207)



1. In a washing machine adapted to proceed through a sequence of operations including a washing operation, a centrifugal extraction operation, and a rinsing operation, a rotatable clothes basket, an agitator disposed within said clothes basket, a bleach cup in said agitator having an open top portion extending above said agitator, drive

means vertically reciprocating said agitator for washing clothes and for rotating said basket to extract liquid centrifugally from said clothes and causing said agitator to rotate with said basket during the rotation thereof, and a rinse agent dispenser mounted on said agitator for discharging a rinse agent after said extraction operation to treat the liquid in said basket during said rinsing operation, said dispenser including receptacle means forming a cup-shaped first storage chamber having a top opening and an annular second storage chamber radially outwardly from said first storage chamber and in continuous overflow communication therewith along a radially inner portion thereof at said top opening, removable cover means for said top opening, means forming a compartment radially outwardly from said second storage chamber for receiving and retaining said rinse agent upon the rotation of said agitator during said extraction operation and having inlet port means opening toward and in communication with said second storage chamber, means for retaining said rinse agent in said storage chambers during said washing operation, said retaining means including baffle means extending in front of said inlet port means and spaced therefrom on the radially inner side thereof and ramp means wider than said inlet port means extending from the bottom of said second storage chamber along the radially outer wall thereof to a position below said inlet port means, the top of said ramp means substantially filling the space between said inlet port means and said baffle means whereby to cause said rinse agent to go around said ramp means to reach said inlet port means during said extraction operation, and means or discharging the rinse agent into said basket at the close of said extraction operation, said compartment forming means defining with said receptacle means a downwardly opening cavity having a first portion including said discharging means for receiving the top of said agitator and in continuous open communication with said basket, said first portion of said cavity serving to direct liquid splashing from said basket in said rinse operation into said compartment through said discharge means thereby to clean said compartment of rinse agent residue after said rinse agent is discharged, said downwardly opening cavity having a second portion confined between said first and second storage chambers for receiving the open top portion of said bleach cup, thereby to prevent the egress of bleach from said bleach cup through the open top portion thereof.

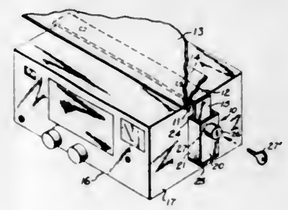
3,370,445
CLOTHES WASHING DEVICE
Anthony M. Lajza, 28480 Kathryn, Garden City, Mich. 48135
Filed Aug. 23, 1965, Ser. No. 481,489
10 Claims. (Cl. 68—215)



The application discloses an improvement in a manually actuable clothes washing implement, comprising a hand operated plunger rod fixedly connected to a bulbous, elastically deformable washer head. This head has an upper portion of conical cross-section connected to the rod, and a lower portion at which a turbulizing and suction action is exerted on the clothing and water in which they are immersed.

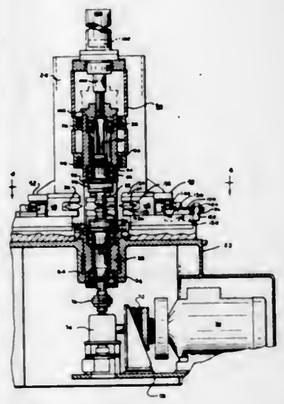
The lower portion of the head has externally ribbed bottom openings and unribbed side openings for the above mentioned compound action; and the natural stability and strength of the upper conical head portion are augmented by an annular, outwardly projecting and thickened rim or bead formation in the annular zone where the two portions merge.

3,370,446
LOCKING DEVICE FOR MOBILE TRANSCEIVERS AND THE LIKE
Thomas H. Francis, 2101 Madison Ave., New York, N.Y. 10037
Filed Oct. 22, 1965, Ser. No. 502,050
3 Claims. (Cl. 70—58)



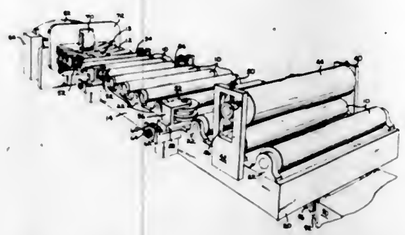
A locking device for securing two-way radios in motor vehicles having a channel member for receiving the radio mounting screw, a lock with an advancing pin which prevents tampering with the mounting screw of the radio, the key of the lock permitting only the user to remove the radio or other device from the vehicle.

3,370,447
WHEEL FABRICATING MACHINE
William J. Skinner and Earl D. Scott, Walkerton, Ind., assignors to Arrowhead Engineering Corporation, Knox, Ind., a corporation of Indiana
Filed Aug. 30, 1965, Ser. No. 483,627
10 Claims. (Cl. 72—72)



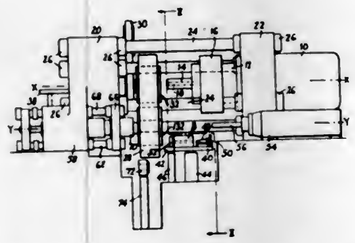
A machine for fabricating pulleys, sheaves and the like, in which a disc-shaped blank is placed between head and tail stocks of a rotating spindle, and two or three tools are used in performing slitting, spreading and forming operations in overlapping relationship. A mechanism such as a multiple cam means is used to control the overlapping operation of the tools.

3,370,448
PIPE FORMING APPARATUS
Lewis H. Ruple, 952 Mulberry St., Perrysburg, Ohio 43551
Filed Feb. 1, 1965, Ser. No. 429,272
4 Claims. (Cl. 72—176)



An entry table structure for supporting flat strip stock as it enters the entry end of a tube mill for forming from a continuous flat strip of metal, a tube of a predetermined selected diameter wherein the table includes means for effecting vertical movement of one end thereof with respect to the other.

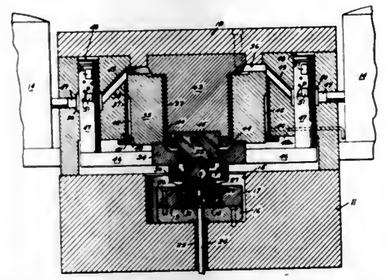
3,370,449
BILLET EXTRUSION PRESSES
Ernest Lomas, Wimborne, Dorset, England, assignor to The Loewy Engineering Company Limited, Bournemouth, England, a company of Great Britain
Filed Oct. 4, 1965, Ser. No. 492,787
Claims priority, application Great Britain, Oct. 2, 1964, 40,295/64
5 Claims. (Cl. 72—263)



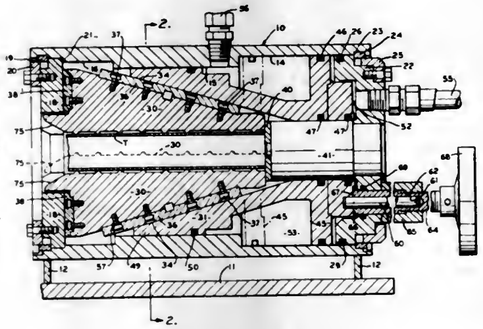
Describes an extrusion press, for metal, with a movable billet container carrier carrying a plurality of billet containers, which moves the billet containers from a working station in the axis of the press to parking stations outside the press axis, and perforating means to perforate a billet in a container at a parking station.

3,370,450
FORGING MACHINE AND METHOD
Karl Scheucher, Waite Hill, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Oct. 21, 1965, Ser. No. 499,952
18 Claims. (Cl. 72—354)

A secondary die closure mechanism for incorporation in a mechanical forging process to control the external load on the forging dies relative to the internal die load created by the workpiece as it is deformed by the ram of the press. The secondary die closure is hydraulically loaded as the movement of the ram is utilized to build up hydraulic pressure loading the secondary die closure. An apertured control rod selectively bleeds the hydraulic fluid to control the load on the secondary die closure.



3,370,451
APPARATUS AND METHOD FOR POINTING TUBES
James W. Schuetz, Pittsburgh, Pa., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed June 28, 1965, Ser. No. 467,235
8 Claims. (Cl. 72—402)

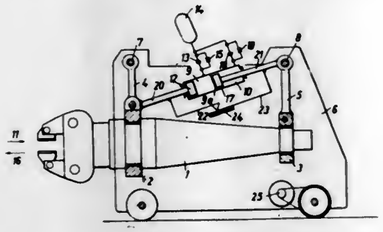


Apparatus for pointing metal tubes preparatory to drawing them through a die embodying jaw members angularly spaced apart about a central axis and adapted to fold the walls of a tube inwardly to produce a tube having an end of reduced diameter made up of longitudinally extending ribs separated by intervening flutes. The jaws are V-shaped and have sharp, longitudinally spaced projections that first come into engagement with the wall of the tube and hold the tube properly centered during the pointing operation which takes place in one continuous inward stroke of the jaws.

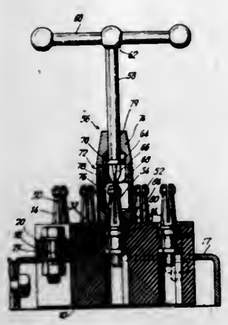
3,370,452
MOBILE FORGING MANIPULATORS
Ernst Theodor Sack, Hosel, Manfred Hansen, Dusseldorf-Benrath, and Horst Schenk, Dusseldorf-Rath, Germany, assignors to Maschinenfabrik Sack G.m.b.H., Dusseldorf-Rath, Germany
Filed July 22, 1965, Ser. No. 473,935
Claims priority, application Germany, July 30, 1964, M 61,922
3 Claims. (Cl. 72—420)

Mobile forging manipulator has a gripper mounted on a carriage for rotation about its longitudinal axis and

movable axially in both directions against a resilient restraint provided by a hydraulic cylinder and piston unit having two pistons, one side of each being open to atmosphere, and which are arranged so that one slides in the cylinder and the other is held by an abutment in response to movement of the gripper in one direction and the other slides and the first is held by an abutment in response to movement of the gripper in the other direction. The movement of either piston away from its abutment displaces hydraulic liquid from the cylinder into a pressurized reservoir through a non-return valve which opens to allow flow to the reservoir, and a by-pass having a throttle of adjustable cross-section allows flow from the reservoir to the cylinder on return movement of the piston.



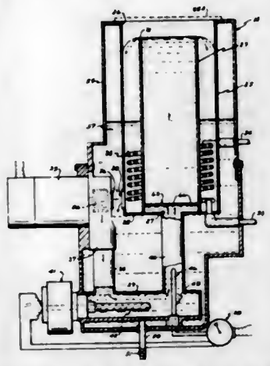
3,370,453
TOOL TO PRESET CONTACT STABS ON CONNECTION BLOCKS
Bernhard H. Schwarz, Montvale, N.J., assignor to Consolidated Edison Company of New York, Inc., New York, N.Y., a corporation of New York
Filed July 27, 1965, Ser. No. 475,168
10 Claims. (Cl. 72—479)



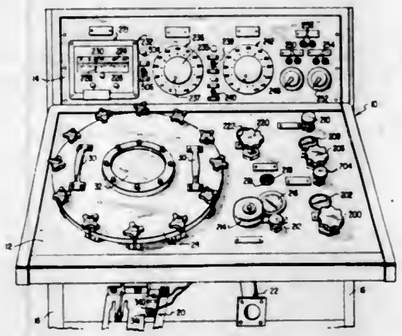
Hand tool having elongated shank with fluted tip at lower end for forcing into stab slots to spread same; guide sleeve slidably mounted on shank to align shank with stab.

3,370,454
CONSTANT TEMPERATURE BATH FOR CALIBRATING IMMERSION TYPE INSTRUMENTS
Fernando E. Flores, Parlin, N.J., assignor to Tenney Engineering, Inc., Union, N.J.
Filed Nov. 24, 1965, Ser. No. 509,557
6 Claims. (Cl. 73—1)

A constant temperature bath for testing and calibration of thermal responsive instruments in which one or more open top tanks or reservoirs are provided using a single open flow system to maintain a constant predetermined temperature in each tank or reservoir and means are provided to vary the fluid flow in one tank from that in another.



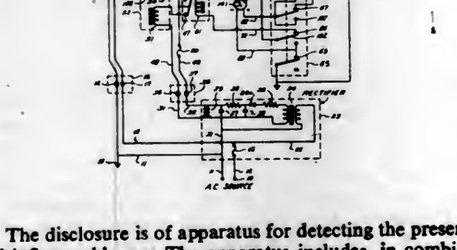
3,370,455
THERMOELECTRIC COUPLE TESTER
Edward J. Krolikzek, Baltimore, Md., Robert A. Swift, Clementon, N.J., and Donald B. Evans, Columbus, Ohio, assignors to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland
Filed May 17, 1966, Ser. No. 550,799
15 Claims. (Cl. 73—1)



1. An apparatus for the operational testing of a thermoelectric test specimen comprising: a hermetically sealed test chamber, means for supporting said test specimen within said chamber under axial compressive force, means for creating a temperature gradient across said test specimen to simulate actual operational conditions, means for connecting said test specimen to a simulated electrical load, and means for measuring the potential difference and the temperature gradient at spaced points longitudinally of said test specimen whereby thermal and electrical parameters for each specimen may be periodically obtained under simulated operational conditions.

3,370,456
TIMEPIECE TESTING APPARATUS
Erich Jacker, La Chaux-de-Fonds, Switzerland, assignor to Portescap, Le Porte-Echanpement Universel S.A., La Chaux-de-Fonds, Switzerland
Filed Feb. 18, 1966, Ser. No. 528,631
10 Claims. (Cl. 73—6)

5. Timepiece testing apparatus comprising:
acoustical sensing means for sensing the sounds produced by the movement of a timepiece under test and for developing electrical alternation signals corresponding in number to the number of alternations which the oscillating member of said time piece undergoes;
a first counter for counting said electrical alternation signals and for developing a first gating signal at the initiation of said counting of said electrical alternation signals and a second gating signal after a prescribed number of said electrical alternation signals have been counted;

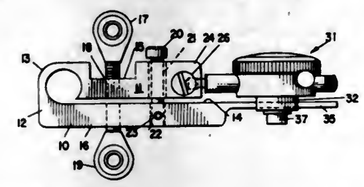


timing control means responsive to said electrical alternation signals for preventing said electrical alternation signals from passing to said first counting means except during prescribed time intervals occurring at times at which electrical alternation signals should occur if the rate of said oscillating member is proper;
an oscillator for supplying timing signals at a prescribed rate;
a second counter for counting said timing signals;
and a gate circuit interposed between said oscillator and said second counter responsive to said first gating signal for passing said timing signals to said second counter to count said timing signals and responsive to said second gating signal for blocking the passage of said timing signals to said second counter.

3,370,457
GAS DETECTOR
Frederick L. Lemm, Bellaire, Tex. (% Electronics Research Corporation of America, 5115 Westheimer Road, Houston, Tex. 77027)
Continuation-in-part of application Ser. No. 1,312, Jan. 8, 1960. This application Mar. 4, 1965, Ser. No. 437,116
2 Claims. (Cl. 73—27)

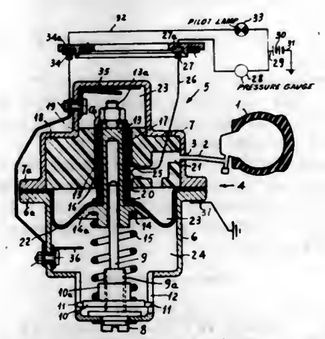
The disclosure is of apparatus for detecting the presence of inflammable gas. The apparatus includes, in combination with a platinum resistance wire detection element, a fail-safe electrical circuit so that the apparatus remains in operation in the event of a power failure.

3,370,458
MECHANICAL FORCE GAUGE
Ralph R. Dillon, Van Nuys, Calif., assignor to W. C. Dillon & Company, Inc., a corporation of California
Continuation of abandoned application Ser. No. 219,973, Aug. 28, 1962. This application Sept. 10, 1965, Ser. No. 490,768
2 Claims. (Cl. 73—141)



A mechanical force gauge for measuring opposed forces by deformation of parallel arms connected by a loop at one end and freely extending at their other ends. One of the arms includes an integral extension for supporting an indicating instrument having a probe running parallel to the free ends. The other free end member includes an anvil element inclined and engaged by the probe such that lateral movement between the free end members urges the probe in a longitudinal or parallel direction to the end members. The relative distance between the anvil and the probe may be initially adjusted to vary the capacity of the gauge and the angle of the inclination of the anvil member may be adjusted to vary the sensivity of the gauge.

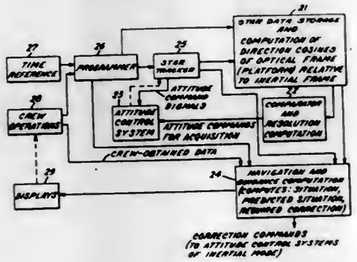
3,370,459
DEVICE FOR DETECTING PRESSURE EXISTING IN PNEUMATIC TIRES
Arturo Cescati, Via Parenzo 2, Rovigo, Italy
Filed Apr. 12, 1965, Ser. No. 447,428
Claims priority, application Italy, Apr. 16, 1964, 8,725/64, Patent 720,913
1 Claim. (Cl. 73—146.5)



This invention relates to a device for detecting pressure existing in a pneumatic tire, comprising a casing which is divided by a diaphragm member into sealed compartments, one of which communicates with the interior of the tire and the other with the outside atmosphere. The diaphragm is connected with a longitudinally guided elongated member carrying a coil of conducive tire. The elongated member is urged in one end position thereof by a spring and is urged by the pressure existing in the compartment communicating with the tire in an opposite direction. Contact means are provided in slidable con-

nection with the said coil and near one end position of the elongated member, so that an electric circuit is closed when the elongated member is in the end position thereof. The device is fixed on the hub of the wheel of the tire and is in rigid rotary relation therewith. Annular sliding contacts are foreseen between the stationary part of the signalling circuit and the rotating portion thereof. The device is arranged to signal deflation.

3,370,460
OPTICAL-INERTIAL NAVIGATION SYSTEM
Herbert B. Haake, Johnson City, Frithiof V. Johnson, Scotia, Joseph D. Welch, Schenectady, and Robert E. Wilson, Binghamton, N.Y., assignors to General Electric Company, a corporation of New York
Filed June 16, 1964, Ser. No. 375,585
6 Claims. (Cl. 73—178)



3. An optical-inertial navigation system for a vehicle comprising:

(a) a tracker sight for tracking celestial bodies, said sight generating signals representing the angular displacement of the celestial body from a reference axis of the sight;

(b) a supporting platform upon which said sight is strapped;

(c) gyroscope means having an angularly non-constrained inertial sensing element also strapped to said platform for generating signals representing the sight angle of said celestial body in inertial space coordinates;

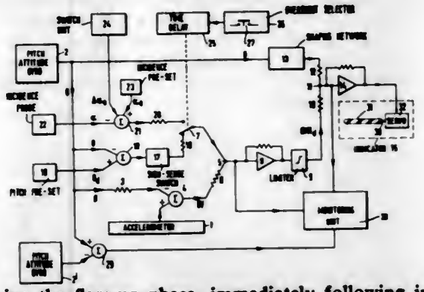
(d) additional sensors for measuring vehicle linear dynamics;

(e) navigation data processing means for continuously generating signals representing vehicle position and attitude from the signals generated by said gyroscope means and said additional sensors;

(f) comparator means for comparing the attitude and position signals generated by celestial fixes with the signals generated by said navigation data processing means and correcting said gyroscope means in accordance therewith.

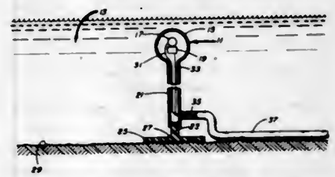
3,370,461
AIRCRAFT INSTRUMENTS
Peter Bradbury, Michael K. Russell, Eric R. Kendall, and Stanley B. Newport, Cheltenham, England, assignors to S. Smith & Sons (England) Limited, London, England, a British company
Filed Dec. 21, 1965, Ser. No. 515,432
Claims priority, application Great Britain, Dec. 24, 1964, 52,430/64
12 Claims. (Cl. 73—178)

An aircraft overshoot director indicates deviation of aircraft pitch-rate from a pitch-rate demand that, during the climb-out phase of overshoot, is computed as the sum of a term proportional to the aircraft forward-acceleration and a term proportional to the extent by which the aircraft incidence-angle differs from a programmed value. The incidence term is added in the demand only after a predetermined time-delay from initiation of the overshoot.



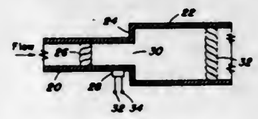
During the flare-up phase, immediately following initiation, the demand includes instead a term proportional to the extent by which the pitch attitude differs from a predetermined level-flight value.

3,370,462
WATER CURRENT METER
William W. Bartlett, Portsmouth, and Richard M. Dunlap, Middletown, R.I., assignors to the United States of America as represented by the Secretary of the Navy
Filed Dec. 7, 1965, Ser. No. 512,247
9 Claims. (Cl. 73—189)



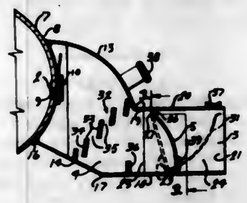
A pair of mutually perpendicular angle sensors are disposed within a sealed hollow sphere. The sphere is connected to a flexible rubber cord by way of a rigid hollow stem and the combination then inserted and anchored in a body of water. The amount of displacement of the angle sensors measured by a cable connected remote recorder allows for a direct measurement of the water velocity in a body of water.

3,370,463
MASS FLOW METER
Robert C. Chanaud, Somerville, N.J., assignor to American Standard Inc., a corporation of Delaware
Filed July 29, 1964, Ser. No. 385,861
11 Claims. (Cl. 73—194)



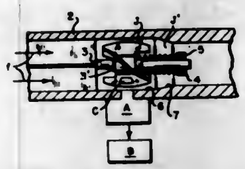
The invention relates to mass flow measurements. A swirling fluid passes through a fluid conduit which undergoes a cross sectional area increase. This causes the axis of the swirling fluid to precess with respect to the major axis of the conduit. The precession is manifested by measurable pressure and temperature fluctuations in the fluid. Sensor means is employed which is responsive to fluid parameter fluctuations in the precessing fluids. The mass flow of the fluid is determined from the frequency and amplitude of the fluctuations.

3,370,464
LIQUID FLOW METER
Wallace J. Melton, 860 Sunset Drive, Colby, Kans. 67701
Filed Dec. 13, 1965, Ser. No. 513,373
5 Claims. (Cl. 73—228)



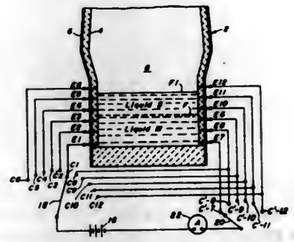
A direct reading portable liquid flow meter for use in measuring liquid discharged from a duct opening, said meter having a hollow shell with an inlet end and an outlet end and a through flow passage therebetween. The shell is divided into a tapered flow diffusing portion and a horizontal flow measuring portion with a plurality of baffles mounted in the diffusing portion of the shell and extending transversely of the flow therethrough. The baffles are positioned in spaced, staggered, overlapped relation whereby all liquid entering the shell is deflected downwardly by a baffle upstream from the horizontal flow measuring portion. A vane is fixed to and depends from a rotatable shaft mounted in bearing means on walls of the flow measuring portion of the shell. An end of the rotatable shaft extends from the shell and has a flow rate indicator means fixed thereto.

3,370,465
TURBINE-TYPE FLOW METER
Pierre Belle, Grenoble, France, assignor to S.A.T.A.M. Societe Anonyme pour tous Appareillages Mecaniques, Paris, and (Sogreah) Societe Grenobloise d'Etudes et d'Applications Hydrauliques, Grenoble, France, both French companies
Filed May 21, 1965, Ser. No. 457,550
Claims priority, application France, May 28, 1964, 976,170
4 Claims. (Cl. 73—230)



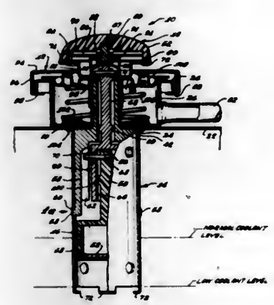
There is disclosed a flow meter in which a rotor having helical blades is supported to rotate on a stationary shaft disposed axially of a conduit having a cross-section graduated along the length thereof—a conical conduit in particular. Abutments on the shaft define limiting upstream and downstream positions for the rotor between which it can move axially of the conduit on the shaft, the rotor being at least partly within the conical portion of the conduit in at least one of these limiting positions. A helical spring engaged about the shaft between the rotor and the downstream abutment stresses the rotor against its upstream abutment. As a result, for flow rates above a threshold value at which the fluid exerts on the rotor an axial downstream force equal to that exerted on it by the spring, the rotor moves axially downstream to positions of altered clearance between the rotor and conduit and hence of altered relation between the volume of fluid passing through the conduit in unit time and the number of rotations made by the rotor in unit time. Magnetic means are provided to count the rotations of the rotor. There is also disclosed an elastic deflector disposed in the conduit immediately upstream of the rotor.

3,370,466
METHOD AND APPARATUS FOR LOCATING INTERFACES BETWEEN FLUIDS
Yi-Chung Chang, Franklin Township, Westmoreland County, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed Sept. 24, 1965, Ser. No. 489,914
3 Claims. (Cl. 73—304)



A method and apparatus for determining the position of an interface between fluids such as iron and slag in a container. Two sets of vertically spaced electrodes are provided with means for determining the electrical resistance between corresponding electrodes of the two sets. Because of the difference in resistivity of the liquids the relative position of the interface can be found. By applying a formula the exact position between the nearest electrodes can be calculated.

3,370,467
CLOSURE CAP ASSEMBLY WITH MAGNETICALLY OPERABLE LIQUID LEVEL INDICATING MEANS
Donald V. Healy, 24455 Arcadia St., Newhall, Calif. 91321
Filed Mar. 12, 1965, Ser. No. 439,401
11 Claims. (Cl. 73—306)

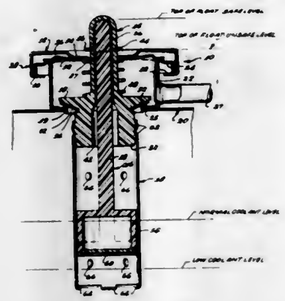


An automobile radiator closure cap assembly which includes a poppet valve releasing pressure within the radiator when a predetermined pressure is reached. The poppet valve supports a shroud within which a float moves responsive to fluid level in the radiator. Through a cam system, vertical movement of the float is transmitted to a rotating magnet which shifts an indicator atop the cap assembly. A manually operated valve relieves pressure within the radiator as desired.

3,370,468
CLOSURE CAP ASSEMBLY FOR INDICATING LIQUID LEVEL

Donald V. Healy, 24455 Arcadia St., Newhall, Calif. 91321

Filed Mar. 12, 1965, Ser. No. 439,402
4 Claims. (Cl. 73—322)



An automobile radiator closure cap assembly which includes a poppet valve releasing pressure within the radiator when a predetermined pressure is reached. The valve carries a depending shroud and a transparent dome which projects above the top of the cap. A coolant level responsive float within the shroud has its indicating end projecting into the transparent dome.

3,370,469
BOILER LIQUID LEVEL INDICATOR

Ian H. Mackenzie, Anniesland, Glasgow, Scotland, assignor to Barr and Stroud Limited, Glasgow, Scotland, Great Britain, a British company

Filed Sept. 13, 1966, Ser. No. 579,051
Claims priority, application Great Britain, Dec. 18, 1965, 53,767/65
10 Claims. (Cl. 73—331)

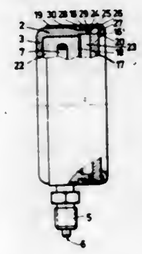


1. Apparatus for providing an indication of the level of water in a boiler comprising in combination a water gauge tube having a column of light entrance windows, and an opposed column of light exit or viewing windows facing a viewing point, and light projecting means adapted to project a beam of light on to the entrance windows, the said windows and light projecting means being adapted and arranged so that upper and lower portions of the beam when passing respectively through steam and water in the tube emerge mutually divergent through upper and lower groups of the viewing windows, and optical light transmitting or reflecting means in the path of at least one of the emergent portions of the beam adapted to bring the two emergent portions of the beam into convergence at the viewing point so that, when viewed from the viewing point, both said groups are visible and appear mutually displaced.

3,370,470
SEALING ARRANGEMENT FOR LIQUID-FILLED MANOMETER CASING

Gerhard Neugebauer, 37 An der Alten Strasse, 8761 Trennfurt (Main), Germany

Filed Aug. 26, 1965, Ser. No. 483,396
6 Claims. (Cl. 73—431)

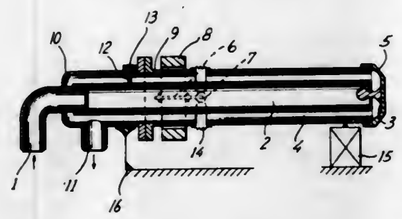


A transparent cover disc is placed on the upper edge of a liquid-filled manometer casing, with a sealing ring positioned in an annular groove in the upper edge. The disc is clamped onto the casing with a snugly fitting ring having a rear part inwardly bent to engage an annular groove in the exterior of the annular casing wall and a front part inwardly bent over the rim of the disc.

3,370,471
MEANS FOR MEASURING FLUID DENSITY

Ioan Nicolau and Leon Dogaru, Campina, Constantin Evghenide, Bucharest, Arion Ionascut and Nicolae Tihon, Campina, and Valeriu Motorolu, Comuna Poiana, Rumania, assignors to Ministerul Petrolului, Bucharest, Rumania

Filed Aug. 21, 1964, Ser. No. 391,838
Claims priority, application Rumania, Aug. 22, 1963, 46,829
4 Claims. (Cl. 73—434)



1. An apparatus of the character described for automatically and continuously measuring fluid density, comprising in combination,

a fixed inner tube having an opening at one end, and the other end being open and positioned in a horizontal plane;

a first outer tube portion substantially concentrically securely arranged with respect to said inner tube, said first outer tube portion having an opening at one end and the other end being open;

a second outer tube portion substantially concentrically arranged with respect to said inner tube and having an open end adjacent to said open end of said first outer tube portion and said second outer portion also having a closed end, adjacent to said open end of said inner tube, said second outer tube portion being pivotally connected to said first outer tube portion and being movable with respect to said inner tube;

flow reversal means mounted at the end of said second outer tube portion which is remote from said first outer tube portion for reversing the flow of said fluid;

fluid tight flexible connecting means joining said first and second outer tube portions, means for biasing said second outer tube in an upward direction;

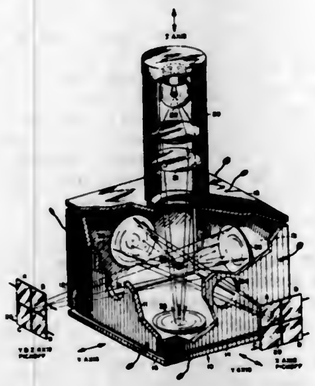
and means for detecting the magnitude of vertical movement of said second outer tube portion with respect to said first outer tube portion and with respect to said inner tube operatively connected to said second outer tube portion;

whereby fluid passes through said opening of said inner tube and flows through the annulus between said inner tube and said first and second outer tube portions and exits from said opening of said outer tube portion; the fluid density of said fluid being determined by the measurements of the vertical movements of said second outer tube portion with respect to said inner tube by said detecting means; conversely said fluid may flow in the reverse direction without affecting the operability of said apparatus.

3,370,472
SIMPLIFIED PARTICLE CONTAINMENT DEVICE

Robert A. Cunningham, Orange County, Fla., assignor to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland

Filed Mar. 26, 1964, Ser. No. 354,919
9 Claims. (Cl. 73—517)

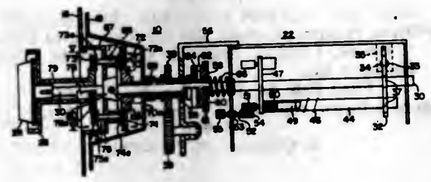


1. An acceleration sensing device utilizing a particle of high charge to mass ratio without using alternate gradient focusing containment of such particle, said device comprising at least three substantially orthogonally disposed electrodes defining a part of a suspension system by which said particle is supported and with respect to which said particle may move in response to accelerations, said suspension system including means for selectively providing voltages to said electrodes to create electric forces to hold said particle at a null point common to said electrodes, pickoff means for sensing deviations of said particle from said null point, said pickoff means arranged in a quadrant array, direct current amplification means for amplifying the output signals from said pickoff means and for applying only a direct current counter electric force to the appropriate electrodes to maintain said particle in said null position, and means for utilizing the signal necessary to null out said particle as the readout of the acceleration forces to which said device is subjected.

3,370,473
PLURAL TUNER ASSEMBLY

James A. Fisher, Metuchen, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 10, 1966, Ser. No. 526,468
10 Claims. (Cl. 74—10.45)

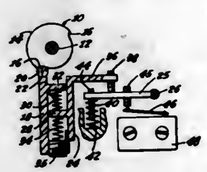


1. A tuner assembly for television receivers or the like comprising a first tuning unit for tuning said television receiver in a first frequency band, a first drive shaft operatively connected to said first tuning unit, a second tuning unit for tuning said television receiver in a second frequency band, a first indicator dial having indicia thereon designating the channels in said first frequency band, a second indicator dial having indicia thereon designating the channels in said second frequency band, a second drive shaft disposed about said first drive shaft and operatively connectable to fine tuning means in said first tuning unit, drive means for coupling a rotational force to said second drive shaft, said drive means supporting said first indicator dial and being adapted for continuous engagement with said first drive shaft and for maintaining said second drive shaft in a preselected position when said first drive shaft is rotated said first indicator dial having a viewing portion therein disposed so that selected indicia upon said second indicator dial are viewable therethrough, said second indicator dial being operatively connected to said tuning unit, and means for driving said second tuning unit.

3,370,474
CAM OPERATED ACTUATING MECHANISM

Jay A. Harper, Gardena, Calif., assignor to Acme Machine Works, Inc., Hawthorne, Calif., a corporation of California

Filed Oct. 22, 1965, Ser. No. 500,565
14 Claims. (Cl. 74—89)



1. In a mechanism of the character described, means to actuate a driven member in response to movement of a primary actuator in one direction in a given range, comprising:

a secondary actuator movable in said one direction to actuate the driven member;

first spring means coupling the two actuators to each other and acting permanently between the two actuators for movement of the secondary actuator by the primary actuator; and

second spring means to yieldingly resist movement of the secondary actuator in said one direction with the rate at which the secondary actuator moves in said one direction in response to movement of the primary actuator in the same direction depending on the relative magnitudes of the forces exerted by the two spring means,

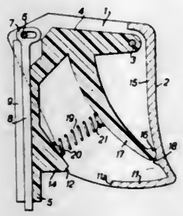
whereby at least one of the two springs may be adjusted to cause actuation of the driven member when the primary actuator reaches a selected point in said range.

3,370,475

TRIGGER ACTION CONTROL MECHANISM

Wilfred Hunter, Hatfield, and Michael David Evans, Chiswick, London, England, assignors to Cutler-Hammer Inc.

Filed Feb. 24, 1966, Ser. No. 529,684
Claims priority, application Great Britain, Mar. 2, 1965, 8,860/65
8 Claims. (Cl. 74—104)



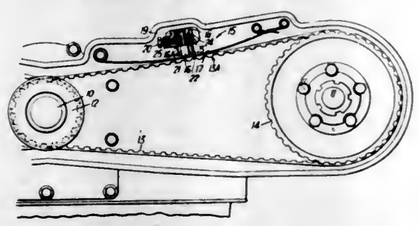
A trigger action mechanism comprising: a trigger of channel shaped cross-section pivoted on a stationary member having a resilient arm portion slidably engaging a ramp surface formed on the inside of the closed side of the trigger. A high point or projection formed on the inner surface with opposite slopes provide a "snap action" type of movement during a portion of trigger travel. An extra conventional biasing spring can be optionally used to increase the bias exerted by the resilient arm.

3,370,476

CAMSHAFT DRIVE TOOTHED BELT AUTOMATIC TENSIONER

Claude Hill, Kenilworth, and Oswald Webb, Whitley, Coventry, England, assignors to Harry Ferguson Research Limited, Abbotswood, Stow-on-the-Wold, Great Britain

Filed Feb. 11, 1966, Ser. No. 526,797
Claims priority, application Great Britain, Feb. 25, 1965, 8,081/65
9 Claims. (Cl. 74—242.11)



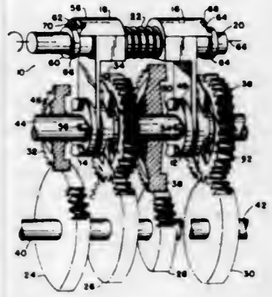
A device for automatically limiting to a predetermined amount deflection of a belt contacting member tensioning the timing belt in an internal combustion engine having a thimble carrying a plunger slidable therein and projecting therefrom, a housing in which the thimble is slidable, a relatively stiff compression spring repressably holding the plunger away from the closed end of the thimble by a predetermined amount, a relatively weak compression spring urging the thimble out of the housing so as to bring the head of the plunger into contact with the back of the belt contacting member, a one way locking means for preventing movement of the thimble away from the belt contacting member.

3,370,477

SHIFTING MECHANISM

George E. Lewis, Oakland Park, Fla., assignor to Power-Flo Products, Inc., Oakland Park, Fla., a corporation of Florida

Filed Sept. 20, 1965, Ser. No. 488,393
6 Claims. (Cl. 74—337.5)



Shifting mechanism including an output shaft, a plurality of gears of different size mounted for rotation on the output shaft at fixed axial positions therealong, clutch structures positioned between adjacent ones of the gears mounted on the output shaft for axial movement therealong and against relative rotation with respect thereto for engagement with different ones of said gears in accordance with the axial position of the clutch structures for alternatively connecting different ones of said gears for driving the output shaft in a plurality of speeds in one direction and at least one speed in the opposite direction, means connected to said gears for continuously driving the gears in the one and opposite direction, fork means engaged with the clutch structures for moving them into and out of engagement with the gears, a cam shaft for rotation in opposite directions and cam means operable between the cam shaft and forks for moving the forks to successively engage alternatively different gears separated by neutral positions to provide reverse, first, second and third speeds for the output shaft.

In one modification the fork means includes a pair of forks having sleeve portions with cam surfaces at the relatively remote ends thereof urged in opposite directions by spring means positioned therebetween sleeved over a camming sleeve secured to the cam shaft for rotation therewith including camming pins engaged with the outer ends of the sleeve portions of the forks for moving the forks in accordance with the cam surface on the ends thereof on rotation of the cam shaft.

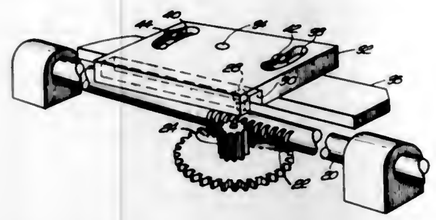
In another modification the fork means includes a pair of forks having sleeve portions rotatably sleeved on the cam shaft, a pair of cam plate supporting members secured to the cam shaft at the opposite ends of the forks for rotation with the cam shaft, a cam plate secured to the plate supporting members having cam slots therein and cam pins extending through the cam slots and secured to the fork sleeves.

3,370,478

GEAR TRAIN ERROR COMPENSATOR FOR DIAL INDICATORS AND THE LIKE

Louis D. Martin, Burbank, Calif., assignor to B. C. Ames Company, Waltham, Mass., a corporation of Massachusetts

Filed Aug. 9, 1966, Ser. No. 571,275
10 Claims. (Cl. 74—395)



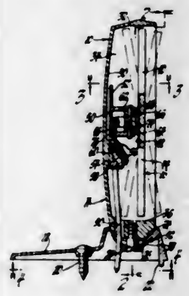
1. A gear system, including
(a) a rack formed with teeth having a lead angle,
(b) a pinion in mesh with the rack teeth,
(c) means mounting said rack for simultaneous axial and rotary movement, and
(d) guide means connected to said rack for rotating said rack about its longitudinal axis upon an axial displacement of said rack to thereby alter the movement of said pinion.

3,370,479

REMOTE CONTROL MIRROR

Andrew J. Van Noord, Grand Rapids, Mich, assignor to Kent Engineering, Grand Rapids, Mich., a partnership

Filed Jan. 20, 1964, Ser. No. 338,892
13 Claims. (Cl. 74—501)



A two-wire remote control mirror including a housing on a swivel base and having the mirror mount secured to the inside back wall of the housing from under the front edge of the mirror as tilted back for such purpose.

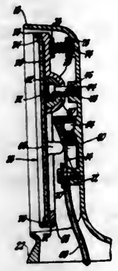
3,370,480

REMOTE CONTROL REAR VIEW MIRROR

Edmond R. Gionet, Warren, and David A. Rossi, New Baltimore, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 9, 1966, Ser. No. 526,160
7 Claims. (Cl. 74—501)

1. A remotely controlled rear view mirror comprising, a housing, a mirror support, means universally pivotally connecting the mirror support eccentrically to the housing, first and second members mounted on the housing for independent movement relative thereto, cooperating camming means formed with the mirror support and said first and second members for pivotally positioning the mirror support about mutually perpendicular axes upon movement of said first and second members relative to the housing, means located between said housing and



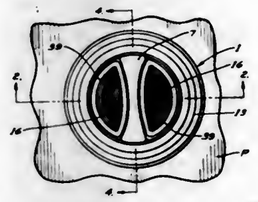
said mirror support for biasing said cooperating camming means into continuous engagement, first and second axially displaceable means for imparting movement to said first and second members, and manually operated remotely located actuation means for selectively imparting movement to said first and second axially displaceable means.

3,370,481

INTERLOCK DUAL OPERATOR ASSEMBLY

Earl F. Mekelburg, Wauwatosa, Wis., and Howard P. Stock, Bellevue, Wash., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed Dec. 17, 1965, Ser. No. 514,452
3 Claims. (Cl. 74—503)

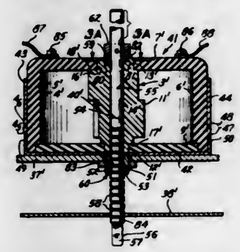


1. A dual function push button operator comprising:
a base adapted to be secured to a panel and to a push button operable switch means to be operated by the operator and having a forward end;
a pair of push button actuators mounted in the base in laterally spaced relation to each other for lineal movement endwise in closely adjacent parallel paths, each to a forward extended position and to a rearward depressed position, and each having a forward end surface adapted to be engaged by the finger of a person for depression thereby;
a rigid divider carried by the base and extending generally parallel to said paths and disposed in the space between said actuators with its forward end disposed forwardly from the base closely adjacent the position assumed by the forward ends of the actuators when the actuators are in their extended positions, respectively, thereby to prevent accidental application of depressing force on both actuators concurrently by a single finger of a person, said base having a cylindrical portion with its axis parallel to said paths and adapted to be accommodated in a circular passage through a panel when the base is secured to the panel,

said portion having two passages which are parallel to the axis of the cylindrical portion and which are separated by the divider;

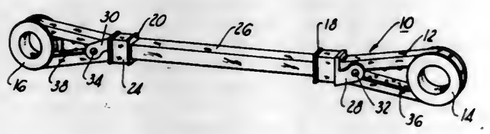
a first portion of the peripheral wall of each passage being on the divider and extending generally transversely of the base, the remainder of the peripheral wall of each passage being coaxial with said cylindrical portion, whereby, when viewed endwise, in the depressing direction of the actuators, the outer ends of the actuators, combined with the divider, present a circular outline coaxial with said cylindrical portion.

3,370,482
SHAFT CONNECTING ARRANGEMENT
Siegfried E. Manecke, Indiana, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Apr. 26, 1965, Ser. No. 450,794
7 Claims. (Cl. 74—504)



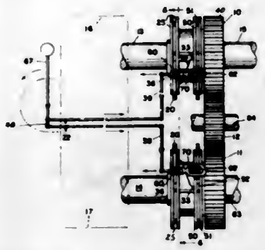
An arrangement which permits a single model of control device such as a switch to be used as a replacement for any one of several similar control devices having different operating shaft arrangements. The shaft has a control knob receiving head and a body portion which extends through a rotatable control such as the contact operating element of the switch. Grooves are provided adjacent the knob receiving portion of the shaft to receive a thin washer to prevent movement of the shaft in one direction relative to the switch. At the end of the shaft opposite the knob is a combined shaft retainer and torque transmitting collar. The collar prevents movement of the shaft out of the switch and has axially extending projections which engage in a recess of the switch operating device. The collar is connectable to the shaft with a set screw. With this arrangement the shaft can be adjusted to any rotational position relative to the switch operating element before the set screw is tightened. This permits adjustment of the shaft so indicia of the knob corresponds to a position of the operating device.

3,370,483
LAMINATED TENSION-TORSION TIE-BAR
Richard J. Ditlinger, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Mar. 9, 1966, Ser. No. 532,989
5 Claims. (Cl. 74—579)



A tie-bar coupling, with means to draw the parallel side portions to abutting relationship at the axes of the coupling and said means having elements to prevent progressive type failure.

3,370,484
COUPLING FOR CONNECTING TWO OR MORE ENGINES
Charles L. Lovercheck, 632 W. 7th St., Erie, Pa. 16502
Filed Apr. 5, 1965, Ser. No. 445,457
11 Claims. (Cl. 74—661)



1. In combination, a first engine and a second engine, and means to couple said engines to a common output shaft,

said first engine having a first crankshaft,

said second engine having a second crankshaft,

said crankshafts each terminating in an end portion generally parallel to the other,

first output means connected to said output shaft,

second output means connected to said first output means,

first coupling means on said first crankshaft to connect said first crankshaft to said first output means,

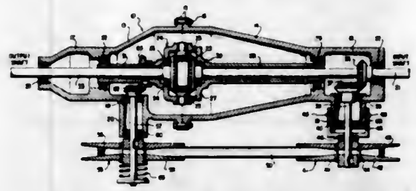
and second connecting means on said second coupling means to connect said second crankshaft to said second output means,

said first engine having means to deliver power strokes to said first crankshaft at timed intervals,

said second engine having means thereon to deliver power strokes to said second crankshaft at second timed intervals,

said connecting means being adapted to connect said coupling means to said output shafts in such a way that each said first timed interval occurs midway between two said second timed intervals and said couplings being adapted to selectively disconnect said crankshafts from said output shaft.

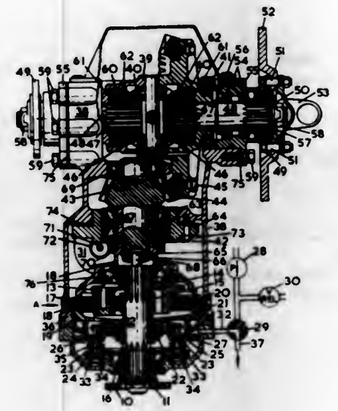
3,370,485
VARIABLE SPEED TRANSMISSIONS
Clarence P. Carawan, Summerville, S.C., assignor of one-fourth to J. P. Ballington and J. W. Ballington Jr., both of Summerville, S.C.
Filed Nov. 8, 1965, Ser. No. 514,427
2 Claims. (Cl. 74—689)



A compact and housed variable speed transmission having axially aligned input and output shafts connected within the housing with a planetary-type rotary differential gear unit. Externally of the housing is disposed adjustable speed control means in the form of a pair of variable diameter pulleys and a transmission belt engaging the pulleys. The pulleys are connected with shafts transverse to said aligned input and output shafts and one transverse

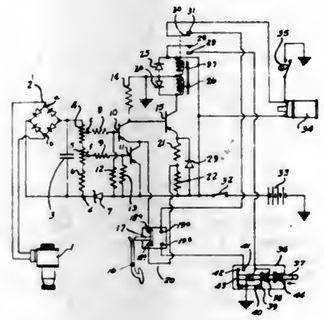
shaft is connected through gears with the input shaft and the other transverse shaft is connected through gears with the differential unit.

3,370,486
VEHICULAR DRIVING AXLE
Alan S. Lamburn, Kencott, via Lechlade, England, assignor to Axel Wickman Transmissions Limited, Coventry, England
Filed Nov. 13, 1964, Ser. No. 410,850
Claims priority, application Great Britain, Nov. 22, 1963, 46,154/63
3 Claims. (Cl. 74—695)
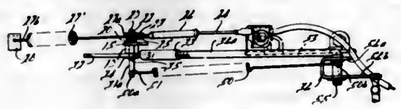


1. An axle for driving road wheels of a motor vehicle, including an axle casing, a bevel driving gear including a driving stub shaft, a thrust bearing receiving said stub shaft therein for supporting the driving gear in said axle casing for rotation about its axis, a bevel driven gear meshing with said driving gear and constituting part of a driving axle differential, said driving gear when transmitting torque to the driven gear for driving said motor vehicle forward generating an axial thrust in one direction, said thrust bearing being positioned closely adjacent said driving gear to transmit the axial thrust generated by said driving gear to said casing, a two-speed epicyclic gearing car.ied by said axle casing adjacent said thrust bearing but on the side thereof remote from said driving gear, a reaction member for said epicyclic gearing, an axially movable friction engaging member rotatively fast with said reaction member, a stationary member mounted on the axle casing and defining a brake surface, a power output member for said epicyclic gearing including a hollow stub shaft enclosed in said thrust bearing to be supported thereby, the stub shaft of said driving gear being keyed within said hollow stub shaft of said power output member of the epicyclic gearing, said power output member of the epicyclic gearing being axially located by said thrust bearing, said power output member of the epicyclic gearing defining a clutch surface facing generally away from said driving gear, fluid operated means for urging said friction engaging member into engagement with said stationary member to transmit drive at the planetary ratio and biasing means to normally urge said friction engaging member into engagement with said clutch surface so that the epicyclic gearing will transmit drive at unit ratio, the engagement of said friction engaging member by said bias means urging said friction engaging member in the direction to oppose the axial thrust by said driving gear in the said one direction so as to reduce the total axial thrust transmitted by said thrust bearing to the casing.

3,370,487
AUTOMOBILE OVERDRIVE CONTROL
Kenji Ohno, 10 1-chome, Hirayama-cho, Toyoda-shi, Aichi-ken, Japan, and Eiichi Kawai, Ogakieshataku, 41 Kamisawatari, Ogakie, and Hisashi Yonezu, 1 1-chome, Showa-cho, both of Kariya-shi, Aichi-ken, Japan
Continuation-in-part of application Ser. No. 415,090, Dec. 1, 1964. This application Mar. 27, 1967, Ser. No. 626,318
5 Claims. (Cl. 74—855)



An apparatus including a switch actuated by the accelerator pedal to kick down an overdrive transmission in response to a large torque demand and an electrical circuit effective to normally engage the overdrive above a first speed. A transistorized control effective above a second, higher speed to render the accelerator operated switch ineffective regardless of its position.

3,370,488
THROTTLE SAFETY RETURN FOR TRANSMISSION FAILURE
Francis W. Hamilton, Southfield, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 6, 1966, Ser. No. 548,226
6 Claims. (Cl. 74—865)



1. In an automotive vehicle, a fuel system having throttle means movable between open and closed positions, resilient means operably coupled with said throttle means for yieldingly urging closing of the latter, an automatic transmission for said vehicle having throttle actuated modulating means shiftable in one direction from a predetermined position for modulating the automatic operation of said transmission, a crank arm operatively coupled with said throttle means for swinging between open and closed positions upon corresponding movement of said throttle means, link means operatively connecting said crank arm and modulating means to shift the latter in said one direction from said predetermined position upon swinging of said crank arm in the direction from its closed position toward its open position and for releasing said crank arm for return to its closed position independently of return movement of said modulating

means toward said predetermined position when said modulating means is restrained against said return movement during abnormal operation, said link means including a member having a lost motion slot therein, means pivotally connecting said crank arm and member comprising pivot means pivotally connecting said crank arm and member comprising pivot means connected with said crank arm to swing therewith and extending through said slot to ride therealong in the direction from one end thereof upon said return of said crank arm to its closed position independently of said return movement of said modulating means, and means for urging said member at said one end of said slot into abutment with said pivot means and yieldingly resisting relative movement of said pivot means along said slot in said direction from said one end to effect normal return movement of said modulating means upon said return of said crank arm to its closed position comprising second resilient means interconnecting said pivot means and member.

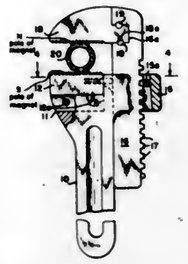
3,370,489
REAMER
Donald C. Andreasson, Birmingham, Mich., assignor to Detroit Reamer & Tool Company, Birmingham, Mich., a corporation of Michigan
Filed Feb. 9, 1966, Ser. No. 526,281
4 Claims. (Cl. 77—72)



1. A reamer comprising:
(a) a fluted shank having an interior coolant passage and exterior alternate, axially extending flutes and lands, each land having a leading cutting edge and said shank being tapered down at one end from a primary diameter to a smaller secondary diameter,
(b) a pilot at the small end of said shank having a diameter less than the primary diameter and having a blind, axial recess receiving a portion of said tapered end, said flutes forming, with the walls of said recess, axial passages,
wherein coolant entering said recess is reversed in a direction to flow axially back through said axial passages into said flutes and to said cutting edges to flush out metal removed in a reaming operation.

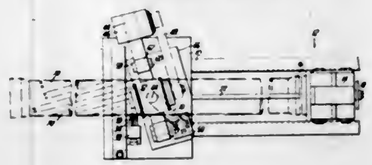
3,370,490
ADJUSTABLE WRENCH
Marshall H. Feldman, P.O. Box 922, Twentynine Palms, Calif. 92277, and Harry W. Feldman, 16016 Winterbrook Drive, Los Gatos, Calif. 95030
Filed Aug. 5, 1966, Ser. No. 570,520
5 Claims. (Cl. 81—125)

An adjustable wrench, one or both of the jaws of which may be provided with magnets to facilitate adjustment of the wranch to accommodate the work and increase the gripping action thereof. Several embodiments of the wrench are disclosed and all employ a straight shank supporting the movable jaw. The shank is slidable parallel to the body of the wrench in a pivoted recessed member which is pivotally attached to the body adjacent the fixed jaw so that when a workpiece is gripped in the jaws, the movable jaw and pivoted member are rotated forward



through a small angle and the shank is gripped by friction in the recessed member.

3,370,491
METHOD OF AND APPARATUS FOR CUTTING HELICALLY INCLINED SLOTS IN TUBULAR MEMBERS
Ronald Claude Cross, Bath, England, assignor to Bristol Aeroplane Plastics Limited, Bristol, England, a British company
Filed Mar. 28, 1966, Ser. No. 538,031
Claims priority, application Great Britain, Apr. 1, 1965, 13,959/65
17 Claims. (Cl. 83—37)

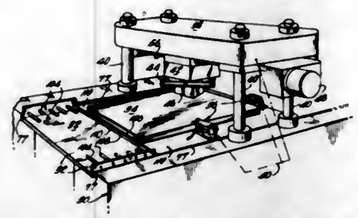


17. A method for cutting a continuous series of slots of substantially uniform length in the walls of a tube, comprising supporting the tube, rotating the tube, moving the tube axially, and cutting slots therein; the three actions being coordinated in such a manner each element of the tube has as its locus a first helix, the axis of which helix coincides with that of the tube, the plane of the cutting action being arranged to contain the direction of movement of those elements of the tube which it engages when cutting, the cutting action moving when viewed along a tangent to the tube lying in that plane, in an oscillatory fashion along a line passing perpendicularly through the axis of the tube, the frequency of that oscillation being related to the rate of movement of the tube, such that at least one series of slots is cut in the tube wall, the centres of which slots lie on a second helix which extends transversely to the first helix, the distance between the centres of adjacent portions of the second helix or helices, measured along a first helix, being greater than the general length of the slots, and each of the slots lying parallel to and substantially in line with a slot in the said adjacent portion, the distance between two adjacent slots, measured along a second helix being substantially uniform.

3,370,492
DIE CUTTING PRESSES
Ernest H. Treff, Port Washington, N.Y., assignor to F. L. Smithe Machine Co., Inc., New York, N.Y., a corporation of New York
Filed Apr. 2, 1965, Ser. No. 444,960
19 Claims. (Cl. 83—71)

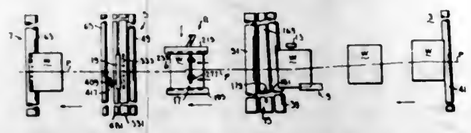
In a die cutting press means are provided for moving

a die carrier, a table and a ram with respect to three mutually perpendicular axes. Means are also provided for



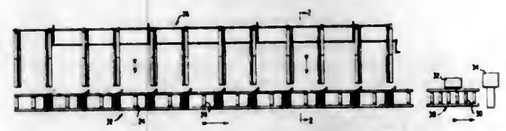
programming the movement of the above elements in a predetermined pattern and cycle of operation.

3,370,493
APPARATUS FOR FEEDING WORK TO AND FROM A WORK STATION
Charles Don Donley, Don Donley, Jr., Dean Donley, and Dexter L. Rieger, Freeburg, Ill., assignors, by mesne assignments, to Donley Bindery Company, Inc., Freeburg, Ill., a corporation of Missouri
Filed Oct. 23, 1965, Ser. No. 503,836
25 Claims. (Cl. 83—155)



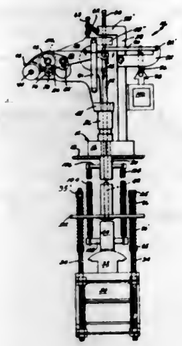
Pieces of paper or other work is carried by a conveyor system from an entrance of apparatus to a work station and then to the exit of the apparatus. As the work travels along the conveyor system its sides are properly located relative to the entrance of the work station and the trailing edge of the work is engaged for moving the work into the work station. A gate at the work station moves between elevated and lowered positions and when in the lowered position it is engageable by the work entering the work station for stopping the work at the desired position. The work is punched in the work station and then the gate is raised and the conveyor system removes the work from the work station and moves it to the exit of the apparatus. Work that is so misaligned on the conveyor system that it cannot enter the work station is detected and removed. If the punch fails to operate within a predetermined time interval after the work is delivered to the work station, then the gate is raised and work is removed from the apparatus along a path different from that of the punched work.

3,370,494
SHEAR LINE ASSEMBLY
William H. Schenck, York, Pa., assignor to Kroy Company, York, Pa., a partnership
Filed Jan. 24, 1967, Ser. No. 611,412
8 Claims. (Cl. 83—155)



A shear line assembly is for handling metal stock for shearing and includes a stock rack positioned alongside an elongated feed table, the feed table having conveyer rolls and a preloader mechanism protecting the conveyer rolls when loading metal stock thereon. An elongated discharge table is on the other side of the shear with discharge bins alongside the table. Spaced stop gauges are carried by the discharge table and are selectively movable into position to stop metal stock for shearing predetermined lengths of the stock. The entire discharge table is longitudinally adjustable to finely position any selected stop gauge. The discharge table is tiltable about a longitudinal axis to either one or both sides and includes a discharge assistant mechanism further assisting discharge of the metal stock from the side of the table. The front section of the discharge table is hinged to drop from a transverse pivot upon actuation of the shear and a hold-down is positioned above the hinged section.

3,370,495
INDEXING WIRE CUTTER APPARATUS
Stephen A. Platt, 1100 Fulton, Grand Haven, Mich. 49417
Filed Oct. 21, 1965, Ser. No. 499,987
8 Claims. (Cl. 83—176)

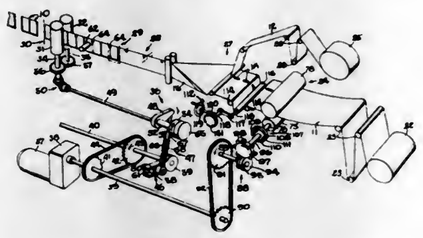


Wire coil cutoff apparatus having especially rapid, sensitive, and controlled cutter blade indexing action coupled with especially rapid and high powered, independent blade cutting action, such apparatus including separate, positive acting, independently actuable, power actuators for indexing and cutoff. The cutoff blade mounted to a lever is movable in two respective independent motions with respect to a wire coil guide mounted to a frame element, under the action of these actuators, due to controlled pivotal action between the lever and frame.

3,370,496
APPARATUS FOR INTERMITTENTLY ADVANCING A WEB AND CUTTING OPENINGS THEREIN ONLY DURING THE MOVEMENT OF THE WEB
Stefan Erhardt, Rockford, Ill., assignor to Bartelt Engineering Company, Inc., Rockford, Ill., a corporation of Delaware
Filed Nov. 26, 1965, Ser. No. 509,751
6 Claims. (Cl. 83—297)

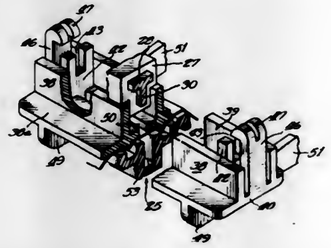
Parts of an automatic packaging machine for forming pouches from an elongated web advanced by drive rolls from a supply roll through a window-cutting station through a folding station and then through conventional sealing and severing stations. Between the cutting and folding stations, a web of transparent window material is fed into the web to cover one side thereof after folding. The drive rolls are turned intermittently in one direction by a conventional crank mechanism, and the windows

are formed by a cutting mechanism including two rolls on opposite sides of the web, one roll being a backing and the other having a plurality of cutting elements with shaped edges equally spaced around its periphery. Through a drive cam and follower wheel, the cutting mechanism is accelerated with the web during each step



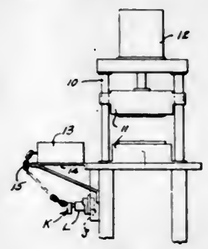
to a maximum speed and then decelerated with the web so that the cutting elements travel at the same varying speed as the web. A positive take-up mechanism adjusts the length of web between the drive rolls and the cutter mechanism, and an adjustment device changes the angular relation between the follower wheel and the cutter roll.

3,370,497
CUTTING MEANS FOR DISPENSER OF SHEET MATERIAL
Clarence E. Busse, 34 Oxford Drive, Lincolnshire, Deerfield, Ill. 60015
Filed Mar. 8, 1966, Ser. No. 532,656
9 Claims. (Cl. 83—455)



1. A dispenser for handling wrap in roll form, said wrap being of aluminum foil or other thin material, said dispenser including an elongated shelf upon which wrap from a roll is supported during dispensing, means for supporting said shelf in predetermined relation to said roll of wrap material, said shelf being long enough to accommodate the full width of the wrap, said shelf having one severing blade-accommodating trough longitudinally thereof, a yoke assembly including a yoke body and an arm at each end of said body extending laterally of said body, means for supporting said arms for swinging about a pivot axis parallel to, but laterally offset from, the shelf support trough, said yoke body in normal dispensing position being disposed immediately above said shelf and having a pair of spaced, parallel, laterally offset rails providing a clearance region between said rails, said clearance region in dispensing position of the yoke being disposed above and registering with said shelf trough, a guide rail supported at its ends only at the end portions of said yoke body, said guide rail extending in parallel relation to said shelf trough and above said laterally offset rails in the normal dispensing position of said yoke, a manually movable slider resting on said guide rail, said slider and guide rail being complementarily shaped so that said slider is capable of moving only along the length of said guide rail, a severing blade carried by said slider in depending relation and, in dispensing position, extending through the rail clearance region into the shelf trough said blade having two cutting edges at right angles to each other meeting in a tip, the two cutting edges lying in a flat plane which is parallel to and lies within the clearance region and shelf trough so that each cutting edge of said severing blade becomes the leading cutting edge at substantially 45° to the wrap material lying above said trough and below clearance region irrespective of the direction of slider travel along said guide rail, said clearance region and shelf trough being wide enough to permit the entry of said severing blade when said yoke is moved on its pivot axis down to said shelf, said means at each end of said yoke body for supporting said guide rail including a leaf having a claw at the end thereof, said leaf and claw normally cooperating with the end of said guide rail for locking the same into position by being springable to clear said guide rail end whereby said guide rail may be readily sprung into position, said yoke arms having sufficient spring to assemble said yoke on said shelf support structure whereby said yoke with its springable arms may be made in one piece and whereby said shelf and shelf support structure may be made in one piece.

3,370,498
SAFETY LOCK SWITCH
Raymond J. Persia, Farmington, John E. Arnold, Garden City, and Herbert A. Martens, Birmingham, Mich., assignors to Mackworth G. Rees, a division of Avis Industrial Corporation, Detroit, Mich., a corporation of Delaware
Original application Sept. 19, 1963, Ser. No. 310,081, now Patent No. 3,321.589, dated May 23, 1967. Divided and this application Nov. 7, 1966, Ser. No. 620,569
10 Claims. (Cl. 83—701)



1. In a press having movable parts, and a safety block adapted to be placed between said movable parts to prevent accidental closing of the dies of the press, that improvement which comprises, a lock switch adapted to control the circuit to the press operating mechanism, a key for actuating said switch, and means connecting said key to said safety block, said key and lock switch being rugged enough to support said safety block in the event it is dropped from its supporting rack.

3,370,499
PIPE FOR MUSICAL INSTRUMENTS
Gerhard J. Beisecker, 4670 Station Road, Erie, Pa. 16510, and Robert M. Fischer, Ridge Road, Valencia, Pa. 16059
Filed Sept. 20, 1965, Ser. No. 488,323
5 Claims. (Cl. 84—349)

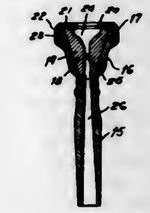
The invention disclosed herein involves the use of an aluminum sheet rolled and cemented to form the body

of an organ pipe. The foot, which is made from brass, copper or tin, is attached to the sleeve by means of a



hollow cylinder C-shaped member and a lip adjusting means to adjust the sound from the pipe.

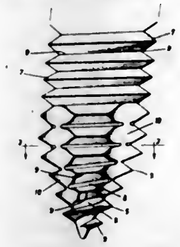
3,370,500
MOUTHPIECE FOR BRASS MUSICAL INSTRUMENTS
Walter Zwolak, 34 Grove St., Mount Vernon, N.Y. 10550
Filed Aug. 13, 1965, Ser. No. 479,380
1 Claim. (Cl. 84—398)



1. A selective tone mouthpiece for brass musical instruments comprising
   a body member having a tapered tubular stem at one end, to fit a musical instrument and an enlarged head at the opposite end having an externally screw threaded outer end portion and an internal deep conical socket within the boundary of the screw threads thereon,
   a set of cups of different tone configurations and of the same external conical shape as said conical socket to interchangeably fit into said conical socket,
   a tone ring of the same diameter as the outer ends of said externally conical cups,
   said ring resting on the outer end of a conical cup seated in said socket, and
   a rim in the form of an open mouth ring having an inwardly extended annular flange engaged over said tone ring and internally screw threaded in adjustable, removable engagement over said screw threaded end portion of the body member.

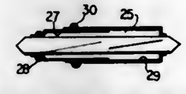
3,370,501
NUT RECEIVING PIERCING SELF-TAPPING SCREW
Carl H. Ansingh, Milton, Ontario, Canada, assignor to P. L. Robertson Mfg. Co. Limited, Milton Ontario, Canada
Filed Oct. 22, 1965, Ser. No. 500,921
7 Claims. (Cl. 85—47)

A screw having a pointed portion, terminating in a sharp piercing point, the pointed portion having immediately adjacent the piercing point a continuous thread formation with the roots of the threads separated by lands and an interrupted thread portion above the continuous thread providing sharply crested cutting elements, the screw further having a shank portion having a thread



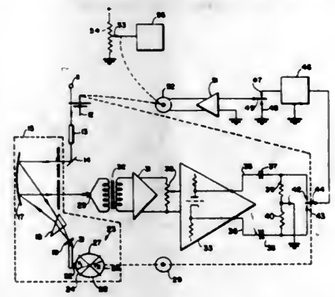
formation running down to and smoothly merging into the spiral of the pointed portion thread formation and adapted to receive a nut passed over the pointed portion, the adjoining threads of the shank thread formation meeting in a common root line.

3,370,502
FRUSTRATED MULTIPLE INTERNAL REFLECTION ROD WITH VARIABLE LENGTH FLUID CONTAINING ENCLOSURE MEANS
Paul A. Wilks, Jr., Darien, Conn., assignor to Wilks Scientific Corporation, Norwalk, Conn., a corporation of Connecticut
Filed Nov. 5, 1963, Ser. No. 321,498
1 Claim. (Cl. 88—14)



An absorption cell means having a rod with a cell surrounding the rod, radiant energy being directed at one end of the rod means and passing down the rod with frustrated multiple internal reflection.

3,370,503
RADIATION COMPARISON SYSTEM
Gerald Thomas Keahl, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Dec. 9, 1963, Ser. No. 328,907
6 Claims. (Cl. 88—14)



1. A radiation comparison system having an optical beam path for passing radiation from a source to a sample, the improvement comprising:
   chopper attenuator means including a first rotatable means having at least two apertures therein for chopping said radiation to form discrete radiation pulses and a second rotatable means for rotation with said

first rotatable means and including means for progressively blocking at least one of the apertures in said first rotatable means for attenuating alternate ones of said radiation pulses by changing the phase of said second rotatable means with respect to said first rotatable means;

wavelength dispersing means operated in synchronism with said first rotatable means and providing a first spectral region during alternate ones of said radiation pulses and a second spectral region during intermediate ones of said radiation pulses;

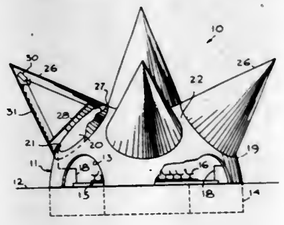
means comparing the energy in said first and second spectral regions, said means being connected to said chopper attenuator means for controlling the phase of said second rotatable means with respect to said first rotatable means for equalizing the energy in said first and second spectral regions.

3,370,504
HIGH SPEED FACSIMILE METHOD AND APPARATUS
Willard E. Buck, Santa Clara, and Randy J. Sherman, San Jose, Calif., assignors, by mesne assignments, to Technical Operations, Incorporated, Burlington, Mass., a corporation of Delaware
Filed Mar. 29, 1965, Ser. No. 443,529
7 Claims. (Cl. 88—24)



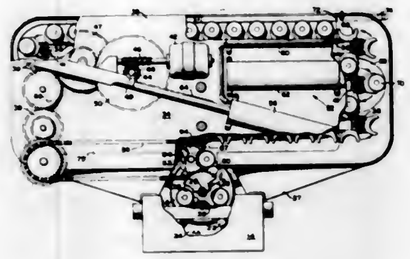
Apparatus for producing a high speed reproduction or copy at one location of a discrete visibly discernable representation at another and remote location so as to enable a record on film to be transmitted, as by radio, to a second remotely located film.

3,370,505
PANORAMIC PICTURE EXHIBITING APPARATUS
Helen V. Bryan, Los Angeles, Calif. (16725 Knollwood Drive, Granada Hills, Calif. 91344)
Filed Apr. 30, 1965, Ser. No. 452,287
10 Claims. (Cl. 88—24)



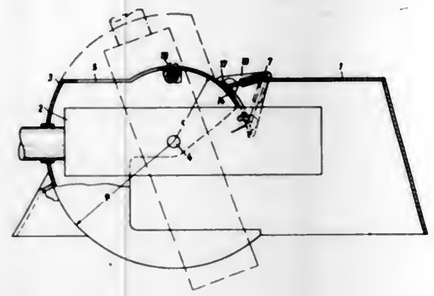
A hemispherical mask is provided having a plurality of openings in which a viewing screen is mounted so that when a picture is thrown on the rear of the screen, the edge marginal areas of the picture are blocked from audience view by the presence of the mask. The audience is arranged in the center of the mask structure so that the plurality of screens can carry a 360° feature film production. A circular stage is provided surrounding the audience with a viewing screen behind selected portions of the stage whereby the picture on each screen constitutes a background for the action on the stage.

3,370,506
AMMUNITION FEEDER AND BOOSTER
Samuel Altschuler, Skokie, and Robert F. Windstrup, Chicago, Ill., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Oct. 13, 1955, Ser. No. 540,360
1 Claim. (Cl. 89—33)



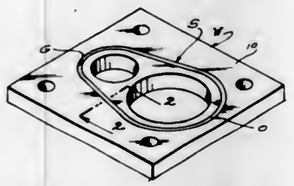
1. For a gun having a receiver, a rotatable drum provided with chambers indexable to a firing station and means for rotating the drum powered by the explosion of cartridges in the gun, a feeder comprising a container mounted at one end to the receiver and provided with a port in an end opposite said one end for loading a supply of cartridges into said container, a plurality of endless chains movably mounted in said container and cooperably disposed for storing a supply of said cartridges therein and for moving said cartridges from said port to the receiver, means for connecting said chains to the drum for actuation thereby, a booster device to assist the drum in actuating said chains proportionate to the number of cartridges loaded in said container, said booster device being comprised of a cylinder with a cooperating piston slidingly mounted therein for reciprocation between a charged and a retracted position and a pair of accumulators communicating respectively with the opposite ends of said cylinder for producing a differential pressure in said pair of accumulators when said piston is moved to the charged position to energize said piston for movement to the retracted position proportionate to the position thereof in said cylinder, a rod extending from said piston out of said cylinder, a rack provided on said rod, a motor mounted to said container, a worm mounted to said motor for actuation thereby, a shaft rotatably mounted to said container, a sleeve slidingly disposed on said shaft for actuation to one of three predetermined positions, a worm-gear rotatably mounted to said sleeve for meshing engagement with said worm, a pinion rotably mounted to said sleeve for meshing engagement with said rack, a gear rotatably mounted to said sleeve and connected to said chains for operation therewith, a first key portion disposed on said sleeve for sliding engagement with said gear when said sleeve is in the first of said three positions, a second key portion disposed on said sleeve to slidingly engage said pinion when said sleeve is in the first position for transferring the force applied against said piston by said pair of accumulators to said chains, to jointly engage said pinion with said worm-gear when said sleeve is in the second of said three positions for connecting said motor to said piston for actuation thereof and to jointly engage said worm-gear with said gear when said sleeve is actuated to the third of said three positions to connect said motor to said chains for actuation thereof.

3,370,507
STRUCTURE FOR SEALING A GUN SHIELD IN A GUN TURRET
Karl Fammler, Dusseldorf, and Gustav Domke, Ratingen, Germany, assignors to Firma Rheinmetall G.m.b.H., Dusseldorf, Germany
Filed Mar. 9, 1966, Ser. No. 533,058
Claims priority, application Germany, Mar. 11, 1965, R 40,086
2 Claims. (Cl. 89—36)



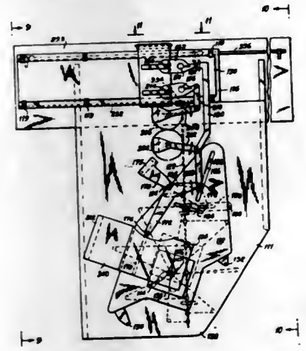
A gun turret for an automatic weapon having a shield with a mounting for the shield to permit movement in a vertical plane relative to the turret and having a sealing structure to seal the shield in the turret.

3,370,508
METHOD FOR ESTABLISHING O-RING SEAL GROOVES
Joseph A. Iaia, 2715 Southeast Drive, Los Angeles, Calif. 90043
Filed Jan. 10, 1966, Ser. No. 519,551
4 Claims. (Cl. 90—11)



1. The method of establishing an uninterrupted O-ring receiving groove entering the top surface of a piece of work and having a flat bottom wall and laterally inwardly and upwardly inclined side walls, which involves; first, selecting a first fishtail milling cutter having an elongate vertical stem, the radial extent of which is less than the difference between the major and the minor lateral extent of the groove to be established, and having a head with outwardly projecting, cutter blades with upwardly and radially inwardly inclined cutting edges disposed at the angle of the side walls of said groove, the major diametric extent of the head being equal to or less than the minor lateral extent of said groove, the axial extent of the head being equal to or greater than the depth of said groove; next, arranging the first milling cutter above the work on a vertical axis intersecting the means longitudinal axis line on the surface of the work along which said groove is to be established; next, rotating said first cutter and reciprocating it longitudinally along said line a distance equal to or greater than the major lateral extent of said groove and lowering it into the work to a depth to which the groove will enter said work, to establish a pilot groove; next, removing said first cutter from the pilot groove; next, selecting a second fishtail cutter having an elongate, vertical stem the diameter of which is less than the minor lateral extent of said groove and having a head with laterally outwardly projecting, cutting blades with upwardly and radially inwardly inclined cutting edges disposed at the angle of the side walls of said groove, the major diametric extent of the head of said second cutter being equal to the major lateral extent of said groove and the minor diametric extent of said head being equal to or less than the minor lateral extent of said groove; next, positioning said second cutter statically above the work with the plane of its blades parallel with the central longitudinal axis of the pilot groove; next, lowering said second cutter into said pilot groove; next, rotating said second cutter; next, advancing said second cutter longitudinally along and about the mean longitudinal axis line on the surface of the work along which said groove is to be established; next, stopping said second cutter with the plane of its blades parallel with the longitudinal axis of the groove; and, finally, shifting said second cutter vertically from within the groove.

3,370,509
CAM GENERATOR, PARTICULARLY FOR SEWING MACHINE ATTACHMENT
Bernard Howard, New Haven, Conn., assignor to Mite Corporation, New Haven, Conn., a corporation of Delaware
Filed Jan. 5, 1966, Ser. No. 518,933
10 Claims. (Cl. 90—13)

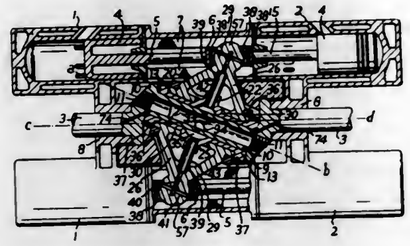


1. A cam generator for making a cam pattern to be used for monograms, said cam being an elongated bar having two cam grooves for X and Y movement, said generator comprising a horizontally movable table on which a specimen monogram may be mounted, a pointer relative to which the table is moved to trace the monogram, an elongated cam carriage mounted for longitudinal movement and arranged to carry a blank cam bar, means including a rotatable drive shaft to move the carriage, a cutting tool movable transversely of the carriage for cutting the X groove, a cutting tool movable transversely of the carriage for cutting the Y groove, linkage between the table and the X tool for response to movement of the table in the X direction, linkage between the table and the Y tool for response to movement of the table in the Y direction, and means to rotate said shaft to move the carriage.

3,370,510
BARREL ENGINE RECIPROCATING TO ROTARY MOVEMENT MECHANISM

Thomas Walter Bunyan, London, England, assignor to P & O Research and Development Co. Limited, London, England

Filed Feb. 11, 1966, Ser. No. 526,914
Claims priority, application Great Britain, Feb. 17, 1965, 6,782/65
9 Claims. (Cl. 91—175)

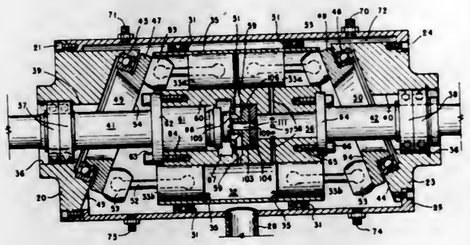


An engine of the so-called wobbler type in which heavy transverse reaction thrust forces by the outer ends of the rocking arms upon the cross-heads are avoided by the use of a bearing sleeve rotatable on the crank pin and arcuate bearing "palms" on each of the two inner ends of the triangular rocking arms in rubbing contact with the bearing sleeve, the palms in the sets at each end of the sleeve being slightly spaced from one another so as to be capable of movement relative to one another on the sleeve about the axis of the sleeve and at least one rocking arm being connected with the bearing sleeve by a rigid strut so that the palms of that rocking arm are held against movement about the axis of the sleeve.

3,370,511
STEAM ENGINE

Robert A. Gibbs, 2110 Rocky Knoll Road, Greensboro, N.C. 27406, and Thomas A. Hosick, 2024 Colonial Place, Winston-Salem, N.C. 27104

Filed May 5, 1966, Ser. No. 547,965
7 Claims. (Cl. 91—175)

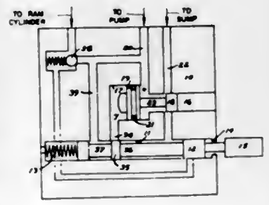


1. A steam engine comprising: a housing, a rotatable block mounted in said housing having a plurality of piston-receiving cylinders and an axial core, closure heads one at each end of said housing, each of said heads having an axial opening in alignment with said block core, a pair of opposed symmetrically inclined piston-supporting members revolvably mounted one on each head, each of said members having a plurality of pistons pivotally supported thereon and receivable in said piston-receiving cylinders of said block, means for guidably restraining lateral piston movement, said pistons on one member being displaced in unison and in a direction opposite from said pistons on the other member, a power take-off shaft secured to said block, means for controlling the admission of steam into said cylinders for piston reciprocation to revolve said block within the housing in a clockwise or counterclockwise direction, and means for reducing back pressure against at least some of said pistons after initially exhausting a cylinder.

3,370,512
TRACTOR HYDRAULIC SYSTEM

Edwin C. McRae, Rte. 1, Cusseta, Ala. 36850

Continuation-in-part of application Ser. No. 450,307, Apr. 23, 1965. This application Mar. 25, 1966, Ser. No. 537,384
12 Claims. (Cl. 91—446)

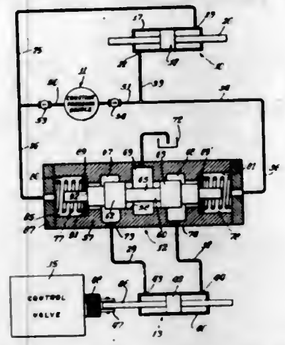


1. In a hydraulic system for controlling the flow of fluid to a ram cylinder, a valve housing having an inlet passageway therein for conducting fluid to said housing and having a sump passageway therein for conducting fluid from said housing to the sump for said system and having a ram passageway therein which connects said inlet passageway to said ram cylinder, said housing having a servo valve bore therein which terminates in an enlarged servo valve cylinder axially aligned with said bore, a closure for the outer end of said cylinder, the area of said cylinder being substantially greater than the area of said servo valve bore, and being positioned in said housing so that said inlet passageway intersects said cylinder adjacent to said servo valve bore with said sump passageway intersecting said servo valve bore at a point spaced from said cylinder, a servo valve reciprocally mounted in said servo valve bore, said servo valve having a valve section thereon which forms a closure between said cylinder and said sump passageway and having a piston section which closely fits said cylinder and having an intermediate section of smaller area than said valve section connecting said valve section with said piston, said servo valve at one end of its stroke closing said inlet passageway to said sump passageway and at the other end of its stroke opening said cylinder to said sump passageway so that fluid from said inlet passageway may flow through said cylinder and along said intermediate section to said sump passageway, and a control valve for said system which in one position admits fluid from said inlet passageway to said cylinder at a point between the outer end of said cylinder and said piston and in another position exhausts fluid from said cylinder to said sump, said control valve being supported for reciprocation in said housing, said control valve being provided with a land thereon which in an intermediate position of said control valve forms a closure for a port which leads from said land to the closed end of said cylinder, the portion of said control valve on one side of said land being in permanent communication with said inlet passageway and the portion of said control valve on the other side of said land being in permanent communication with said sump passageway.

3,370,513
POWER ASSIST CONTROL SYSTEM UTILIZING A FLUID, PILOT-OPERATED CONTROL VALVE

Daniel B. Shore, Niles, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 5, 1965, Ser. No. 493,178
7 Claims. (Cl. 91—466)

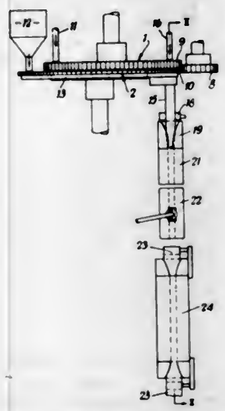


A device for remotely providing power assistance to operate a primary control valve; which device includes a slave cylinder or actuator mechanically connected to the primary control valve, the movement of the actuator being controlled by a manually movable master cylinder which combines fluid pressure with a constant pressure source through the hydraulic operation of a directional control valve to move the actuator in either of two directions, thus activating the primary control valve.

3,370,514
MANUFACTURE OF CIGARETTE FILTERS

Matthew David Lewis Rome, Greenwold, Johannesburg, Transvaal, Republic of South Africa, assignor to Brown & Williamson Tobacco Corporation, Louisville, Ky., a corporation of Delaware

Filed May 28, 1965, Ser. No. 459,671
Claims priority, application Great Britain, May 29, 1964, 22,389/64
10 Claims. (Cl. 93—1)

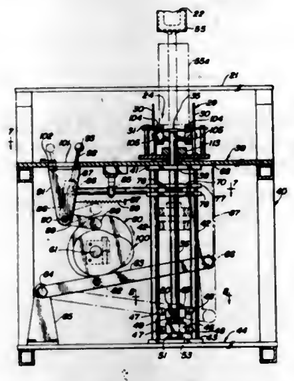


Apparatus for manufacturing multiple tobacco smoke filters comprising an assembly having means for feeding quantities of particles of particulate material and means for feeding lengths of filter plug material to an assembly point so that both materials are combined in vertical superimposition and means for wrapping the superimposed materials in a wrapper to form a continuous rod.

3,370,515
CONTAINER FABRICATING AND ORIENTING APPARATUS

Raymond W. Guzzardo, McHenry, Ill., assignor to E. M. Melahn, doing business as Northern Illinois Machine Company, McHenry, Ill.

Filed Dec. 20, 1965, Ser. No. 514,868
14 Claims. (Cl. 93—36)

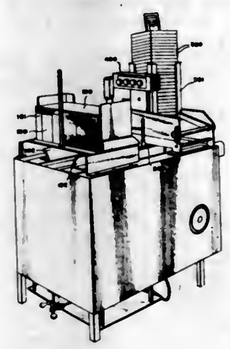


1. In a machine for forming tubular paperboard cartons having bottom and top closures formed by folding panels thereof along predetermined fold lines, said cartons being carried on mandril means while the bottom closures thereof are formed and sealed: stripper means for removing cartons from said mandril means, top former means located remotely of said mandril means, means for transferring cartons from said stripper means to said top former means and cooperating with means positioning cartons for introduction to said former means, and means operable to index cartons selectively about their tubular axes to orient the panels of the top closures thereof in predetermined alignment for the folding thereof by said top former means.

3,370,516
BOTTLE CARRIER ASSEMBLY MACHINE

William S. Peppler, Chappaqua, N.Y., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware

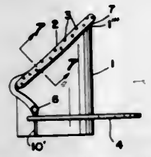
Filed Jan. 25, 1966, Ser. No. 522,970
14 Claims. (Cl. 93—36)



1. A machine for assembling a combination paperboard carton and plastic or similar substance handle section into a carrier for bottles or similar articles comprising:
a holder for holding flattened carton blanks in stacked relationship,

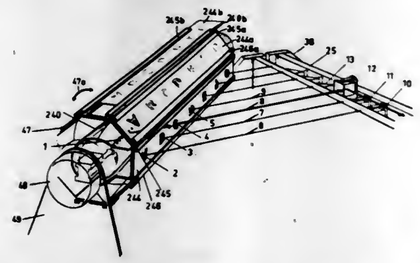
a suction means beneath said holder mounted for substantially vertical reciprocal motion with said suction means in contact with the bottom carton in said holder at its top position of reciprocation,
means for erecting the side walls of the carton,
folding means to fold over top edge portions of the carton,
means to lower the handle section within the folded top edge portions of the carton,
and means to move the carton and the handle section into the locking contact with each other.

3,370,517
APPARATUS FOR FORMING TUBULAR FILM
Thomas Vichos, Twinsburg, Ohio, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed June 21, 1965, Ser. No. 465,563
2 Claims. (Cl. 93—82)



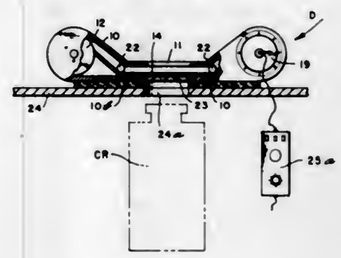
This invention comprises an apparatus for applying a cushion of air and thereby avoiding friction on the plastic film being fed upwardly and then reversed in direction over the upper edge of a mandrel comprising a sheet of metal turned into essentially cylindrical form with the cylinder not being completely closed, but having the lateral edges overlapping but spaced so that lateral edge portions of the film passing linearly through the interior of the cylinder will overlap each other, the sheet of plastic film being shaped into a tubular form as it passes down into the interior of the mandrel. By sealing the overlapping lateral edges of the film, the formation of the tubular film is completed. The invention resides in the feature that the only surfaces around which the plastic film passes in its reversal of direction is the upper edge of the mandrel and the tubular means for imposing the cushion of air between the plastic film and the upper edge of the mandrel.

3,370,518
PHOTOGRAPHIC COMPOSING APPARATUS
Karl-Jürgen Debus, Bad Homburg vor der Hohe, Germany, assignor to Linotype G.m.b.H., Frankfurt am Main, Germany
Filed June 22, 1965, Ser. No. 465,884
Claims priority, application Germany, June 24, 1964, L 48,111
1 Claim. (Cl. 95—4.5)



Light rays project the images of transparencies in a plurality of paths. A prism or mirror is provided for each transparency and one selected prism can be placed in the respective path for deflecting the light rays through a lens onto a photosensitive surface, while all other prisms are held outside of the respective paths.

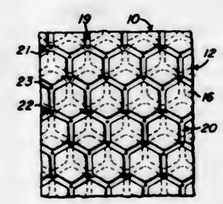
3,370,519
METHOD AND MEANS FOR REMOVING AN OPAQUE FILM OF ATMOSPHERIC PARTICLES FROM BEFORE THE LENS OF A CAMERA
Thomas Garcia, Lyman G. Vance, Jr., and Lawrence H. Maschhoff, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy.
Filed June 29, 1965, Ser. No. 468,178
2 Claims. (Cl. 95—11)



A protective cover for the lens of a camera which is mounted within a rocket test chamber. It consists of a strip of transparent, heat resistant strip suspended across the viewport for the lens and held in place by a take-up spool and a feed spool thereby sealing the port against smoke and debris. The take-up spool is drive in unison with the camera at a preselected speed so that any debris deposited on the strip is removed from the viewport as the take-up spool is driven.

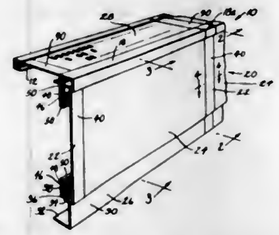
The invention described herein may be manufactured and used by or for the Government of the United States America for governmental purposes without the payment of any royalties thereon or therefor.

3,370,520
VENTILATING DEVICE
Hans A. Mauch, 421 Judith Drive, Dayton, Ohio 45429
Filed Apr. 27, 1966, Ser. No. 545,645
7 Claims. (Cl. 98—1)



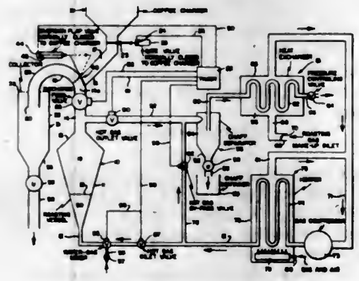
1. A device for use in ventilating an animate or inanimate object comprising an enclosure of sandwich-like configuration, said enclosure being fabricated of an elastic material providing opposite sides and having both said opposite sides formed to produce therein spaced hollow elevations projected outwardly of said enclosure to define compression resistant means, said spaced hollow elevations providing cavities opening inwardly of said enclosure, the cavities in one side being in laterally displaced relation to the cavities in the other side of said enclosure to produce thereby an intercommunication of said cavities, jet openings in one side of said enclosure being placed to commuicate with said cavities formed in the other side of said enclosure to produce thereby a minimal resistance to flow within said enclosure, said enclosure having an inlet in communication with a portion of said cavities for introducing thereto a pressured flow of air or other ventilating fluid to flow to and through said enclosure by way of said cavities for discharge through said jet openings.

3,370,521
VENTILATION ENCLOSURE STRUCTURE
Friedrich G. Honerkamp, Clarks Summit, Pa., assignor to Dynamics Corporation of America, New York, N.Y., a corporation of New York
Filed Apr. 25, 1966, Ser. No. 545,148
17 Claims. (Cl. 98—40)



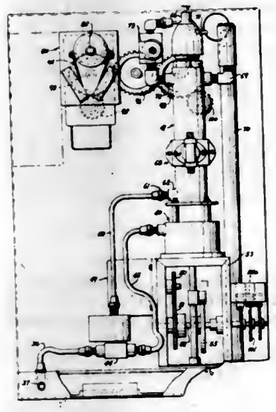
An air distribution enclosure structure for use in a room has a rear upper frame member attached to a wall of the room, a front upper frame member supported by a panel and forming the front of the structure and a top member serving as both a closure means for the top of the structure and as a horizontal structural connecting member between the front and rear upper frame members. Other embodiments of the invention disclose means for supporting the front panel both in the floor and in spaced relation thereabove. In still further embodiments of the invention the rear upper frame member is supported by a rear panel rather than by a wall of the room.

3,370,522
METHOD AND APPARATUS FOR HEAT TREATING, PRESSURIZING AND DISCHARGING MATERIALS
James P. Anderson, West Seneca, and Maurice W. Vincent, Clarence, N.Y., assignors to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed May 19, 1966, Ser. No. 551,296
7 Claims. (Cl. 99—236)



1. Apparatus for heat and pressure treating materials of the character described, comprising a pressure and heat treating vessel, means adapted to support a batch of untreated materials in said vessel, an inlet duct connected to said vessel adapted to charge successive batches of untreated materials onto said support, an outlet duct for the treated batches connected to and leading from the upper part of said vessel above said support to a low pressure zone, said upper part of said vessel being shaped to guide each entire treated batch into said outlet duct when propelled from said support by the pressure differential between said pressure and heat treating vessel and low pressure zone, means providing a pressure seal closing both said inlet and outlet ducts following each such charging of a batch of untreated materials, means adapted to pass a stream of pressurized hot gas through said vessel in contact with each batch of untreated materials on said support, and means rendering said last means operative for a limited period of time sufficient to treat each batch of materials and thereafter opening said pressure sealing means to said outlet duct thereby to establish said pressure differential and expel each treated batch of materials from said support out through said outlet duct into said low pressure zone.

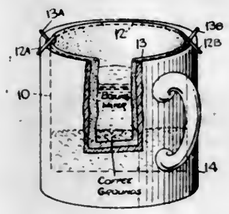
3,370,523
BEVERAGE DISPENSING APPARATUS
Robert C. Wright, Huntingdon Valley, Pa., assignor to Rudd-Melikian, Inc., Warminster, Pa., a corporation of Pennsylvania
Filed May 20, 1966, Ser. No. 551,674
7 Claims. (Cl. 99—282)



6. In apparatus for brewing hot coffee from liquid permeable pods of dense compressed, finely ground beverage material, said pods being carried in spaced relation along a tape, said apparatus comprising a pair of brewing members arranged for relative movement toward and away from a position of engagement with one another in which they cooperate to define a beverage extraction chamber, one of said members having an inlet port for the introduction of hot water thereinto and the other having an outlet port of relatively small diameter for the discharge of extract therefrom, means for indexing successive pods between said relatively moveable members; a positive displacement pump, a water line adapted to be connected to an outside source of water under line pressure, a valve in said line for connecting said source to said pump, control means for operating said valve to admit a cup-sized quantity of water to said pump, a boiler, means including said valve for connecting said pump to said boiler, a heater in said boiler for maintaining a supply of water at a temperature above its boiling point and a pressure above atmospheric, means for operating said valve to connect said pump and said boiler when the pump is filled

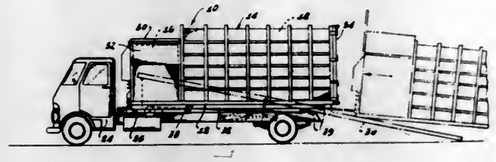
with water, an outlet line connecting the boiler with the extraction chamber inlet port, a discharge valve in said outlet line, means for opening the valve when said brewing members are in said position of engagement, means for thereafter operating said pump to force hot water in said boiler through said outlet line, and pressure control means in said extraction chamber for maintaining the pressure therein at a level substantially above atmospheric during an extraction operation.

3,370,524
HIGH-SPEED COFFEE BREWER
Sam Kasakoff, 329 E. 58th St., New York, N.Y. 10022
Filed Aug. 5, 1966, Ser. No. 570,557
7 Claims. (Cl. 99—287)



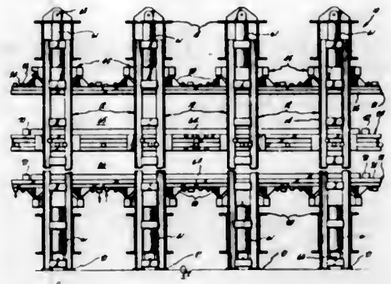
A coffee maker capable of brewing coffee within a container without leaving a deposit of spent coffee grounds, the maker being constituted by an openable filter bag formed of liquid-permeable material for holding a measure of coffee grounds, which bag is receivable within the container, boiling water being poured into the open bag over the grounds to effect a brewing action, means being provided to close the bag to envelop the boiling water and to thereafter subject the closed bag to pressure to express the boiling water through the filter material into the container.

3,370,525
INTERCHANGEABLE REFUSE TRUCK BODY WITH SELF-LOADING MECHANISM
Samuel V. Bowles, 12039 Branford St., Sun Valley, Calif. 91352
Filed Sept. 24, 1965, Ser. No. 489,882
5 Claims. (Cl. 100—48)



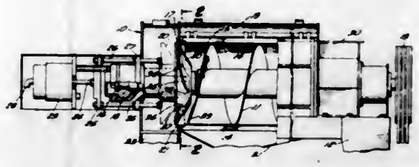
An interchangeable refuse truck body with an automatic self-loading and refuse-packing mechanism. The truck body has a closed storage compartment and a loading compartment open on top. A bulkhead separates the two compartments and defines a passage between them. The packing blade assembly mounted for swinging movement in the loading compartment reciprocates a packing blade in the bottom of such compartment to push the refuse through the passage into a compacted condition in the storage compartment. Movement of the packing blade assembly is controlled by a timing mechanism and hydraulic valve assembly, whereby the packing blade assembly is actuated for predetermined time periods at preselected time intervals.

3,370,526
PRESS
Russel A. Parker, Los Angeles, Calif., assignor to L & F Machine Company, Los Angeles, Calif., a corporation of California
Filed Apr. 30, 1965, Ser. No. 452,103
5 Claims. (Cl. 100—93)



A double opening press having a stationary center platen secured to a supporting framework and a movable platen located on either side of the center platen. Actuators are connected with the movable platen to move them against the center platen with substantially equal force. The supporting framework is constructed to expand in response to thermal expansion of the center platen.

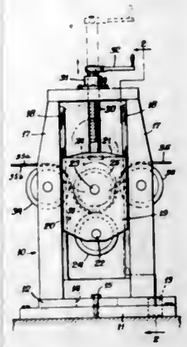
3,370,527
APPARATUS FOR FINISHING CITRUS JUICES
Franklin K. Holbrook, Whittier, Calif., assignor to Brown Citrus Machinery Corporation, Whittier, Calif., a corporation of California
Filed Feb. 23, 1966, Ser. No. 529,550
1 Claim. (Cl. 100—147)



A fruit juice extractor in which a rotary feed screw operating within screen walls for outflow of juice, forces the pulp against a non-rotary cone member having a plurality of ribs extending outwardly thereon in the direction of rotation of the feed screw and exceeding one-quarter turn.

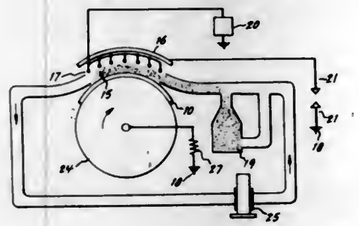
3,370,528
LAMINATING-EMBOSSING ROLLER SYSTEM WITH ADJUSTABLE DEFLECTION OF STRIP
Hans J. Schneider, Arlington Heights, Ill., assignor to Pre-Finish Metals Incorporated, Elk Grove Village, Ill., a corporation of Illinois
Filed Sept. 20, 1965, Ser. No. 488,396
7 Claims. (Cl. 100—173)

An apparatus is supplied for use in a plant wherein a material is applied to a strip of metal or a strip of metal coated with material is processed. This apparatus includes a frame and a pair of spaced idler rollers rotatably mounted on the frame. The rollers are spaced from each other and positioned transverse to the path of travel of the strip with one side of each roller in juxtaposition to the path in contact with the strip. A working couple comprising a backup roll and a pressure roll are affixed at opposite ends to a pair of opposed carriages. The carriages are movably mounted on the frame and connected to a jack shaft so that the rolls move in unison with respect to the



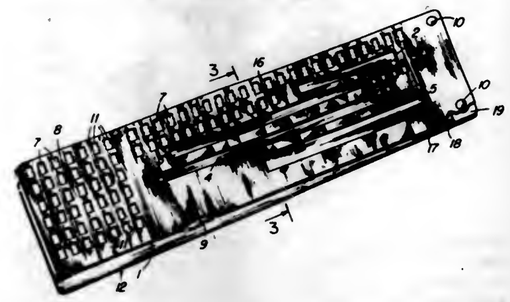
frame. These rolls define a nip through which the strip passes. The rolls are positioned between the idler rollers and movable in a vertical plane thereby controlling the extent of area of contact between the strip and one of the rolls. The frame is mounted on a base for a pivotal movement about a vertical axis whereby the frame can float on the base and is self-aligning with respect to the strip.

3,370,529
ELECTROSTATIC PRINTER HAVING SELF-REGULATING CORONA DISCHARGE
Michael Michalchik, Bethpage, N.Y., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 427,294, Jan. 22, 1965. This application Aug. 5, 1966, Ser. No. 570,638
17 Claims. (Cl. 101—1)



Apparatus for forming a toner image on a plate having both conductive and insulative areas. The plate is subjected to a high current capability corona generator having a self-regulating feature which maintains the ionized space charge between the corona generator and the plate below the level necessary for spurious electrical discharge therebetween. In addition, there is co-action between the corona generating system and the toner which is introduced at high velocity into the ionized space. In effect, the toner becomes part of the high corona current flow and is deposited solely on the conductive areas of the plate.

3,370,530
BRAILLE CHECKWRITER
Norman M. Henderson, Upper Montclair, N.J., assignor to Chemical Bank New York Trust Company, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 415,672, Dec. 3, 1964. This application July 12, 1967, Ser. No. 652,979
5 Claims. (Cl. 101—3)

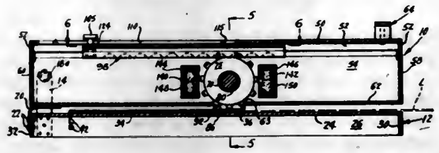


A device for assisting blind persons in writing checks and maintaining checking account records, providing guide means for both longhand and Braille writing, and including means of locating and entering longhand information on the proper areas of the check.

ERRATUM

For Class 101—91 see:
Patent No. 3,370,546

3,370,531
RACK AND PINION ZIP CODE STAMPER
Thomas B. Falk, 4035 California Ave., Carmichael, Calif. 95608
Filed Nov. 1, 1966, Ser. No. 591,256
1 Claim. (Cl. 101—95)

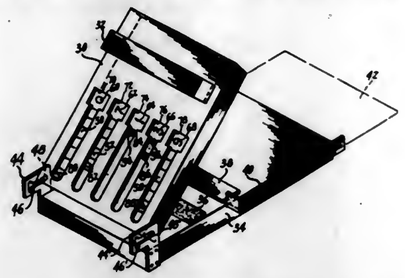


A ZIP code stamper having a rectangular flat base to which a rectangular flat impressing unit is pivotally mounted, the impressing unit having a plurality of pinion wheels with type thereon, racks in the impressing unit for rotating the pinion wheels, a pair of opposed ink pads for inking the type just prior to movement of the type to an impressing position by the rack bars, a pair of fingers secured to the sides of the base platform extending forwardly to resiliently engage a letter and depress it and to position the letter for receiving the ZIP code in a selected portion, and a pair of leaf springs resiliently biasing the impressing unit above the base platform is disclosed.

3,370,532
TYPE BAR SETTING AND INKING MEANS IN ZIP CODE PRINTERS
Thomas B. Falk, 4035 California Ave., Carmichael, Calif. 95608
Filed Aug. 22, 1966, Ser. No. 574,083
5 Claims. (Cl. 101—98)

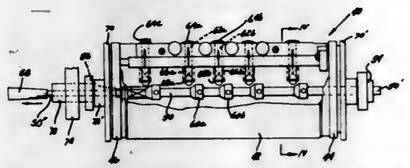
A stamping device for impressing ZIP codes on envelopes and the like which includes a base, a housing mounted above the base for both pivotal and reciprocable

movement, an ink pad exposed upwardly in the base at one position, a plurality of slidable bars each carrying a set of numerals mounted in the rack and means for moving the bars longitudinally in the rack for exposing a selected set of numerals in alignment to the bottom of



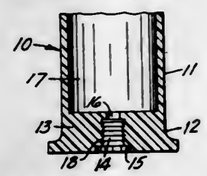
the rack such that when the rack is moved in one position the exposed set of numerals is inked and when it is moved reciprocably in the other position the exposed set of numerals may be pivotally impressed upon an envelope or the like is disclosed.

3,370,533
PROOF PRESS WITH SHORT SHEET GRIPPER RELEASE
Dan P. Westra, Grand Haven, and Ned H. Arganbright, Grand Rapids, Mich., assignors to The Challenge Machinery Company, Grand Haven, Mich., a corporation of Michigan
Filed Sept. 13, 1965, Ser. No. 486,868
2 Claims. (Cl. 101—269)



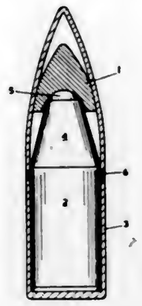
In a printing press, radially shiftable sheet gripping elements in the impression cylinder, shiftable by an axially shiftable cam shaft having a normally operable pull handle actuator on one end and automatically operable actuator means on the other end using a lever pivotally mounted intermediate its ends to the press carriage, engaging the cam shaft on one end, and engageable with cams on the press bed on the other end.

3,370,534
SHOTSHELL WITH INTEGRAL BASE WAD
George L. Herter, Waseca, Minn., assignor to Herter's Inc., Waseca, Minn., a corporation of Minnesota
Filed Mar. 24, 1966, Ser. No. 537,135
5 Claims. (Cl. 102—43)



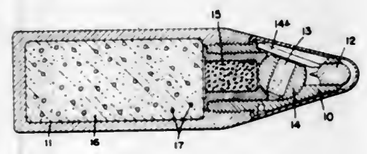
A shotshell casing with integral base wad having a primer cavity with inwardly protecting peripheral sawtooth shaped ribs and an annular shoulder adjacent the flash port formed integrally of the base wad or on a separate disc.

3,370,535
ARMOR PIERCING PROJECTILE
Ladislas Permutter, Orpington, Kent, England, assignor to Minister of Aviation, in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England
Filed Apr. 14, 1960, Ser. No. 22,364
Claims priority, application Great Britain, Apr. 14, 1959 12,706/59
1 Claim. (Cl. 102—52)



1. An armor piercing projectile comprising a cylinder having a truncated conical recess in its forward end, a penetrator having a forward taper formed of two coaxial conical portions, an intermediate cylindrical portion and a rearward truncated conical portion tapering rearwardly from said intermediate portion, said rearward portion firmly connected within the conical recess of the cylinder, a hemispherically shaped cup rigidly fitted to the forward end of said penetrator, said cup having mounted thereon an ogival shaped nose portion, said nose portion having a hemispherical recess in its base for snugly receiving said cup within its inner portion only being universally movable with respect to said cup.

3,370,536
INCENDIARY PROJECTILE
Gus Francis and William H. Sustrich, Denver, Colo., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Oct. 27, 1961, Ser. No. 148,800
1 Claim. (Cl. 102—66)



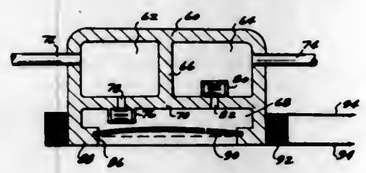
1. A projectile comprising a cylindrical body, incendiary material contained within said body and compressed under at least a 5,000 p.s.i. pressure and capable of burning for substantially 1,000 milliseconds, a plurality of metal masses at least as heavy as lead in said incendiary material, a conical nose on said body, a stab and ball rotor type nose fuze detonator, and a booster detonator between said ball rotor detonator and said incendiary material for igniting the latter, said booster detonator being located in a front portion of said cylindrical body and said incendiary material, said booster detonator being of

a strength to blow said nose off said body on ignition, said projectile being of 20 millimeter size containing about 78 pellets each weighing at least about as much as a lead shot of .177 inch diameter, about 75 grains of an incendiary material containing about 98% of zirconium having a particle size of 20 to 60 mesh and about 1% barium nitrate with about 1% of a mixture of a 50–50 alloy of magnesium and aluminum, whereby on reduction in velocity of said body, the nose is blown away quickly and the incendiary and metal masses are guided from said body as a burning agglomerated mass while said body is of a thickness to be unshattered as said burning incendiary and its metal masses issue therefrom in a cone of dispersion of about 20° and whereby said metal masses are capable of deeper penetration into an aircraft type target than is a prior high explosive projectile of the same caliber due to the projectile body remaining unshattered.

3,370,537
CASTABLE PYROTECHNIC COMPOSITION COMPRISING METAL NITRATES OR CHLORATES AND FINELY DIVIDED METAL
Frederick Tepper, Butler, Pa., assignor to Mine Safety Appliances Company, a corporation of Pennsylvania
No Drawing. Filed July 22, 1965, Ser. No. 474,160
12 Claims. (Cl. 102—87)

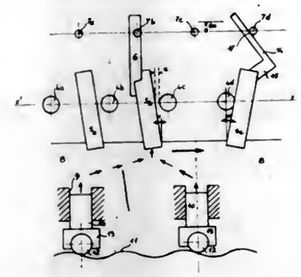
Light emitting pyrotechnic compositions having a metal phase dispersed in a continuous solid oxidizing salt phase, or matrix, are formed by slurrying a finely divided metal in low-melting mixtures of molten salts and cooling the slurry to freeze the molten salts. The dispersed phase may be magnesium, aluminum, titanium, zirconium or alloys and, if desired, also contain tungsten carbide or titanium carbide. The salt mixtures of metal nitrates or metal chlorates contain at least one alkali metal or alkaline earth metal salt.

3,370,538
FLUID PUMPS ENERGIZED BY MAGNETOSTRICTIVE ACTION
Eugene W. Hines, Grand Blanc, Mich., assignor to E. W. Hines and Associates
Filed Feb. 11, 1966, Ser. No. 526,815
3 Claims. (Cl. 103—1)



1. A fluid pump of the type described, comprising: a pumping compartment; an inlet passage and outlet passage communicating with said compartment; unidirectional valve means disposed in relation to the inlet and outlet connections so as to allow fluid flow only into the compartment from the inlet means and only out of the compartment from the outlet means; a closed bellows arrangement capable of varying the volume of the compartment as it expands and contracts forming at least a portion of the wall of said compartment, at least a portion of the walls of the bellows being formed of laminated, magnetostrictive rings; a wire coil magnetically coupled to at least a part of the said bellows member; and means for passing electric current through said coil so as to create a magnetic field, at least a portion of which passes through said rings, whereby variations in the electric current passing through said coil varies said magnetic field, so as to cause said magnetostrictive rings to expand and contract in order to vary the volume of the fluid compartment.

3,370,539
DOUBLE INJECTION PUMP FOR INTERNAL COMBUSTION ENGINES
Pierre Eyzat, Vanves, France, assignor to Institut Francais du Petrole, des Carburants et Lubrifiants, Rueil-Malmaison, France
Continuation-in-part of application Ser. Nos. 466,587, 469,486, 469,732, June 24, 1965. This application Sept. 20, 1966, Ser. No. 580,630
Claims priority, application France, June 24, 1964, 979,531; July 10, 1964, 981,591; July 17, 1964, 982,184
10 Claims. (Cl. 103—2)



1. A fuel injection pump for internal combustion engines, permitting two injections per engine cycle in each cylinder, said injections comprising a principal injection at the end of the compresson stroke of said engine, and a secondary injection preceding said principal injection, said pump comprising:

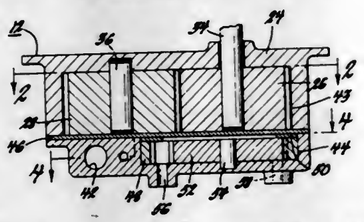
(a) a pump shaft;
(b) a pump housing provided with a cylindrical bore communicating with an annular space;
(c) feed orifices and discharge orifices opening in said bore;
(d) a rotatable distributor piston coaxially mounted in said bore with a small clearance between said piston and said bore;
(e) means for displacing said piston along a direction parallel to its axis of rotation;
(f) means for rotating said piston about its axis, driven by said pump shaft;
(g) a plurality of fuel feeding grooves located in the cylindrical surface of said distributor piston and communicating with said annular space;
(h) a first discharge groove located in said cylindrical surface and in permanent communication with one of said fuel feeding grooves;
(i) a second discharge groove located in said cylindrical surface and permanently communicating with another of said fuel feeding grooves, whereby rotation of said rotatable distributor piston intermittently connects said feed orifices through said fuel feeding grooves with said annular space providing a fuel charge therein, and said discharge grooves intermittently connect said annular space with said discharge orifices for delivering said fuel charge, the amount of said fuel charge delivered through both of said discharge grooves being simultaneously regulated by said means for displacing said piston along a direction parallel to its axis of rotation; and
(j) means for forcing said fuel from said annular space through said feed and discharge grooves to said discharge orifices, wherein said second discharge groove has a leading edge corresponding, with said distribu-

tor piston in position for the beginning of said secondary injection at a low charge, to a straight tangent to the discharge orifice on the leading edge thereof and having a slope with respect to the axis of the distributor piston, equal to

$$-\left(\tan\alpha+\frac{e-f-\epsilon}{d_m}\right)$$

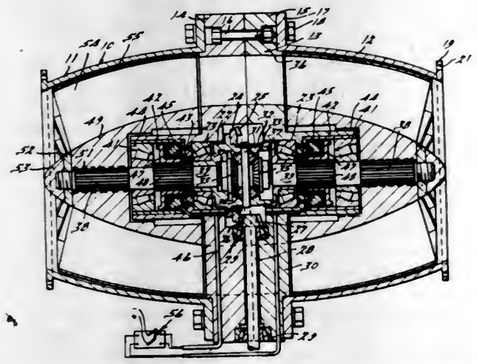
where α is the absolute value of the angle of inclination, relative to the axis of the distributor piston, of the feed grooves associated respectively with the first and second discharge grooves, e is the peripheral distance covered by the piston during the secondary injection at low charge, ϵ is the peripheral distance covered by the piston during the secondary injection at full charge, and d_m is the longitudinal displacement of the piston, parallel to its axis, which corresponds to the passage from low charge to full charge.

3,370,540
PUMP CONSTRUCTION
Keith H. Carpenter, Kettering, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 23, 1965, Ser. No. 515,836
5 Claims. (Cl. 103—4)



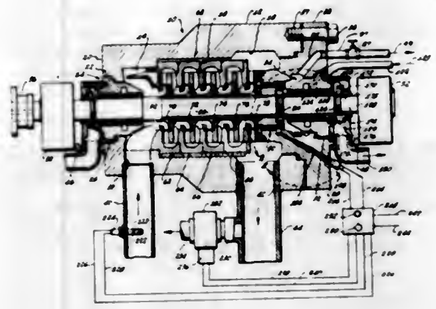
A dual pump construction comprising a first gear pump which is adapted to be driven by a power source and a second gear pump which is magnetically driven by the first gear pump is disclosed. The first and second gear pumps are preferably external and internal ring gear pumps, respectively, and physically separated so that separate fluids can be pumped thereby.

3,370,541
BOW THRUSTER
Fred E. Parsons, 1656 Keller Lane, Bloomfield Hills, Mich. 48013
Filed Jan. 21, 1966, Ser. No. 522,248
6 Claims. (Cl. 103—88)



The invention pertains to a device which provides a flow of water from either side of the bow of a ship for propelling the bow to the right or to the left to assist in maneuvering the ship in a small area.

3,370,542
TEMPERATURE DETECTION DEVICE
Doran B. Harney, Downey, Calif., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,913
14 Claims. (Cl. 103—97)

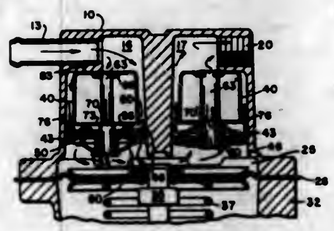


Apparatus for sensing the temperature difference between the inlet fluid and discharge fluid of a multistage centrifugal pump which includes a balancing piston (86) fixed to the impeller shaft adjacent to the discharge end. The piston is surrounded by a pressure reducing sleeve (82) defining, with the piston, an annular clearance space (89) through which leakage fluid flows from the discharge of the pump to a leakage collection chamber (94) which is maintained at a much reduced pressure. Passage means are provided for directing some of the fluid flowing through the annular leakage space into a sensor chamber, and from the sensor chamber to the leakage collection chamber (94). The sensing element of a temperature-sensing device is disposed within the sensor chamber (182) for measuring the temperature of the fluid flowing through the leakage space and before it is contaminated by any injection liquid which might flow into the leakage collection chamber (94). A second temperature-sensing device measures the temperature of the inlet fluid; and the inputs from the two temperature-sensing devices are fed to a control device such as a differential relay mechanism. The control device functions to open a valve in an auxiliary discharge outlet from the pump, to assure fluid flow through the pump when the temperature difference between the inlet and outlet exceeds a certain preselected value.

3,370,543
COMBINED PULSATOR DOME AND CHECK VALVE ASSEMBLY
Claude F. Phillips, Fairfield, Ill., assignor to Airtex Products, Division of United Industrial Syndicate, New York, N.Y., a corporation of New York
Filed July 20, 1966, Ser. No. 566,529
10 Claims. (Cl. 103—223)

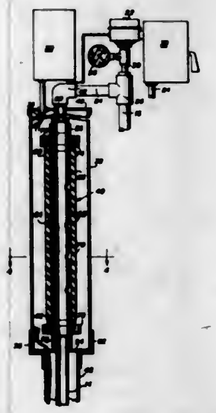
9. In a fuel pump, a fuel casting comprising an inlet and an outlet cavity, a housing in each said cavity having a closed end abutting within said cavity to locate the respective housings therein, each said housing having a widened open end comprising a skirt section having a sealing fit in the respective cavity and effecting a valve chamber and a valve means in each said chamber, the remainder of each said housing being above the respective valve chamber and effecting a respective airdome of lesser girth

than the respective cavtiy to permit fuel flow therethrough, each airdome and valve chamber being joined



by a respective flange, port means through each of said flanges to permit said fuel flow.

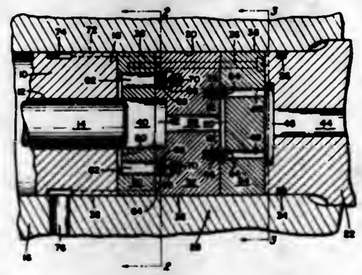
3,370,544
PRESSURE COMPENSATOR DEVICE FOR PUMPS
Thurston S. Thorpe, Sr., Rte. 2, Box 123, Somerville, Tenn. 38068
Filed Apr. 7, 1966, Ser. No. 540,983
9 Claims. (Cl. 103—223)



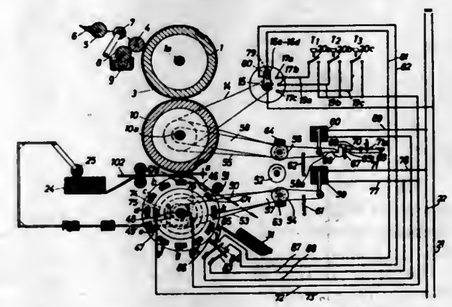
A pressure storing chamber in the form of an expansible tubular member is mounted in sealed relation about a perforated section of an underground water pipe to meet demand during pressure fluctuations. A casing protectively enclosing the perforated pipe section limits the volume to which the chamber expands and cooperates to pressure seal the axial ends of the tubular member about the pipe.

3,370,545
VALVE ASSEMBLY FOR HIGH PRESSURE COMPRESSORS AND THE LIKE
Anthony J. Walbel, Painted Post, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 14, 1966, Ser. No. 534,253
5 Claims. (Cl. 103—228)

A valve assembly for a high pressure, reciprocating compressor which includes a cylinder body containing a longitudinal cylinder bore. The valve assembly comprises a valve body, having a bore forming an extension of the cylinder bore, which encloses pluralities of inlet and discharge valves. A casing means peripherally surrounds the valve body and at least a portion of the cylinder body and is closely spaced therefrom to provide a single continuous annular confined space which receives pressurized fluid to maintain the valve body and at least a portion of the cylinder body in compression at all times.



3,370,546
SELECTIVE PRINTING MACHINE EMPLOYING MAGNETIC FIELDS
Rudolf Muller, Grunwald, near Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany
Filed May 26, 1965, Ser. No. 458,928
Claims priority, application Germany, June 5, 1964, A 4,229
24 Claims. (Cl. 101—91)

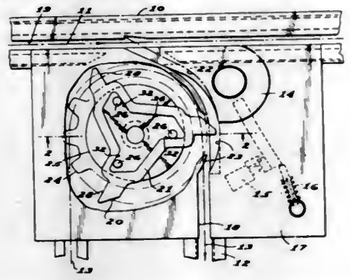


Selected text sections formed of magnetizable ink on a first surface are transferred by the magnetic fields of electromagnets to a second surface, while non-selected text sections remain on the first surface so that copy sheets having different selected text sections can be produced from the one printing form having all text sections.

3,370,547
CARRIER TRANSFER DEVICE FOR CONVEYORS
Eugene E. Beyers, Atlanta, Ga., assignor to Jervis B. Webb Company, a corporation of Michigan
Filed Mar. 15, 1966, Ser. No. 534,522
11 Claims. (Cl. 104—172)

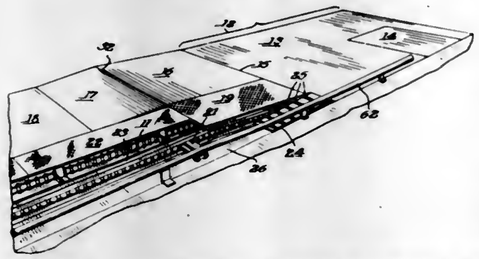
1. A transfer device for effecting a positive drive transfer of a carrier between forwarding and receiving conveyor lines wherein the carrier is diverted from the main conveyor line into a connecting path to the branch line, including a rotatable driver, a spider having a plurality of drive arms each provided with a drive surface adapted in normal operation to intercept the connecting path and engage a diverted carrier, driving means between said driver and spider accommodating radial displacement of said spider from a normal centered position relative to the axis of rotation of the driver to a by-pass position in the event of an interfering engagement of a carrier and

drive arm, said displacement moving a succeeding drive arm of said spider to a position extending radially beyond



its normal intercept position, and cam means for restoring said spider to its normal position.

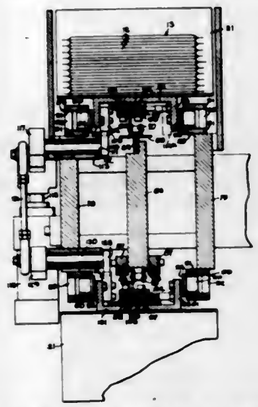
3,370,548
CONVEYOR ENTRANCE APPARATUS
Allen D. Rickel, Northfield, Ill., assignor to Perfecto, Incorporated, Northbrook, Ill., a corporation of Pennsylvania
Filed Nov. 14, 1966, Ser. No. 594,059
5 Claims. (Cl. 104—172)



Entrance apparatus for an automobile conveyor. The exemplary embodiment described includes first means forming an entrance apron covering a region from which tire engaging rollers of the conveyor emerge, second means forming a path from the entrance apron for tires on one side of the automobile to be conveyed, and third means forming a path from the entrance apron for tires on the opposite side of the automobile to be conveyed. The second means includes a floor panel configurate with the forward edge of the entrance apron and inclined upwardly and forwardly from the entrance apron. The third means includes a ramp hinged to the entrance apron about a horizontal axis and normally inclined downwardly and forwardly from the entrance apron. The ramp overlies the course followed by the tire engaging rollers when the rollers emerge from under the entrance apron. The inclined floor panel extends to an apex forwardly spaced with respect to the forward end of the hinged ramp whereby an automobile to be conveyed is brought to rest at a predetermined position for engagement by one of the tire engaging rollers.

3,370,549
TRANSFER APPARATUS
Richard D. Livingston, Rockford, Ill., assignor to Bartelt Engineering Company, Inc., Rockford, Ill., a corporation of Delaware
Filed Dec. 1, 1966, Ser. No. 598,383
14 Claims. (Cl. 104—212)

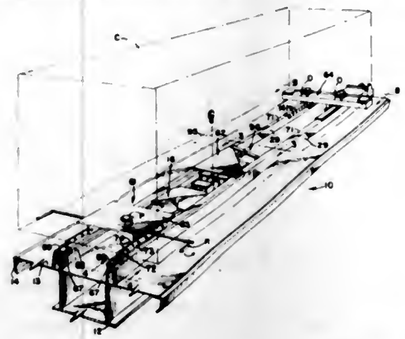
Transfer apparatus of a packaging machine for receiving packages from the discharge end of a packager, arranging the packages in stacks, and delivering the stacks to a transfer station for insertion in cartons. The packages initially are joined in pairs which are separated on a discharge carrier of the packager and then are deposited in buckets at the end of this conveyor. The transfer apparatus includes an endless transfer conveor having a drive member in the form of an endless chain with plates secured to the links of the chain to form a continuously moving friction band. The buckets are guided for movement along a path following the path of the chain and are releasably coupled to the friction band by clamping elements on the undersides of thte buckets frictionally gripping the band so that the buckets normally are moved along their guides by the band. Positioned along the path of the buckets are a plurality of stops which engage opposed surfaces on the buckets to block further movement of the buckets along their path.



Each stop is selectively movable by an actuator operable to move the stop out of its blocking position and release the bucket for continued movement along its path. Buckets are collected by such stops at a loading station at the end of the discharge conveyor, at an intermediate operation station where the stacks of packages are compacted, and at a transfer station where the stacks are loaded into cartons. In addition, a reserve supply of buckets is collected adjacent the loading station for release upon demand. A decoupling device is mounted on each of the buckets to release the clamping pressure of the following bucket as the latter moves into abutting engagement with a stopped bucket, and suitable controls are provided for automatically operating the stop actuators in timed relation with the various packaging operations to block and release buckets at the respective locations as required by the packaging sequence.

3,370,550
CONTAINER MOUNTING ARRANGEMENT FOR PIGGYBACK RAILWAY CAR
Jack E. Gutridge, Dyer, Ind., and William Van Der Sluys, Homewood, Ill., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Feb. 14, 1966, Ser. No. 527,154
12 Claims. (Cl. 105—368)

1. A railway car comprising an underframe, a collapsible stanchion including a plura'ity of strut members mounted on said underframe for movement between an erect operative trailer supporting and hitching position and a collapsed position on said underframe, container supporting and mounting means supported on said underframe for lengthwise movement thereof, cushioning means having a predetermined lengthwise travel mounted on said underframe, means for detachably connecting said cushioning means to at least one of said strut members of said stanchion so as to cushion said stanchion in the operative position thereof, cushion travel multiplying means connectible between said cushioning means and



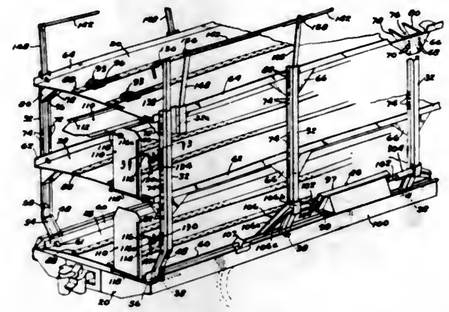
said container supporting and mounting means when said stanchion is detached from said cushion means for imparting a greater cushion travel to said container supporting means.

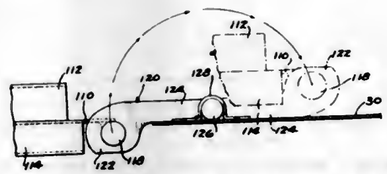
3,370,551
RAILROAD-HIGHWAY TRANSPORT APPARATUS AND METHOD
Montague W. Shannon, 1461 Tutwiler Ave., Memphis, Tenn. 38107
Continuation-in-part of application Ser. No. 373,342, June 8, 1964. This application May 12, 1966, Ser. No. 554,274
6 Claims. (Cl. 105—368)

Materials or freight handling means basically including a narrow low railcar and a load-receivable road-runable carrier unit having front and rear wheels. The carrier unit being adapted to be loaded or transportably position crosswise astraddle the railcar by running the carrier unit on the road surface to a halted position crosswise astraddle the rail track, and then, in coordination with running the railcar between the wheels and underneath the road-supported carrier unit, to lift and transportably position the carrier unit surmountably crosswise astraddle the railcar with the front and rear wheels of the carrier unit being idly suspended on opposite sides of the railcar.

3,370,552
RAILWAY CARRIER FOR AUTOMOTIVE VEHICLES
Frank B. de Podesta, Farmington, Gilbert T. Innes, Dearborn, Charles M. Burt, Detroit, and Donald E. Kullgren, Livonia, Mich., assignors to Paragon Bridge & Steel Company, Novi, Mich., a corporation of Michigan
Original application Feb. 27, 1961, Ser. No. 91,879, now Patent No. 3,240,167, dated Mar. 15, 1966. Divided and this application Feb. 3, 1966, Ser. No. 547,098
6 Claims. (Cl. 105—368)

A hinged gangplank construction adapted to serve as a bridging plate between vehicle receiving decks of end coupled railroad cars. The gangplank is pivotally secured at its inboard edge to one end of a pair of spaced hinge links which in turn are pivoted at their other ends to the upper horizontal surface of the deck inwardly of an end edge thereof. By swinging the hinge links about their pivotal mounting on the deck, the pivot axis of the gangplank can be shifted from outboard to inboard of said





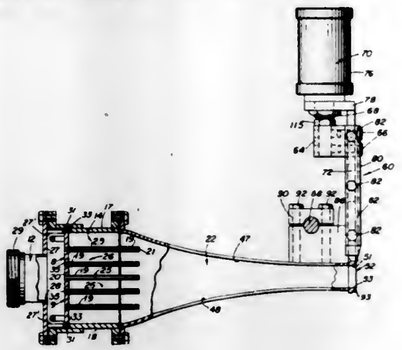
deck end edge to thereby permit the outboard end of the gangplank to be correspondingly shifted to clear obstacles at the end of the deck of the next car. A hand lock is also provided for said gangplank comprising a handle bar fixed to the gangplank and a locking bar journalled on a support on the car for interlocking engagement with the handle bar in the raised upright position of the gangplank.

3,370,553
SWIRL CAKE
Harold M. Rich, Northbrook, Hans Van Elkeren, Lincolnwood, and Andrew Wolf, Deerfield, Ill., assignors to Kitchens of Sara Lee, Inc., Chicago, Ill., a corporation of Maryland
Filed Nov. 9, 1964, Ser. No. 409,733
5 Claims. (Cl. 107—1)

1. An apparatus for filling cake pans with a laminated charge of batter having chocolate layers therein,
said apparatus comprising a laminating head having a chocolate inlet conduit,
a batter inlet conduit,
an elongated flow conduit,
said flow conduit having positioned therein two series of spaced longitudinally elongated passageways,
a first baffle plate extending between said chocolate inlet conduit and one end of said flow conduit and having openings therethrough communicating between said cholocate inlet conduit and one end of each of a first series of said passageways,
a laminating conduit having one end communicating with said two series of passageways and the other end of said laminating conduit providing an outlet opening,
whereby viscous fluid chocolate is stretched and thinned as it passes through said first series of passageways and is laminated with batter passing through said laminating conduit,
said first series of passageways being in alternating relation to said second series of passageways with each

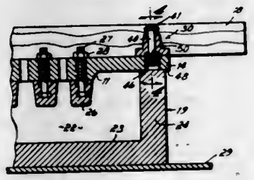
predetermined time intervals to form individual adjacent passageways of said second series,

whereby the mixture discharged from said outlet opening comprises layers of chocolate laminated with layers of batter, and



means for periodically cutting said laminated charge at predetermined time intervals to form individual charges therefrom as the laminated charge flows from said outlet opening.

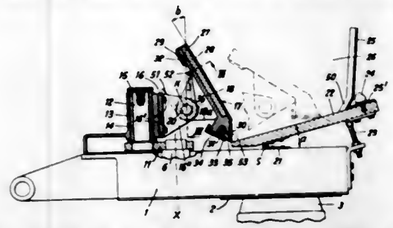
3,370,554
MOLD BOARD CONSTRUCTION FOR CANDY MACHINES
Ralph A. Cushman, Cincinnati, Ohio, assignor to Cushman Foundry, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 6, 1965, Ser. No. 511,735
1 Claim. (Cl. 107—3)



A mold board for use with starch trays in molding candy centers. The mold board includes a rectangular frame which abuts the starch board and a plurality of spring plunger assemblies mounted on the rectangular frame, each spring assembly includes a housing, a plunger for engagement with the starch tray and a compressible coil spring.

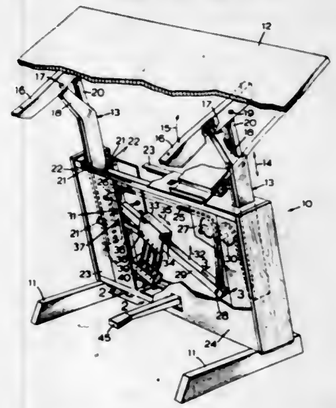
3,370,555
DOUGH WORKING APPARATUS
Karl Schrauf, Gisingen, near Feldkirch, Vorarlberg, Austria, assignor to Gustave A. Seewer, Burgdorf, Bern, Switzerland
Filed Oct. 22, 1965, Ser. No. 501,455
Claims priority, application Switzerland, Apr. 7, 1965, 4,814/65
13 Claims. (Cl. 107—9)

1. A dough working apparatus for transforming an irregular shaped, rough surface piece of bulk dough into a generally spherical, smooth surfaced ball, said apparatus comprising: a channel for receiving a piece of bulk dough therein, said channel being defined by a bottom wall extending between spaced apart upstanding side wall members, one of said side wall members being movable relative to said bottom wall and relative to the other said side wall member, drive means connected to said movable member to move said movable member in an arcuate path relative to the upper surface of said bottom wall, said movable member being pivotally mounted about an axis which is parallel to the plane of said bottom wall



surface, means for urging said movable member to pivot about said axis in one rotative direction whereby said movable member tilts from an upstanding to a less upstanding position relative to the upper surface of said bottom wall.

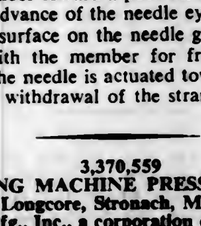
3,370,556
MECHANICAL COUNTERBALANCE SYSTEM
Johan Peter Engel Kool, Ancaster, Ontario, Canada, assignor to Keuffel & Esser of Canada Limited, Montreal, Quebec, Canada
Filed Oct. 25, 1966, Ser. No. 589,445
6 Claims. (Cl. 108—136)



A counterbalance system for a drafting table in which the table top is mounted for vertical movement relative to a supporting frame which includes an arm pivoted in the frame and operatively connected to the table top with spring means to urge the arm in table elevating direction and such spring means are connected to the frame and to a carriage slidably mounted on the arm and connected by a link to the frame so that movement of the table top and of the arm changes the position of the carriage and compensates the variation in the force of the spring as the table top moves vertically.

3,370,557
SUPPORTS FOR ROOF AND THE LIKE
Alexander Low Birse, Bonnybridge, Scotland, assignor to John G. Stein & Company Limited, Bonnybridge, Scotland, a British company
Filed Mar. 14, 1966, Ser. No. 533,993
Claims priority, application Great Britain, Mar. 29, 1965, 13,251/65
3 Claims. (Cl. 110—99)

1. For use in supporting a monolithic refractory structure, a hanger brick with a rectangular head presenting side and end faces, said end faces being formed with recesses to receive the bases of U-shaped clips, the arms of which extend along the side wall and terminate in hooks, said brick being formed with two further recesses each



made in a side face across an upper corner from each end recess to the top of the brick to form an inclined ledge to support an arm of a clip.

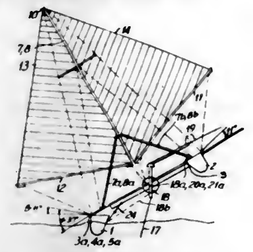
3,370,558
ARTICLE STRINGING MACHINES
Alfred G. Lovell, Hanover, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Feb. 1, 1966, Ser. No. 523,982
5 Claims. (Cl. 112—104)

1. In an article stringing machine having a curved eye pointed needle for carrying the leading end of a strand through a workpiece and a needle guide for preventing deflection of the needle, a strand friction device comprising an arm pivoted on the needle guide, a strand engaging member mounted on the arm, resilient means urging the member toward a position of engagement with the strand in advance of the needle eye and an angularly oriented anvil surface on the needle guide in cooperative relationship with the member for frictionally engaging the strand as the needle is actuated toward the workpiece to prevent the withdrawal of the strand from the needle eye.

3,370,559
SEWING MACHINE PRESSER FOOT
Milton M. Longcore, Stronach, Mich., assignor to Glen Mfg., Inc., a corporation of Wisconsin
Filed Sept. 20, 1965, Ser. No. 488,606
9 Claims. (Cl. 112—235)

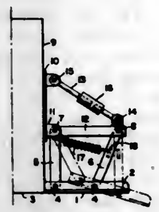
A sewing machine presser foot for use in making parallel rows of stitching wherein said presser foot includes a pair of laterally spaced toes with first and second spaced parallel guide surfaces being provided on one of said toes for guiding a piece of material past a needle reciprocating in a slot between said toes.

3,370,560
SAILING VESSELS
Friedrich Markus Lucht, 15 Hannastrasse, 285 Bremerhaven, Germany
Filed May 27, 1966, Ser. No. 553,569
Claims priority, application Germany, May 29, 1965, L 50,817
10 Claims. (Cl. 114—39)



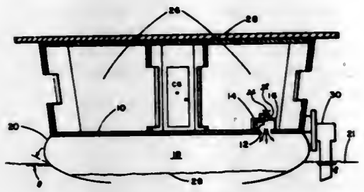
A sailing vessel is provided comprising a plurality of floats with each of the floats comprising two axially aligned ends constructed to facilitate movement of the floats in either direction along the axis. Means interconnect the floats and a rudder trunk is provided with a center board rudder blade mounted between the floats and depending downwardly from the trunk. Means mount the trunk for pivoting the trunk and the blade laterally of the vessel and means are provided for rotating the blade about a vertical axis of the trunk and for raising and lowering the blade in the water. The sailing vessel can have a plurality of parallel floats, skids or wheel carriers and may be referred to as a "cat" or catamaran.

3,370,561
TRIM AND HEELING BOARD DEVICE FOR BOATS
Bengt Erland Ilon, 43 Stromkarlsvagen, Bromma, Sweden
Filed Oct. 19, 1966, Ser. No. 587,807
Claims priority, application Sweden, Apr. 25, 1966, 5,546/66
7 Claims. (Cl. 114—66.5)



1. In combination with a boat:
a trim and heeling board,
means mounting said board adjacent the stern of the boat adjacent the water to provide for a downward inclining of the board as it moves rearward from the stern,
means urging the board towards the stern and overcoming the force exerted by relative movement between the boat and the water to maintain it adjacent the stern with the boat at the desired trim and permit it to move rearwardly when the trim is such that the bow is high relative to the stern.

3,370,562
FLOTATION APPARATUS
Robert D. Hawkins, P.O. Box 99, Greenlawn, N.Y. 11740
Filed Dec. 29, 1965, Ser. No. 517,349
5 Claims. (Cl. 114—67)



A stabilized air cushioned vessel is described as having an open bottomed hull. The sides of the hull are so shaped that the center of buoyancy always shifts in a way to keep the vessel upright. As indicated, the hull sides are designed to have submerged inner surfaces that have areas that are nearer the vessel center-of-gravity than freeboard surfaces.

3,370,563
METHOD OF BUILDING A FLOATING STRUCTURE OF LARGE SIZE SUCH AS A HULL AND THE LIKE
Masataro Muto, Tokyo, and Yasutoshi Sano, Yokohama-shi, Japan, assignors to Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan
Filed Jan. 11, 1967, Ser. No. 608,577
Claims priority, application Japan, July 4, 1966, 41/43,401
6 Claims. (Cl. 114—77)



A method of building a floating structure such as a ship hull is described in respect to various illustrated method steps and method variations. The floating structure is built by first constructing a first part, for example a stern part or stern body as a dry building berth or dry dock and either simultaneously with its building or directly thereafter constructing an intermediate hull portion or joining member to the section which is being built directly on the dock. The intermediate member is advantageously temporarily secured to the first part such as by fixing jigs which are removed after completion of the first part and the forming member in order to permit the separate launching of the finished first part.

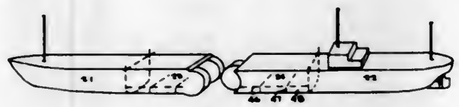
Thereafter another section or second part, for example a bow section, is jointed to the intermediate joining member which remains on the dock advantageously at the sea or water end thereof to permit building of the second part directly to the intermediate joining member. The second part with the joining member are launched into the water from the berth and the assembly is joined to the first part in the water.

A modification of the method is to launch the joining member with the first part so that it is moved off the building dock. Thereafter the joining member is removed from the first part and towed back to the dry dock and positioned so that the second part may be built directly onto the joining member.

In accordance with still another method the joining member which has been secured to the first part may be removed from the first part to permit separate launching thereof and then the joining member is reversed in position so that the second part may be jointed thereto proceeding in the direction from the inner end of the dock outwardly toward the water or the sea.

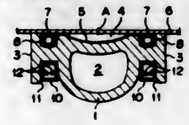
In a still further modification the joining member is hingedly connected to the section of the vessel which has first been constructed so that it may be easily removed after the member is floated in the water or even prior thereto after it has been completed.

3,370,564
ARTICULATED SHIP AND COUPLING MEANS THEREFOR HAVING MEANS TO ESTABLISH STRUCTURAL INTEGRITY
Gardner Archer and Karl Ernest Schoenherr, Washington, D.C., assignors to Missouri Research, Inc., Washington, D.C.
Continuation-in-part of application Ser. No. 356,482, Apr. 1, 1964. This application Oct. 21, 1965, Ser. No. 499,628
13 Claims. (Cl. 114—77)



This disclosure relates to an articulated ship, and more particularly to a hinge coupling for segments of such ship. In the simplest form, a pair of hinge members are located at the port and starboard sides of one segment of the ship, extending substantially from deck to keel lines. Intermediate these members, a hinge member is formed on the bow of the adjacent segment and fits between the former members. Hinge pin receiving sockets are formed in the hinge members and have frustoconical outer ends and cylindrical intermediate portions. A retractible hinge pin member having conical ends and cylindrical intermediate portions is engaged in the socket members, and is urged into contact with the conical socket members. The segments are provided with false bottoms to form bottom holds which are subdivided for variable loading to permit changing the draft of one segment relative to that of another to reduce strains on the hinge and to facilitate coupling of the segments. A further improvement comprises stress and strain measuring means located within a hinge coupling whereby the measurement of forces acting on the coupling in three planes, normal to each other, may be continuously monitored.

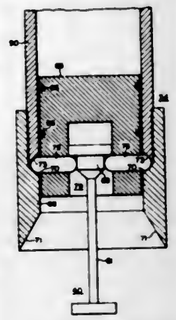
3,370,565
METHOD AND AN APPARATUS FOR FIXING A WATERPROOF BAND IN ORDER TO CUT OR JOIN A STRUCTURE FLOATING ON THE WATER
Isoe Takezawa, Tokyo, and Tomisaburo Kumose, Ichizo Takizawa and Norichika Kajihara, Kanagawa-ken, Japan, assignors to Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan
Filed Jan. 11, 1967, Ser. No. 608,576
Claims priority, application Japan, July 29, 1966, 41/49,833
18 Claims. (Cl. 114—77)



A method of affixing a waterproofed band over a portion of a hull of a vessel which is floating in the water is described herein together with various embodiments of

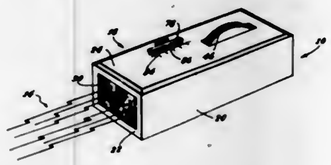
devices for providing the waterproof encircling band for performing operations on the hull of a vessel such as a ship below the waterline. With the device of the invention it is possible to weld through or cut through the vessel hull either completely around the vessel or only in a partial area below water level by using a waterproof encircling band.

3,370,566
EMBEDMENT DEVICE
John A. Dorr and Wadsworth Owen, Baltimore, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 17, 1965, Ser. No. 464,766
15 Claims. (Cl. 114—206)



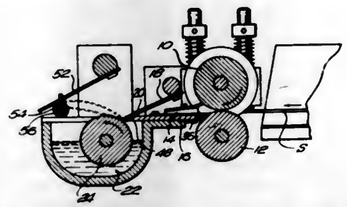
1. An underwater embedment device comprising:
(a) an elongated hollow member closed at one end thereof;
(b) closure means for keeping the pressure within said hollow member at a predetermined value;
(c) actuator means movable relative to said closure means for displacing said closure means upon striking the bottom of a body of water, for permitting bottom sediment to enter said hollow member; and
(d) the predetermined value of said pressure being less than the pressure of the surrounding water medium just prior to striking said bottom.

3,370,567
REMOTE CONTROL UNIT
Harold F. Rieth, Santa Monica, Calif., assignor to Packard-Bell Electronics Corporation, Los Angeles, Calif., a corporation of California
Filed July 3, 1963, Ser. No. 292,645
14 Claims. (Cl. 116—137)



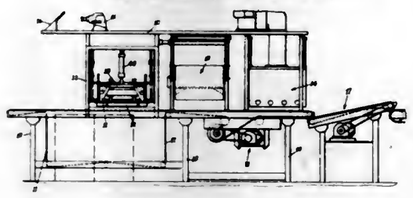
1. In combination,
a housing having a window in one end that is transparent to said signals,
resonant means disposed in said housing for vibrating at a particular frequency to radiate through said window a beam of ultrasonic energy having said particular frequency,
manually actuatable means mounted on said housing in cooperative relationship with said resonant means to excite said resonant means into vibrating at said particular frequency and radiating said energy,
modulation means disposed inside of said housing in cooperative relationship with said resonant means for modulating the radiated energy at a controlled frequency different from the particular frequency, and
means on said housing and coupled to said modulation means for producing variations in the controlled frequency at which said ultrasonic signal is modulated.

3,370,568
MECHANISM FOR FEEDING SKIVED SHOE SOLES TO A COATING ROLL
George W. Heiseler, Saugus, Mass., assignor to Boston Machine Works Company, Lynn, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 354,991, Mar. 26, 1964. This application Sept. 20, 1966, Ser. No. 580,627
6 Claims. (Cl. 118—246)



For coating a side of skived outsoles for ladies' shoes, a machine is provided having a pair of rolls shaped to flex a sole transversely. The sole is then fed through a low tunnel and then under a set of spring fingers the ends of which bear on an edge of the table over which the sole slides. This bends the sole down into engagement with a rotating coating roll which deflects the sole upward. Excess cement is wiped off by a rod over which the sole passes after leaving the coating roll.

3,370,569
AUTOMATIC FLOCKING MACHINE
John N. Runge, % R-K Electric Co., 1883 Reading Road, Cincinnati, Ohio 45215
Filed Nov. 5, 1965, Ser. No. 513,660
10 Claims. (Cl. 118—639)



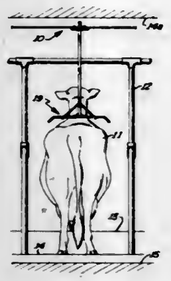
Automatic flocking machine having apparatus for applying adhesive to a work piece, apparatus for depositing flock on said adhesive coated work piece, apparatus for removing excess flock from said work piece, and in intermittently movable conveyor for transporting a work piece in sequence to said adhesive applying apparatus, said electrostatic flocking apparatus, and said deflocking apparatus.

3,370,570
ELECTRIC ANIMAL TRAINER
Orvel M. Treangen, Spring Grove, Minn. 55974
Filed June 6, 1966, Ser. No. 555,601
4 Claims. (Cl. 119—27)

1. An animal trainer adapted for use in an animal stall having a refuse trough therein, said animal trainer comprising,

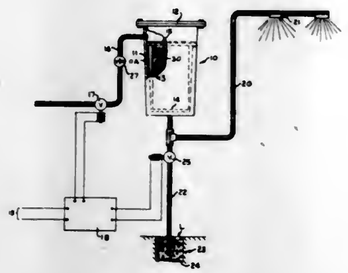
an electric current conducting wire adapted to be attached to a suitable source of electric current and disposed over the animal and in a predetermined transverse position relative to the animal housed in the stall,

an elongated horizontally disposed clip member slidably affixed to said current conducting wire in current conducting relation thereto, said clip member having a resilient and gripping rod receiving aperture therein,



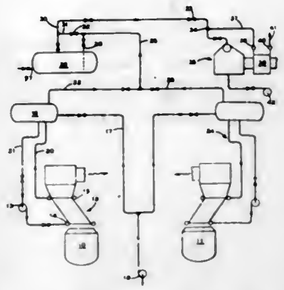
an animal contacting member having an upright rigid rod slidably engaged in the rod receiving aperture of said clip member and in current conducting relation therewith, and an animal contacting element attached to the upright rod generally transversely thereto and in current conducting relation therewith, the animal contacting element disposed in a predetermined position relative to the animal housed within the stall whereby current is conducted to the animal when the animal assumes a predetermined position.

3,370,571
METHOD OF AND APPARATUS FOR PRODUCING AND DISPENSING AN INSECTICIDE LIQUID
Fred W. Knapp, Lexington, Ky., assignor, by mesne assignments, to The University of Kentucky Research Foundation, Lexington, Ky., a corporation of Kentucky
Filed May 25, 1966, Ser. No. 552,928
6 Claims. (Cl. 119—159)



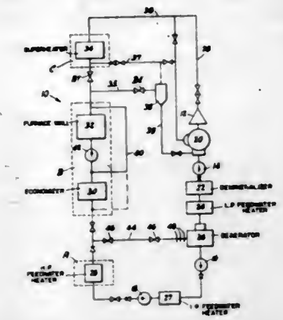
1. In a method for controlling insects by an insecticide, the improvement comprising, providing a confined body of discrete pieces of plastic material in form-retaining shape with an insecticide agent dispersed therein, generating an insecticide liquid, as required, by passing water in contact with said material thereby to remove said agent from the surfaces of said pieces and to form said insecticide liquid, and dispensing said liquid into a region in which control of insects is desired.

3,370,572
VAPOR GENERATING AND SUPERHEATING SYSTEM
Paul E. Kurrle, Wadsworth, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 29, 1966, Ser. No. 583,038
9 Claims. (Cl. 122—7)



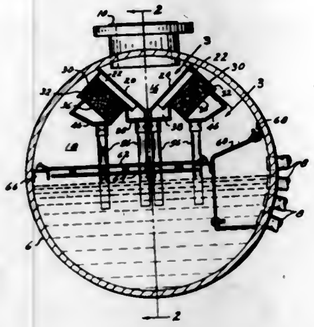
1. A steam generating and superheating system including a power boiler, said power boiler comprising a furnance, means for burning high heat value fuel in said furnace, a convection gas-pass divided into a pair of parallel gas flow sections communicating with said furnace, a bank of steam generating tubes positioned in one of said sections, a bank of steam superheating tubes in the other of said sections, means for proportioning gas flow from said furnace to said parallel gas flow sections, a steam accumulator, mixer means for combining a flow of saturated steam from said accumulator and steam from said steam generator for delivery of the mixture to said superheater tubes, and means responsive to the temperature of the mixed superheated steam leaving said superheater tubes to proportion gas flow through said parallel gas flow sections.

3,370,573
START-UP SYSTEM FOR COMBINED CIRCULATION STEAM GENERATOR
Frederick J. Hanzalek, Suffield, and Alwin W. Ambrose, Hazardville, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 12, 1966, Ser. No. 600,905
9 Claims. (Cl. 122—406)



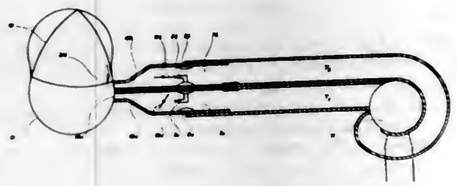
A system of starting a combined circulation steam generator under no-through-flow operating conditions by combining fluid recirculation around the furnace tubes circuit with overflow of the swell by way of the cold end of the boiler through the feed pump recirculating and pressure breakdown system, or through a separate swell relieving conduit leading to the low pressure region of the feedwater system.

3,370,574
STEAM GENERATING APPARATUS
Frank F. Hohnholt, Upper Saddle River, N.J., assignor to Superior Combustion Industries, Inc.
Filed Nov. 4, 1966, Ser. No. 592,113
10 Claims. (Cl. 122—491)



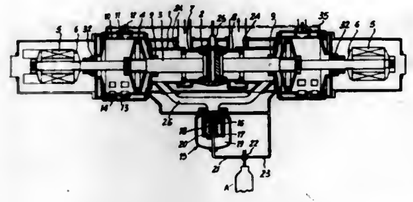
1. In a steam generating apparatus having a drum containing water and steam, a steam outlet at the top of said drum and a number of riser tubes entering the lower portion of said drum; means for cleaning and drying steam in said drum including a first elongated wall member extending along the length of said drum and lying arranged at an angle to the vertical, the upper edge of said wall lying against the interior of the wall of said drum; a corrugated baffle plate attached over the lower side of said first wall forming with said wall a number of spaced parallel inclined steam riser passages, apertures through said first wall near the upper end of each of said riser passages, a closure at the end of said riser passages; the lower sides of said corrugated baffle plate also forming a plurality of inclined parallel downwardly directed steam passages interspersed with said first-mentioned steam riser; means forming a steam entrance chamber abutting said corrugated plate, said chamber being filled with a wire mesh material and being tilted at an angle to the vertical so that steam flows therethrough at an acute angle to the direction of flow of water through said mesh and means along the lower edge of said inclined plate and said chamber for collecting water and solids removed from said steam.

3,370,575
RESONANT CHARGING OF ROTARY ENGINES
Jean-Pierre Soubis, La Celle-Saint-Cloud, Seine-et-Oise, France, assignor, by mesne assignments, to Societe de Construction et d'Exploitation de Materiels et Moteurs (S.C.E.M.M.), Paris, France
Filed Dec. 13, 1965, Ser. No. 513,302
1 Claim. (Cl. 123—8)



A rotary piston engine is provided with resonant charging by the use of two intake ports in the stator of the engine. A separate intake duct is connected to each intake port. The intake ports and ducts are constructed such that the closure of the ports by rotation of the piston occurs at the instant when the resonance effect in one of the ducts provides maximum filling for a first speed and in the other duct provides maximum filling for a second speed.

3,370,576
FREE PISTON MOTOR
Robert Huber, Zumikon, Switzerland, assignor to Societe des Generateurs Jarret, Paris, France
Filed Oct. 11, 1966, Ser. No. 585,832
Claims priority, application France, Oct. 14, 1965, 34,935
12 Claims. (Cl. 123—46)

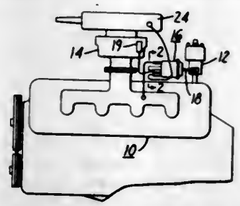


1. A free piston motor comprising, in combination, a motor cylinder having opposite closed ends; a pair of motor pistons arranged in said motor cylinder movable along a compression stroke toward each other to an inner dead center position and an opposite combustion stroke toward an outer dead center position, each of said motor pistons having a rear face and defining with the respective closed end of said motor cylinder a pressure chamber adapted to be filled with air and constituting a first pneumatic spring tending to move the respective motor piston toward said inner dead center position; a pair of additional cylinders having at least one closed end; a pair of additional pistons respectively movably arranged in said additional cylinders and each defining with said one closed end of the latter a chamber adapted to be filled with air and constituting a second pneumatic spring; connecting means connecting each of said additional pistons with a respective one of said motor pistons for simultaneous movement; injector means for injecting fuel into the space between said working pistons; starter means for feeding compressed air into said pressure chamber for moving said working pistons toward each other and for moving said additional pistons with said working pistons causing thereby combustion of fuel injected in said space and subsequent movement of said pistons in the opposite direction, compressing the air in said pressure chamber of said working cylinder and in said chambers of said additional cylinders; and means controlled by said pistons during subsequent strokes thereof for discharging excess air from said pressure chambers of said motor cylinder and for sucking air into said chambers of said additional cylinders to gradually equalize the pressure in said chambers.

3,370,577
VACUUM CONTROL UNIT
Donald G. Guetersloh and Donald F. Wigner, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 10, 1965, Ser. No. 507,087
6 Claims. (Cl. 123—99)

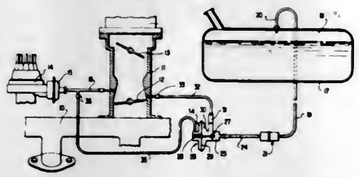
A control valve is oppositely subjected to atmospheric pressure and induction vacuum. At a certain level of induction vacuum, a pilot valve closes an air inlet on one side of the control valve and a diaphragm opens the con-

trol valve to suddenly equalize the pressures. The resulting snap movement of the diaphragm provides full travel



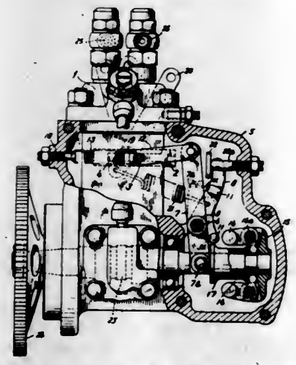
adjustment of ignition timing, and the pressure drop on the atmospheric side of the valve is simultaneously sensed to vary mixture ratio.

3,370,578
FUEL SAVING DEVICE FOR INTERNAL COMBUSTION ENGINES
Calvin L. Speits, 422 Grace St., Greenwood, S.C. 29646
Filed Jan. 4, 1966, Ser. No. 518,592
3 Claims. (Cl. 123—119)



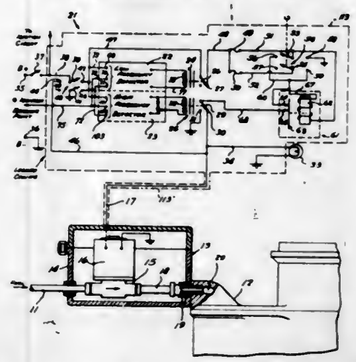
An attachment for internal combustion engines which permits recovery and utilization of fuel vapors in the fuel tank, in which said vapors are drawn through a filtering unit to a mixing chamber thereof where the vapors are mixed with air drawn through the filter, the mixture then being delivered by vacuum means to the engine carburetor for induction into the combustion chambers of the engine.

3,370,579
CONTROL APPARATUS FOR FUEL-INJECTION TYPE INTERNAL COMBUSTION ENGINE
Yutaka Nozawa, Tokyo, Yoshinobu Yamaguchi, Warabi-shi, and Hiroyuki Uchiumi, Kitaadachi-gun, Japan, assignors to Kabushiki Kaisha Honda Gijutsu Kenkyusho, Kitaadachi-gun, Japan
Filed Feb. 8, 1966, Ser. No. 525,916
Claims priority, application Japan, Feb. 18, 1965, 40/8,881
12 Claims. (Cl. 123—140)



Control for fuel-injection engine wherein a control member is displaced directly by one lever and indirectly through a lost motion coupling by a second lever operating on the first lever which has a displaceable fulcrum controlled by a governor.

3,370,580
SPEED CONTROL FOR AN AUTOMOTIVE VEHICLE
Wallace J. Vnuk, 3773 E. Gill Drive, Denver, Colo. 80209
Filed Sept. 16, 1966, Ser. No. 579,859
10 Claims. (Cl. 123—198)



1. In a motor vehicle having an internal combustion engine, a speed-control system comprising electromagnetic control means, means for maintaining the engine in a normal operating state when said control means is energized, a source of current, an energizing circuit connecting said source to said control means, said energizing circuit including a first branch containing a first overload-responsive circuit-breaking device, a second branch containing a second overload-responsive circuit-breaking device, and selector switch means to at times switch said second branch into said energizing circuit in place of said first branch, means to overload said first circuit-breaking device and to cause it to open responsive to an increase in speed of said engine beyond a predetermined value, whereby to de-energize said electromagnetic control means a first time and whereby said control means can be re-energized by operating the selector switch means to switch the second branch into said energizing circuit, and means to overload said second overload-responsive circuit-breaking device and cause it to open responsive to another increase in speed of said engine beyond said predetermined value.

3,370,581
LATCHING AND COCKING DEVICE FOR AIR RIFLES
David A. Hills and Ronald W. Joyce, Rogers, Ark., and Robert Borden Willett and James F. Watkins, Tulsa, Okla., assignors, by mesne assignments, to Victor Comptometer Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 16, 1964, Ser. No. 418,746
14 Claims. (Cl. 124—15)

5. In an air rifle having a plunger slidably disposed within a barrel and first spring means biasing said plunger in a forward direction, a cocking and latching device for said plunger comprising:

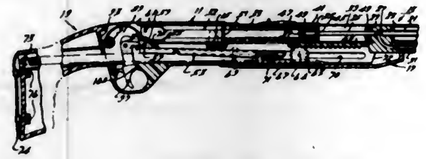
a cocking lever movable longitudinally forwardly and rearwardly adjacent said plunger,

second spring means having one end fixed to and tending to bias said cocking lever in a rearward direction,

manually actuable means for moving said cocking lever first in a forward direction loading said second spring means and thereafter in a rearward direction,

said cocking lever including means effective when said cocking lever is in its forward position engaging said plunger and carrying it rearwardly therewith thereby loading said first spring means when moved in a rearward direction,

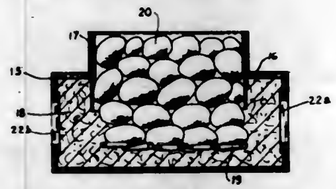
latch means pivotally mounted adjacent said cocking lever,



latch biasing means normally biasing said latch means in a first direction away from said cocking lever,

said plunger including means operatively engaging said latch biasing means when moved rearwardly with said cocking lever thereby moving said latch means in a second direction opposite said first direction to engage and maintain said cocking lever in its rearward position, and means for releasing said cocking lever from said latch means.

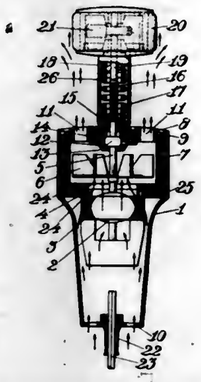
3,370,582
PICNIC GRILL KIT
Arthur J. Rauh, 705 Marshall, Houston, Tex. 77006
Filed Feb. 3, 1966, Ser. No. 524,919
10 Claims. (Cl. 126—25)



1. A picnic grill kit comprising a secondary fuel including fire consumable box and low heat content fuel means within said box, a primary fuel of higher heat content disposed centrally within said box to be surrounded by, and supported above, said low heat content fuel means and to upstand thereabove as surrounded by a central opening provided in the top of the box, window means provided in opposed sides of said box, and a foldable foil surrounding said box and lining said window means and said opening, a perforate grill including legs connected at the corners to be pivoted at right angles to said corners and into the ground above said box to support said grill, whereby food may be supported on said grill and upon ignition of said low heat content fuel means through said window means it is burned to commence the burning of said higher heat content fuel with heat being directed upwardly through and above said opening to be applied directly under the food to be cooked.

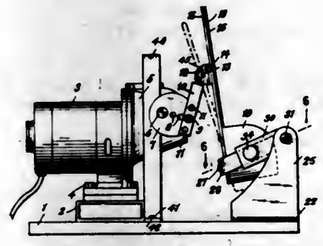
3,370,583
MOTOR OPERATED MASSAGING VIBRATOR WITH MEANS FOR DIRECTING AIR
Akihiko Teranishi, Nagoya, Japan, assignor to Kabushiki Kaisha Teranishi Denki Seisakusho, Nagoya, Japan
Filed Feb. 15, 1966, Ser. No. 527,545
Claims priority, application Japan, Feb. 24, 1965, 40/13,912
3 Claims. (Cl. 128—24.1)

1. A vibrator used for massage therapy comprising a hollow body member provided with one or more air intake openings and vents, an electric motor enclosed within said member, a vibration member mounted on the foremost end of the driving shaft of the motor extending longitudinally and outwardly of said body member through the intermediary of a connecting member, and



a fan fitted on the driving shaft of the motor inside said body member and having blades to create an air current to flow toward said vent from said air intake opening provided on said body member.

3,370,584
APPARATUS FOR THE STIMULATION OF BLOOD CIRCULATION IN THE FEET AND LEGS
William Girten, 805 SW. 20th St., Fort Lauderdale, Fla. 33315
Filed Nov. 25, 1964, Ser. No. 418,579
4 Claims. (Cl. 128—25)

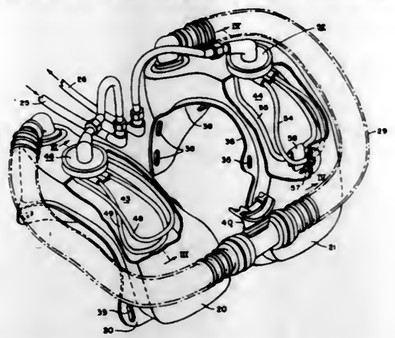


An apparatus for the stimulation of blood circulation in the feet and legs of those confined to a bed or wheel chair comprising, a pair of foot boards against which the feet of a patient are rested and which foot boards are mounted to give a swinging or oscillating movement imparted to them by eccentric means gear-driven from an electric motor. Means is provided for regulating the positions of the foot boards and adjusting them to meet the requirements of different patients, and the pivotal points for the foot boards are located at the ankle joints whereby the feet are moved at said joints while causing little or no movement of the patient's legs at or above the knees.

3,370,585
BREATHING APPARATUS WITH BREATHING BAG-OPERATED VALVES
Wilbur J. O'Neill, Chelmsford, Mass., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 25, 1965, Ser. No. 435,258
13 Claims. (Cl. 128—142.2)

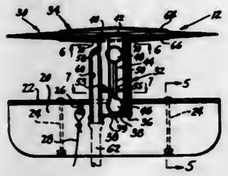
Diver apparatus includes an inhalation breathing bag and an exhalation breathing bag with a breathble gas mixture being supplied by pressure source to the inhalation

bag through an inlet valve. The exhalation bag is connected to a suction source through an outlet valve with the apparatus including a flexible hose connected between the breathing bags and having a suitable mouthpiece and valving arrangement for diver breathing. The inlet valve opens up to supply the gas mixture when the inhalation breathing bag collapses due to a diver inhalation or a descent, and the outlet valve opens to allow re-



moval of the exhaled breath when the exhalation breathing bag expands due to an exhalation or an ascent. One valving arrangement utilizes wire bales extending within the respective breathing bags an another arrangement utilizes valve chambers with diaphragms having on one side the water pressure and on the other side either the inhalation breathing bag pressure or the exhalation breathing bag pressure. The valves are biased to insure that they are not simultaneously opened.

3,370,586
UNDERWATER BREATHING DEVICE WITH VALVED FLOAT
Robert J. Aragona, R.D. 5, Box 102, Westcott Road, Schenectady, N.Y. 12306, and Jerome T. Fryling, Schenectady, N.Y.; said Fryling assignor to said Aragona
Filed June 1, 1965, Ser. No. 460,031
6 Claims. (Cl. 128—145)

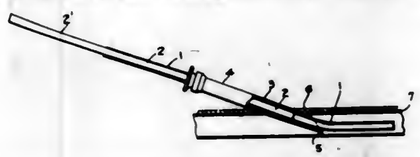


A snorkel type of underwater breathing apparatus in which a float is provided with a valved air passage, a splash guard and an air hose. The float and air hose are attached to a harness worn on the swimmer's body whereby the float may be towed by the swimmer. The mouthpiece has a pair of conduits which are supported on the harness, one being attached to the air hose and the other opening into the water.

3,370,587
METHOD OF INTRODUCING A CATHETER INTO A BODY VESSEL
Fernando R. Vizcarra, Calz. Chula Vista 69, Cuernavaca, Morelos, Mexico
Filed July 17, 1962, Ser. No. 210,327
3 Claims. (Cl. 128—214.4)

1. A method of catheterization comprising the application through the integument and into a blood vessel of a hypodermic needle, the application of an internally bored catheter tube having proximal and distal ends through the hypodermic needle until the distal end of the catheter tube enters the blood vessel,

the application of a mandrel having proximal and distal ends to the catheter tube leaving the proximal end of the mandrel exposed from the proximal end of the catheter tube, and leaving the distal end of the

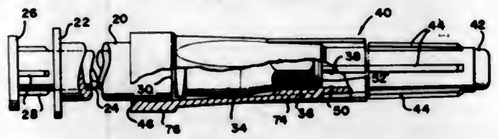


catheter tube in fully flexible condition, including the removal of the hypodermic needle prior to withdrawal of the mandrel,

application of an adapter to the end of the catheter tube with the aid of the mandrel prior to complete withdrawal of said mandrel,

and application to the adapter of means for injection or withdrawal of fluid.

3,370,588
HYPODERMIC NEEDLE GUARD
George K. Burke, Bethlehem, Pa., assignor to Burron Medical Products, Inc., Bethlehem, Pa., a corporation of Pennsylvania
Filed Aug. 18, 1965, Ser. No. 480,630
1 Claim. (Cl. 128—221)

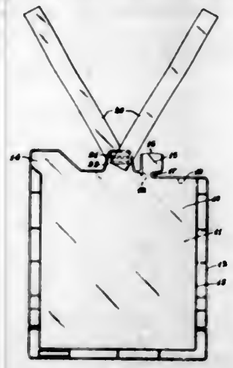


The hypodermic needle secured to a syringe is enclosed in a guard formed of resilient material which has a closed end and an open end. The open end telescopes over the syringe. The hub of the needle has flat surfaces defining a polygonal sectional configuration. The bore of the guard has a medial portion shaped to snugly fit the polygonal configuration of the hub of the needle. The bore at the open end of the guard has a peripheral transversely grooved sealing rib which contacts the syringe. The dimension of the groove is such as to permit suitable flow of gas during sterilization procedure but to restrict the flow of gas past the rib under normal atmospheric conditions.

3,370,589
URINARY DRAINAGE BAG
David S. Sheridan, Argyle, N.Y., and George E. Liesmann, Milwaukee, Wis., assignors, by mesne assignments, to Brunswick Corporation, Chicago, Ill., a corporation of Delaware
Filed May 5, 1964, Ser. No. 364,918
2 Claims. (Cl. 128—275)

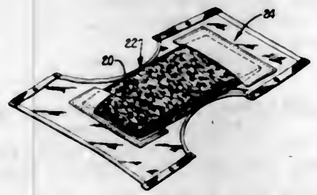
1. In a urinary drainage bag comprising two sheets of flexible plastic material, each sheet having a tab portion joined to a main body portion by a neck portion which is narrower than the main body portion of said tab portion, said sheets being heat sealed to each other along their edges except along an edge of each tab portion opposite said neck portion, the interior diameter of unsealed edge and main body portion of said tab portion being substantially greater than the interior diameter of said neck portion and said tab portion having an interior wall sloping from said main body portion to said narrow neck portion, a pair of elongate highly cohesive plastic strips heat sealed to said sheets at the top center portion of said bag for use

in hanging said bag from a stationary member, a flexible plastic drainage tube capable of having one end portion inserted into said bag by threading said end of said tube into the main body portion of said tab portion between the unsealed edges thereof and along said sloping wall and between said neck portions, the wider main body portion of said tab portion is wrapped smoothly around the inserted end portion of said tube, a resilient clip for secur-



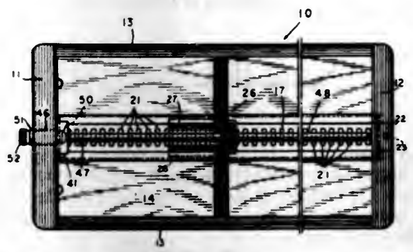
ing said tab portion in said wrapped position around said inserted tube end portion, said clip having an elongate substantially U-shaped body portion, an interior annular portion in said body portion forming an arc greater than 180° and having an unstressed diameter slightly less than an outside diameter of the inserted end portion of said tube, and said clip having the sides of the U-shaped body portion gripping said wrapped around tab portion and tube for securing said tube in said bag.

3,370,590
PROCESS OF PREVENTING UNDESIRABLE LOOSENING OR MATTING IN PAPER FOR USE IN SANITARY PRODUCTS AND THE PRODUCTS THEREOF
Kenneth C. Hokanson and Donald K. George, Greenwood, S.C., assignors to Riegel Textile Corporation, a corporation of Delaware
Filed Aug. 17, 1966, Ser. No. 572,929
8 Claims. (Cl. 128—290)



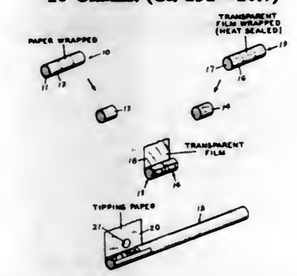
A process of preventing undesirable loosening or matting of fibers in cellulosic fibrous sheet material, containing hydrophilic, flat, ribbon-like, aerated, regenerated cellulose fibers of the generally collapsed multi-cellular form, during normal use of sanitary products made therefrom, and the improved cellulosic fibrous sheet material and sanitary products utilizing the same and having high dry strength, wet hang and dispersible properties when agitated in a large excess of water. The process comprises impregnating a wet web of the sheet material during manufacture thereof and while the web contains a substantial amount of moisture of at least 60% with a high molecular weight water soluble polymer that enhances bonding of the fibers of the finished sheet without adversely affecting the dispersible properties so that it is resistant to loosening or matting of the fibers during normal use.

3,370,591
RECEPTACLE AND FOLLOWER ASSEMBLY
William H. Coe, Rockford, Ill., assignor to National Lock Co., Rockford, Ill., a corporation of Delaware
Filed Feb. 9, 1966, Ser. No. 526,203
2 Claims. (Cl. 129—31)



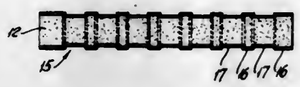
1. In a receptacle for retaining a plurality of articles in generally upright position and having a central longitudinally extending slot therein, a follower assembly comprising a channel member secured in the slot and including a bottom surface having a plurality of spaced, raised, laterally extending stops and inwardly extending upper flanges, and at least one follower including a guide plate received in said channel member and having a raised central portion straddling the stops and outwardly extending raised flanges cooperating with said flanges in the channel member to retain and guide the guide plate therein; a support member integral with said guide plate and extending upwardly and rearwardly at an obtuse angle to the guide plate, a back-up plate integral with and extending outwardly from said support member and forwardly offset therefrom, said guide plate, support member and backup plate being formed from a single bent sheet and said guide plate and support member being of channal cross section throughout their length, and a central tab integral with said support member in the same plane thereof and depending therefrom into the channel member to a point below the raised central portion of the guide plate to cooperate with said stops.

3,370,592
INDICATING CIGARETTE FILTER
Frederick J. Schultz, Clifford O. Jensen, and Albert B. Hudson, Greensboro, N.C., assignors to P. Lorillard Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 12, 1965, Ser. No. 507,353
16 Claims. (Cl. 131—10.7)



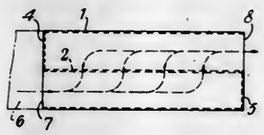
1. A filter for tobacco products comprising a plug of porous absorbent material containing an indicator additive incorporated therein which changes color in the presence of a significant amount of a selected component of tobacco smoke, a transparent wrapper around said plug and a wrapper of substantially opaque paper overlying said transparent wrapper and having an opening therein for viewing said plug and the change of color thereof.

3,370,593
CIGARETTE
Kenichi Owaki, 508–4 Hayashishimomizo, Akashi-shi, Hyogo-ken, Fukiai-ku, Kobe, Japan
Filed Apr. 20, 1965, Ser. No. 449,447
Claims priority, application Japan, Apr. 28, 1964, 39/24,067
5 Claims. (Cl. 131—15)



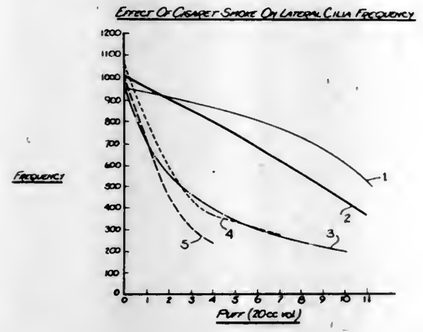
A cigarette of tubular configuration having spaced bands of fireproof material having high heat conductivity which bands are carried by intervening paper bands which may be individual or may constitute portions of a continuous cylinder of paper.

3,370,594
FILTERS FOR TOBACCO SMOKE
Fred Haslam, Bassett, Southampton, England, assignor to Brown and Williamson Tobacco Corporation, Louisville, Ky., a corporation of Delaware
Filed Feb. 16, 1965, Ser. No. 433,109
4 Claims. (Cl. 131—261)



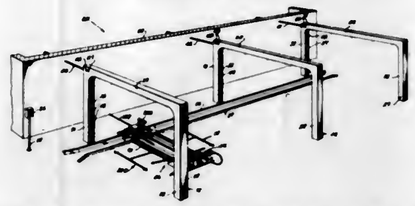
A filter mouthpiece for cigarettes having means by which smoke entering the mouthpiece will pass only once through the filtering material before emerging from the filter element, the mouthpiece having means for directing the smoke through an inlet opening at one end thereof and means for directing the smoke through an outlet opening at the other end thereof.

3,370,595
SMOKE FILTERS
Howard J. Davis, Murray Hill, Robert F. Busse, New Providence, and Thomas W. George, Berkeley Heights, N.J., assignors to Celanese Corporation, a corporation of Delaware
Filed Jan. 4, 1965, Ser. No. 423,105
13 Claims. (Cl. 131—266)



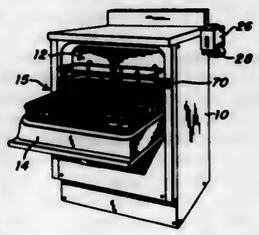
Smoke filters of multi-segment construction containing at least one segment carrying a selective removal agent such as activated carbon and a low amount of plasticizer, and at least one second segment being generally free of said removal agent and containing a high percentage of plasticizer, the filters being characterized by enhanced smoke removal efficiencies over longer storage times as compared to conventional removal agent containing smoke filters.

3,370,596
VEHICLE WASHING APPARATUS
John L. Daum and Ray B. Spurgin, Dallas, Tex., assignors to Delta Manufacturing and Engineering Corporation, Dallas, Tex., a corporation of Texas
Filed Apr. 28, 1965, Ser. No. 451,568
7 Claims. (Cl. 134—45)



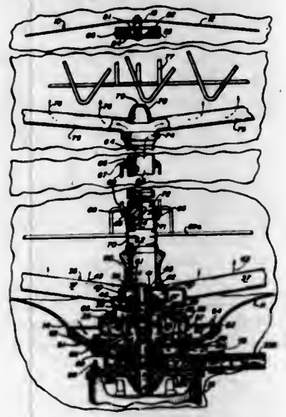
1. A vehicle washing apparatus including: first, second and third spray arches spaced along the path of travel of a vehicle through which the vehicle can travel, said spray arches having spray means for directing sprays of liquid downwardly and laterally inwardly at the vehicle as it moves progressively through said first, second and third arches; a wheel washing device between said first and second spray arches, said wheel washing device having support means for sequentially supporting and rotating the front and rear wheels of a vehicle, and spray means for spraying liquid at outer sides of a pair of wheels being supported and rotated by said support means; means for supplying hot water under pressure to said spray means of said arches and of said wheel washing device; means for introducing a wash agent into the hot water being supplied to said spray means of said first and second arches and of said wheel washing device; and control means for causing said means for supplying hot water to supply hot water to said spray means of said first, second and third arches sequentially for predetermined periods of time, said control means including means for stopping supply of hot water to said spray means of said first arch and for supplying water to said spray means of said wheel washing device for a predetermined period of time each time a pair of wheels moves to position to be supported and rotated by said support means of said wheel washing device.

3,370,597
DISHWASHING MACHINE WITH LIQUID SANITIZER DISPENSER
Gerald B. Fox, Troy, Ohio, assignor to The Hobart Manufacturing Company, Troy, Ohio, a corporation of Ohio
Filed Feb. 20, 1964, Ser. No. 346,261
1 Claim. (Cl. 134—58)



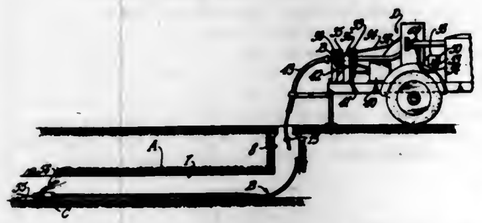
A dishwashing machine having a sump which can be filled and drained automatically, and a motor driven pump and spray device connected to recirculate and spray cleansing liquid over soiled articles in a cleansing chamber, includes a metering type gravity fed dispenser connected to transfer a measured amount of concentrated liquid sanitizer into the chamber during the final rinsing operation of the machine to sanitize the articles without need for water at a temperature above 180° F.

3,370,598
DISHWASHER
Charles R. Lopp, White Bear Lake, and Wilbur G. Peyer, St. Paul, Minn., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Oct. 20, 1965, Ser. No. 498,850
3 Claims. (Cl. 134—111)



An article washing apparatus such as a dishwasher in which liquid is circulated over the articles being washed and in which at the conclusion of the washing operation the liquid is expelled from the apparatus, combined with a structure for separating solids from the liquid during the circulating of the liquid over the articles, and apparatus for transferring these separated solids to a grinder and grinding the solids during the draining of the liquid from the apparatus.

3,370,599
SEWER CLEANING APPARATUS WITH ROTARY HYDRAULIC CLEANING TOOL
Peter L. Ciaccio, Culver City, Calif., assignor, by mesne assignments, to Flexible, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,264
2 Claims. (Cl. 134—167)



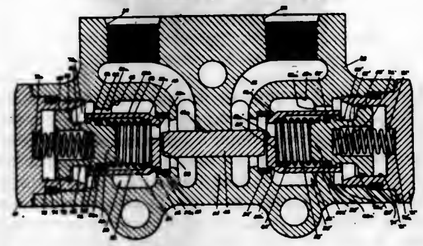
Disclosed herein is a sewer cleaning apparatus utilizing a plurality of hydraulic jets delivered from the front end of a hose that is simultaneously projected into a sewer and rotated by a reeling-feeding machine positioned externally of a manhole. Hydraulic dredging and flushing action is achieved by the rotating jets.

3,370,600
CENTRIFUGAL GOVERNOR FOR DUAL CONTROL OF A SERVO-MOTOR AND A HYDRAULIC SWITCH
Robert S. Peterson, Cherry Valley, Ill., assignor to Sundstrand Corporation, a corporation of Illinois
Filed Sept. 9, 1965, Ser. No. 486,090
10 Claims. (Cl. 137—54)



1. A governor for controlling fluid flow, comprising: a first valve member having a fluid pressure port, a return port, a first control port, and a second control port; a second valve member movable with respect to said first valve member; a flyweight assembly connected to move said second valve member, means for rotating said flyweight assembly, said second valve member being movable to a first position range by said flyweight assembly where the second port is selectively connectable to said fluid pressure port and said return port, said second valve member when in said first position also connecting said first control port to said fluid pressure port, and said second valve member being movable to a second position by said flyweight assembly where said first control port and said second control port are connected to said return port.

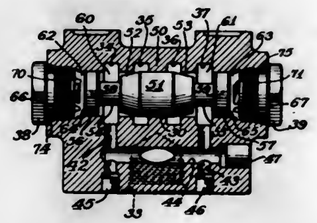
3,370,601
VALVE FOR CONTROLLING THE RATE OF MOVEMENT OF A FLUID POWERED MOTOR UNIT
Anthony Nevulis, Wickliffe, Ohio, assignor to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey
Filed Jan. 2, 1964, Ser. No. 335,166
13 Claims. (Cl. 137—87)



1. A valve for use in a fluid system for controlling the actuation of a fluid powered motor unit comprising, a housing having an inlet port and a first motor port and an exhaust port and a second motor port, said housing having a pair of chambers disposed in fluid communication with said inlet and exhaust ports, and a pair of passage means in fluid communication with said chambers and the respective motor ports, a power check valve mechanism disposed in each of said passage means to control fluid pressure between said motor ports and said

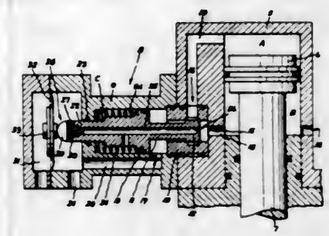
inlet and exhaust ports, each of said valve mechanisms including a valve seat and a resiliently loaded, hollow valve member adapted for sealing engagement with the associated valve seat, and a resiliently loaded piston member disposed at one end for movement in each of the respective valve members, each of said valve members including an opening at its end adjacent its valve seat, one of said piston members is exposed to pressure from said inlet and the associated first motor port and the other piston member is exposed to pressure from said exhaust port and the associated second motor port, said openings in said valve members providing a fluid path for exposing said one piston to the inlet port pressure and said other piston to the exhaust port pressure, sealing means disposed in fluid sealing engagement between said piston members and the associated valve members, a plunger member disposed in fluid sealing relationship between said chambers for reciprocal movement for coacting engagement with one of the respective valve members, said plunger member at one end being exposed to pressure from said inlet port and at its other end being exposed to pressure from said second motor port, and retainer means disposed in each of said valve members for limiting movement of the associated piston members relative to the respective valve member, whereby the respective valve and associated piston members are caused to move, as a unit, in a direction away from the associated valve seats in response to a pressure at said inlet port which acts to unseat the valve member which is in communication with the inlet port and its associated first motor port and which acts on said plunger member to unseat the other valve member which is in communication with the exhaust port and its associated second motor port for maintaining the pressure in one of said chambers substantially proportional to the pressure in the other of said chambers.

3,370,602
AUTOMATIC FLOW DIVERTER VALVE
Vaughn A. Nelson, Downers Grove, Ill., assignor to International Harvester Company, a corporation of Delaware
Filed Aug. 24, 1965, Ser. No. 482,118
10 Claims. (Cl. 137—101)



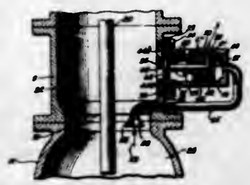
1. A valve for diverting the flow of fluid from a source alternatively to first and second ports, comprising: a body member having a bore therein; a valve member reciprocably disposed in said bore; an inlet port adapted for connection with a source of fluid flow and a pair of outlet ports formed in said body, and having all said ports communicating with said bore; means formed in part in said body and in part in said valve member providing bleed passages normally communicatively connecting said inlet with said outlet ports; said valve member being reciprocably movable, responsive to a pressure differential between said outlet ports created as a result of establishment of demand for fluid flow in one of said outlet ports, for diverting a substantial portion of the fluid flow from the inlet port to the respective one of said outlet ports demanding said flow, while simultaneously maintaining a small fluid flow through the bleed passage interconnecting the inlet port and the other one of said outlet ports.

3,370,603
SERVO-SYSTEM CONTROL VALVE
Kenneth John Ifield, Dural, near Sydney, New South Wales, and William Robert Ifield, Beecroft, near Sydney, New South Wales, Australia, assignors, by mesne assignments, to Joseph Lucas (Industries) Limited, Birmingham, England, a corporation of Great Britain
Filed Nov. 19, 1965, Ser. No. 508,868
Claims priority, application Australia, Nov. 24, 1964, 52,015
11 Claims. (Cl. 137—102)



A slidable spool-type valve element, for a servo-control valve, has a central bore to provide a bleed-duct to bleed fluid from an operating chamber, to control the pressure therein, the extent of bleed being controlled by a master valve element cooperating with a valve seat communicating with the duct. The master valve element can be spring or pressure loaded to control the bleeding characteristics of the valve, and thus the performance of the servo-control valve.

3,370,604
SELF-PRIMING LIQUID PUMPING SYSTEM AND PRIMER VALVE
Pellegrino E. Napolitano, New York, N.Y., assignor to Hudson Engineering Company, Hoboken, N.J., a corporation of New Jersey
Filed Dec. 16, 1964, Ser. No. 418,707
8 Claims. (Cl. 137—117)

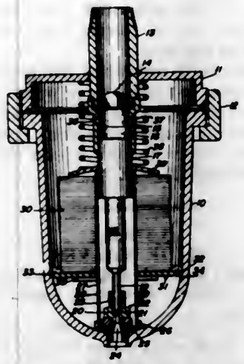


A primer valve is positioned at the outside of a discharge conduit from a pump with a valve element normally closing a port in the discharge conduit. Upon a reduction in fluid flow through the discharge conduit due to loss of suction at the pump, the valve element of said primer valve is moved to its open position to enable a predetermined quantity of fluid in the discharge conduit to pass through the port for recycle to the suction side of the pump in order to reprime the pump.

3,370,605
ACTUATOR FOR A DRAINAGE DEVICE
Richard F. Smith, 351 Norwood SE., Grand Rapids, Mich. 49506
Filed Nov. 26, 1965, Ser. No. 509,783
10 Claims. (Cl. 137—187)

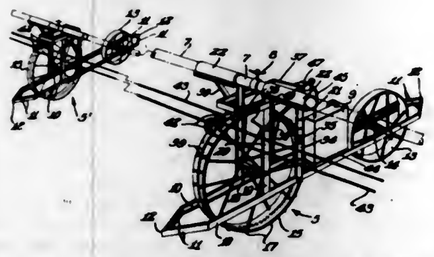
8. In combination with a valve mechanism, an actuator comprising:

a plurality of detector members having the characteristic of repelling a particular liquid; said detector, and members constructed and arranged to have relative movement in the presence of said liquid,



means for communicating relative movement between said members to actuate said valve mechanism.

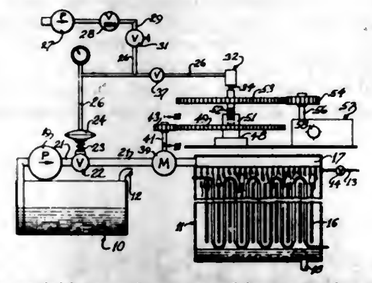
3,370,606
MOBILE IRRIGATION DEVICES
David Kane, 5036 Roosevelt Road, San Antonio, Tex. 78214
Filed July 23, 1964, Ser. No. 384,740
9 Claims. (Cl. 137—344)



Reversibly mobile elongated sprinkler conduit-supporting units are located at spaced parallel intervals along an irrigation conduit and each has an elongated frame tapering to crop spreader points at the opposite ends, with running wheels inside the frame adjacent to the crop spreaders, one of the wheels being powered by an overlying worm meshing with complementary worm slots in the tire band. A front-to-rear worm shaft has on one end a pair of coaxial sprockets over which are trained driving chains connecting adjacent companion units in coordinated slave relation. Conduit clamps are replaceably mounted on frame head structure of the unit.

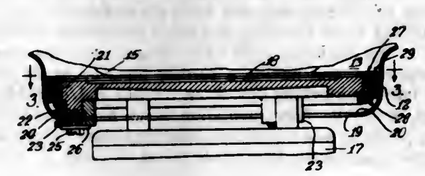
3,370,607
APPARATUS FOR CONTROLLING THE FLOW OF FLUIDS
Edwin L. Minges, P.O. Box 1968, Tuscaloosa, Ala. 35401
Filed Apr. 18, 1966, Ser. No. 543,345
2 Claims. (Cl. 137—486)

A process and apparatus for controlling the variables in dynamic processes and the like which embodies a constant speed, reference signal means against which is compared a signal obtained from the actual performance of the process, together with means to utilize any differences between the signals so produced substantially to eliminate the variable which occurs during operation of the process. Apparatuswise, one constant speed rotary member



and one variable speed process driven member are so mounted as to be axially relatively movable, and this movement is utilized to bring the process back to the desired performance rate.

3,370,608
LIQUID HANDLING APPARATUS WITH PUMP MEANS HAVING MOUNT AND SEAL
Jack R. Eisenbrand, North St. Paul, and Albert T. Braga, West St. Paul, Minn., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Aug. 12, 1966, Ser. No. 572,033
9 Claims. (Cl. 137—565)

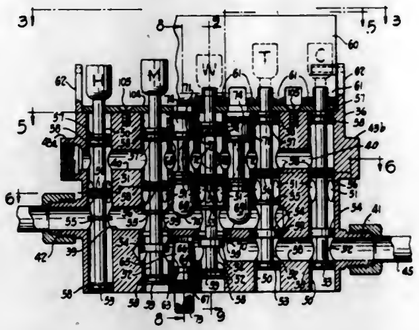


1. Liquid handling apparatus comprising:
liquid holding means having a side wall defining a liquid holding space and means defining a bottom opening;
liquid transfer means having a submersible pump disposed in said space and a motor for driving said pump extending downwardly through said opening; and
means for sealing said liquid transfer means to said side wall including flange means on said liquid transfer means having an outer edge extending closely adjacent but spaced from said side wall, a resilient seal member having an inner gripper portion sealingly fitted on said flange edge and an outer hollow sealing portion compressed sealingly against said side wall, said seal member having outer circumferentially extending ribs frictionally engaging said side wall and developing therebetween relatively high contact pressure from relatively low stress forces developed in said hollow outer portion of the compressed seal member thereby to maintain the sealing engagement against vibration forces generated by operation of the liquid transfer means.

3,370,609
PUSH-BUTTON MIXING VALVE
Irlin Botnick, 3155 Kersdale Road, Pepper Pike, Ohio 44124
Filed Oct. 20, 1964, Ser. No. 405,121
11 Claims. (Cl. 137—607)

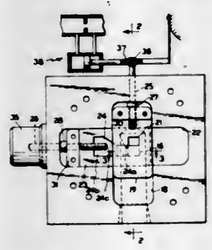
A valve, push-button operated for selective flow and mixture of two liquids, e.g., hot and cold water, comprising five coplanar parallel through-bores with respective push-button actuated sliding piston spool type valve

members, successively for cold through three intermediate temperatures to hot water discharge; a discharge bore, a cold inlet bore and therebetween a hot inlet bore coplanar and respectively intersecting at right angles all except the hot, and all except the cold through-bores; ancillary partial bores between the intermediate through-bores with screw plugs to meter flow permitted along the cold and hot inlet bores from one through-bore to another; respective through-bore tapered enlargements be-



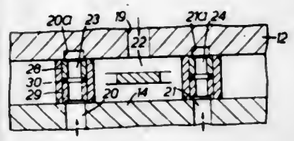
tween the hot inlet and discharge bores; each valve member O-ring-sealed to its through-bore outboard of the discharge and inlet bores, and having an O-ring-sealed flow regulating head blocking and then permitting increasing flow to the discharge bore with advance over the tapered enlargement, and having a further head or heads moveable into the blocking flow from the hot and/or cold inlet bores, until the flow regulating head has moved to an open position; and a common retaining plate for the valve members across the through-bores at one end.

3,370,610
VALVE
Irving O. Miner, Warwick, R.I., assignor to The New York Air Brake Company, a corporation of New Jersey
Filed Sept. 10, 1964, Ser. No. 395,477
3 Claims. (Cl. 137—614.16)



1. A flow metering slide valve comprising:
(a) means defining a flow path;
(b) a fixed slide valve seat extending across said flow path and having a rectangular port therethrough;
(c) a first valve slide having two valve faces one seated in face to face sealing engagement on said valve seat, said slide being guided for rectilinear reciprocating movement along a path parallel with two sides of said port;
(d) a second valve slide having a valve face seated in face-to-face engagement with the other valve face of said first valve slide, said second slide being guided for rectilinear reciprocating movement at right angles to the first slide;
(e) a rectangular opening through the second valve slide having two sides aligned with said two sides of said port and those sides of said opening being equal in length to one-half the length of said two sides of the port;
(f) a passage formed through the first slide and including a portion congruent with said rectangular opening, said portion having one side aligned with a third side of said port;
(g) said slides being movable, independently of each other, between first positions in which said port, said opening and said passage are fully in register with one another and second positions from which both slides must be moved toward said first positions in order to open said flow path.

3,370,611
SLIDE VALVES
John C. E. Flint, Chalford, England, assignor, by mesne assignments, to Dowty Hydraulic Units Limited, Cheltenham, England
Filed Nov. 19, 1965, Ser. No. 508,794
Claims priority, application Great Britain, Nov. 21, 1964, 47,475/64
2 Claims. (Cl. 137—625.25)

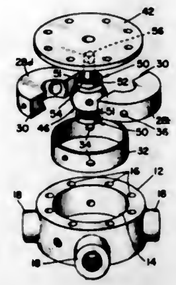


A slide valve includes a displaceable member which includes auxiliary ports cut completely through the thickness of the member and each housing members of cylindrical form which are urged into engagement with adjacent casing surfaces by a resilient sealing ring interposed between the members thereby to effect sealing in the vicinity of the auxiliary ports and service ports with which they are in alignment when the displaceable member is in its neutral position.

3,370,612
FOUR-WAY BALL VALVE
Robert W. Holl, Pasadena, Calif. (1709–B Cedar St., Alhambra, Calif. 91801)
Filed Oct. 19, 1964, Ser. No. 404,616
9 Claims. (Cl. 137—625.47)

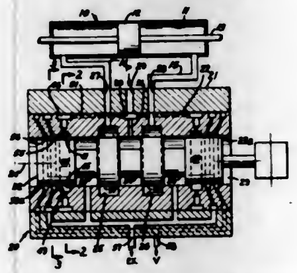
1. A valve comprising:
a body having a centrally disposed, shallow, cylindrical recess and having at least a pair of ports forming openings in the circular wall defining said recess,
a fluid flow controlling assembly seated in said recess comprising a bearing ring composed of separable, mating ring sections,
said sections combining to define a spherical valve core seat and said ring having at least a pair of ports affording communication between said body ports and said valve core seat,
means providing a fluid seal between said bearing ring and said valve body,
a spherical valve core rotatable in said spherical seat in said ring, and retained against endwise movement by the spherical configuration of said core and said seat,

said valve core having a fluid passage and being rotatable on said seat between a first position wherein said fluid passage effects communication between said body ports and a second position wherein said core prevents communication between said body ports,



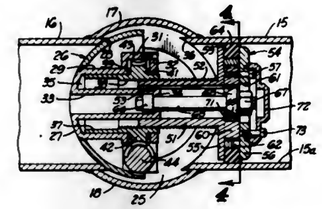
and other seal means slidingly engaging said valve core spherical surface and affording a fluid seal confining fluid flow between said passage and a port in said bearing ring when in registry therewith.

3,370,613
HYDRAULICALLY-CENTERED SPOOL VALVE
Paul J. Weaver, Pasadena, Calif., assignor to True-Trace Corporation, El Monte, Calif., a corporation of Connecticut
Filed Oct. 15, 1965, Ser. No. 496,405
16 Claims. (Cl. 137—625.69)



1. In a tracer valve of the class having a sleeve member with an axial sleeve passage bounded at least in part by an internal cylindrical wall, and a spool member inside the sleeve passage, said spool being bounded at least in part by an axially-extending external cylindrical wall, said cylindrical walls being at least in part axially coextensive, the spool member being axially shiftable in the spool passage and there being a clearance between the cylindrical walls, the improvement comprising: a plurality of recesses in one of said cylindrical walls within the coextensive region, said recesses being uniformly spaced around said axis; a pressure conduit through one of said members opening into said recess; an orifice in said pressure conduit; and an exhaust conduit opening into the coextensive region between the walls in adjacency to the recess, each recess and the clearance surrounding it providing a portion of a fluid path from the pressure conduit to the exhaust conduit, whereby upon a lateral displacement of the spool member from concentricity with the sleeve member, the flow section between the walls enlarges at one side and lessens at the other, pressure within the respective recesses thereby lessening and increasing, respectively, whereby the differential pressure between the recesses tends to restore the spool member to concentricity.

3,370,614
PLUG FOR A PIPE
Leo T. Koppl, 1228 W. Date St., Montebello, Calif. 90640
Filed May 24, 1965, Ser. No. 458,102
12 Claims. (Cl. 138—94)



A plug and sealing device for preventing flow in a pipe wherein a plug housing is positioned adjacent an open end in the pipe and a plug is drivingly inserted into the pipe where a resilient sealing element is cammed outwardly into sealing engagement with the inner wall of the pipe.

3,370,615
PIPE END PROTECTING RING
Shinzo Tamaki, Tamotsu Kurimoto, and Akihiko Okita, Wakayama, Japan, assignors to Sumitomo Metal Industries Limited, Osaka, Japan, a corporation of Japan
Filed July 30, 1964, Ser. No. 386,190
Claims priority, application Japan, Aug. 3, 1963, 38/58,696
6 Claims. (Cl. 138—96)



1. A removable pipe end protecting ring for protecting the end of a thin-walled pipe from damage and becoming elliptical, comprising a cylindrical body portion for insertion into the open end of said pipe and an outwardly projecting peripheral flange formed on one end of said cylindrical body portion to overlie and protect the extreme end of said pipe, the external peripheral wall surface of said cylindrical body portion being frustoconical, the smaller diameter being at the end thereof adjacent said flange and being substantially equal to the inside diameter of said pipe, said protecting ring having a longitudinal slot extending through said flange and body portion said slot having a width equal to π times the difference between the larger and smaller diameters of said body portion to permit compression of said protecting ring for accommodation of said body portion within said pipe.

3,370,616
HEDDLE FRAME
Erwin Pfarrwaller, Winterthur, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed Mar. 1, 1966, Ser. Ni. 530,866
Claims priority, application Switzerland, Mar. 1, 1965, 2,818/65
1 Claim. (Cl. 139—92)

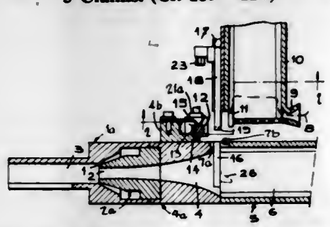
There is disclosed a heddle frame for looms comprising upper and lower horizontal beams held together by vertical end struts, horizontal shafts affixed to those beams for the support of heddles, and an intermediate vertical strut movable lengthwise of the frame. The intermediate strut has concave ends engageable over the convex adjacent

edges of the beams and has moreover adjacent each end thereof a notch for the accommodation of one of the



shafts, and a hook journalled at one end in the strut to rotate in planes perpendicular to that of the frame into a position embracing the shaft.

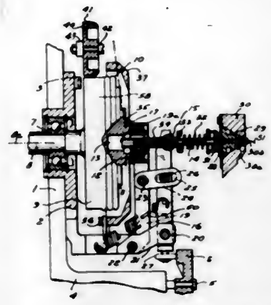
3,370,617
DEVICE FOR STORING A LENGTH OF WEFT AND INTRODUCING IT INTO A SHED
Lambertus te Strake, Deurne, Netherlands, assignor to N.V. Machinefabriek L. te Strake, Deurne, Province of North-Brabant, Netherlands, a Dutch company
Filed Nov. 2, 1965, Ser. No. 506,047
Claims priority, application Netherlands, Nov. 3, 1964, 64—12,787; Feb. 19, 1965, 65—2,156
5 Claims. (Cl. 139—127)



A device for storing a length of weft thread and introducing it into a shed, comprising a shaft adapted to take up by suction a measured length of thread in the form of a loop, having a valve-controlled opening at one end and a channel forming an extension of the other end of the shaft; a blowing nozzle associated with the outer end of the channel and arranged to blow air outward adjacent such end of the channel so as to draw secondary air outward through the channel and to draw the free end of a thread through the channel and blow it into the shed, the shaft also having a separate lateral aperture between the channel and the valve-controlled opening through which a thread may be drawn into the shaft in the form of a loop by suction applied at the valve-controlled opening, and through which a freed end of such loop subsequently may be drawn into the channel by operation of the blowing nozzle.

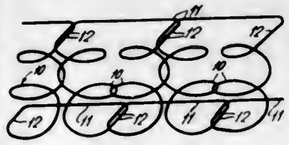
3,370,618
THREAD DISPENSING APPARATUS
Vladimír Svatý and Jan Bílek, Liberec, Czechoslovakia, assignors to Elitex, Závody Textilního Strojírenství, Barvírska, Liberec, Czechoslovakia
Filed Nov. 19, 1965, Ser. No. 508,646
Claims priority, application Czechoslovakia, Nov. 21, 1964, 6,406/64
18 Claims. (Cl. 139—122)

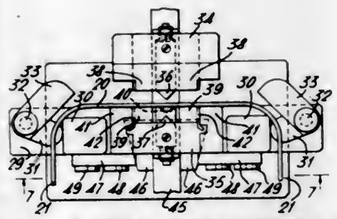
A weft thread portion of predetermined length is wound in a spiral-shaped groove of a rotating measuring body while clamped to the narrower end of the body. Before the insertion of the weft into a warp shed, the weft



thread is released and during the insertion, a measured length of the weft thread is taken of the measuring body.

3,370,619
SPRING UNIT OF MATTRESSES AND THE LIKE
Leslie T. Docker, Chadwick End, England, assignor, by mesne assignments, to Multilastic Limited, Brierley Hill, England, a British company
Filed Dec. 8, 1965, Ser. No. 512,470
Claims priority, application Great Britain, Dec. 10, 1964, 50,249/64
4 Claims. (Cl. 140—3)



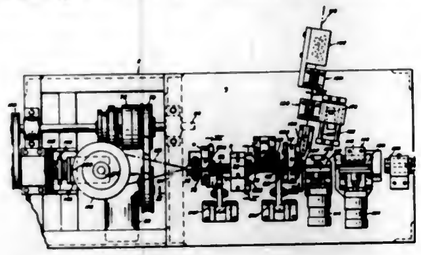


A length of spring unit is divided transversely to form spring interiors for mattresses, etc. The spring unit comprises bands of springs side-by-side, each made from a single piece of wire bent to form a row of coil springs joined by integral connectors. The bands are interconnected transversely by helical wires of small diameter lying in the main planes of the unit. In dividing a length of spring unit one helical wire is omitted, the connectors opposite to it are severed, and the severed ends are lengthened at the expense of the adjacent springs and are bent laterally to form attachment anchorages.

3,370,620
METHOD AND APPARATUS FOR MAKING STUDDED STRANDS
Albert L. Stoeckel, Euclid, and William H. Stokes, Lakewood, Ohio, assignors to United States Steel Corporation, a corporation of Delaware
Filed Aug. 13, 1965, Ser. No. 479,506
10 Claims. (Cl. 140—67)

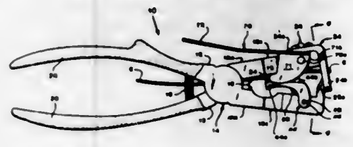
Method and apparatus for making studded strands in which two line wires are twisted together to form eyes

spaced at intervals at points of assembly, stud wires are fed through the eyes at the points of assembly, and the



stud wires are wrapped around the line wires with their ends extending in the same direction.

3,370,621
DEVICE FOR INSTALLATION OF BUNDLING STRAPS
Elwood A. Brohawn, 472 Harrison Ave., Hatboro, Pa. 19040
Filed Jan. 27, 1966, Ser. No. 523,462
5 Claims. (Cl. 140—123.6)

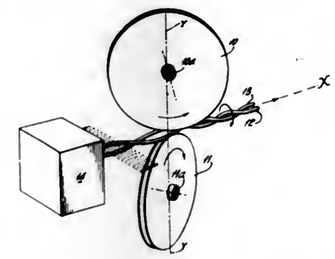


1. In a hand tool for tensioning and subsequently cutting a plastic strap when looped about a plurality of bunched articles wherein a pair of jaw members are connected for movement toward and away from each other in response to movement of a pair of integral handle members, and including a plate mounted across the end of one of the jaw members and having a slot adapted to guide an end portion of a plastic strap between the jaw members and further including a pawl pivotally mounted on the other of the jaw members across the innerface and adjacent the end thereof operable between the jaw members upon movement thereof toward each other to impart small increments of relative movement to the strap through jaw members, and further including a cutting member having a transverse knife edge integral with the end of the other of the jaw members and movable across the slot in response to movement of the jaw members toward each other to sever the strap, the improvement comprising:

means attached to one of the jaw members for urging the pawl out of engagement with the strap when it is desired to sever the same.

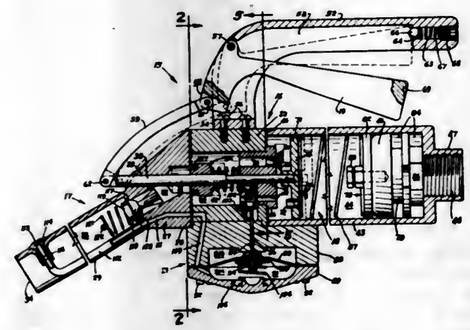
3,370,622
APPARATUS AND METHOD FOR PRODUCING TWISTED WIRE PRODUCTS
Theodore Marks, Hartsdale, N.Y., assignor to American Technical Machinery Corp., Mount Vernon, N.Y., a corporation of New York
Filed Oct. 19, 1965, Ser. No. 497,960
6 Claims. (Cl. 140—149)

An apparatus and method are provided for producing a twisted wire product wherein a pair of wires is guided to a twisting station comprising a pair of rotatably mounted wheels supported so that the periphery of one is adjacent to the periphery of the other, the axis of rotation of one wheel being disposed at an angle to the other such that their relative positions correspond substantially to the desired helical pitch of the wires. The wires which may contain bristles therebetween are fed between the periphery of the wheels, with one wire engaging a peripheral portion of one wheel and the other wire engaging a peripher-



al portion of the other. The wires are continuously passed between the wheels whereby to continuously impart a twist to said wires.

3,370,623
FLUID DISPENSING DEVICE
Robert W. Murray, Brooklyn Park, Minn., assignor to American National Valve Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed May 21, 1965, Ser. No. 457,699
17 Claims. (Cl. 141—206)



A dispensing nozzle for liquids, primarily for dispensing gasoline, including a valve which is capable of shutting off automatically either when the tank is full or when some predetermined volume or value of liquid has been measured and dispensed. The shut-off mechanism is actuated by a timer piston which is subjected to the fluid pressure of the liquid being dispensed and whose rate of travel is determined by the size of a bleeder hole which can be varied to permit the nozzle to dispense the predetermined amount of liquid.

3,370,624
SAFETY DEVICE FOR HIGH PRESSURE GAS CONTAINER
Roy K. Terrill, 42604 N. 7th St., Lancaster, Calif. 93534
Filed Feb. 9, 1966, Ser. No. 526,657
1 Claim. (Cl. 141—382)

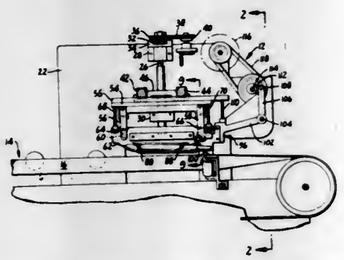
The disclosure pertains to an improved safety strap which can be hitched or unhitched from a collar which is threadably mounted on the neck of a gas tank. The strap is permanently secured at one end, to a hose, which is supplying high pressure gas, or to any other support structure. At the other end, the strap is secured to the collar through an eyelet or similar device. The inter-

mediate portion of the strap is formed of a C-shaped connecting link, having a spring-pressed pivoted latch



by which the link can be temporarily disconnected from the eyelet.

3,370,625
APRICOT PITTING MACHINE
Malcolm W. Loveland, Emeryville, Calif., assignor to Atlas-Pacific Engineering Co., a corporation of California
Filed May 25, 1966, Ser. No. 552,861
10 Claims. (Cl. 146—28)

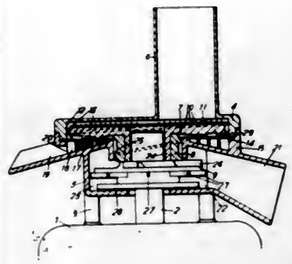


1. In a drupe pitting machine having means for propelling drupes over a path of travel wherein each drupe is positioned with its suture in a vertical plane as such drupe is delivered to a cutting station whereat a knife is positioned above the path of travel of the drupe with its blade extending generally in said vertical plane and with the cutting edge on said blade extending parallel to said path of travel whereby the flesh of each drupe is severed into the pit therein at said cutting station; the improvement comprising:

(a) a pit kicker comprising a planar blade having a downwardly extending edge for disengaging a pit in a drupe which has been cut by the knife;
(b) means mounting the pit kicker blade in said vertical plane with the forward end of said edge adjacent the end of the knife;
(c) and means for oscillating the pit kicker blade up and down independently of said knife to impart a rapid chopping motion.

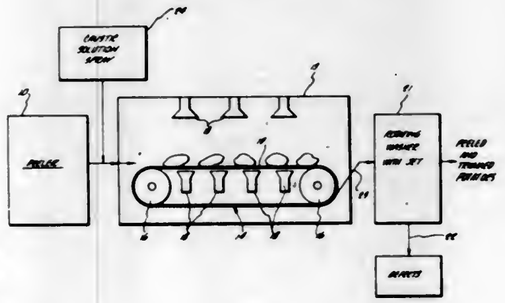
3,370,626
FRUIT AND VEGETABLE DISINTEGRATOR AND SEPARATOR
Heinrich Weier, Schlatt-Zurich, Switzerland (35 Goldwandstrasse, 5400 Ennetbaden, Switzerland)
Filed Sept. 10, 1965, Ser. No. 486,481
Claims priority, application Switzerland, Sept. 10, 1964, 11,815/64
10 Claims. (Cl. 146—76)

1. A fruit and vegetable press comprising a casing, a rotor rotatable within said casing, a filter positioned adjacent said rotor, a first outlet aperture for juice extracted by fruit or vegetable material being pressed by said rotor against said filter, a second outlet for the resulting pulp



and means on said rotor for guiding the pulp in a centripetal direction while it is displaced along a path in contact with said filter.

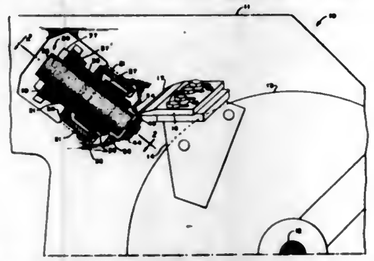
3,370,627
APPARATUS AND METHODS FOR PEELING FRUITS AND VEGETABLES
Miles J. Willard, 3067 Gustafson Circle, Idaho Falls, Idaho 83401
Filed Oct. 4, 1965, Ser. No. 492,691
10 Claims. (Cl. 146—232)



Apparatus and method for peeling a product such as fruits or vegetables and for removing defective portions by subjecting the product to radiant heat to raise the temperature of exterior portions of the product and to soften those portions. Peels and defective portions are thereafter removed from the product. The apparatus includes peeling and trimming apparatus having a peeler and a conveyer for transporting the product from the peeler to and through a radiant heater. An abrader is provided to remove defective portions of the product after it emerges from the radiant heater.

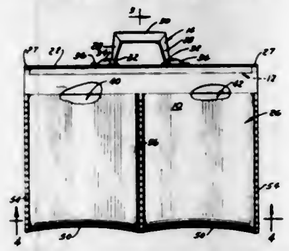
3,370,628
METHOD OF AND MEANS FOR ADJUSTING KNIVES IN FORAGE CHOPPER
Thomas W. Waldrop, Ronks, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed May 18, 1965, Ser. No. 456,773
10 Claims. (Cl. 146—242)

A forage harvester having a rotary cutterhead of the reel or cylinder type and a sharpening attachment which is guided for reciprocation back and forth in an axial direction with its sharpening element contiguous to the surface generated by the rapidly rotating knives of the cutterhead. Gage means is provided for positioning the sharpening element to a given radial distance from the cutterhead



axis so that the cutterhead knives can be adjusted relative to the precisely positioned sharpening element.

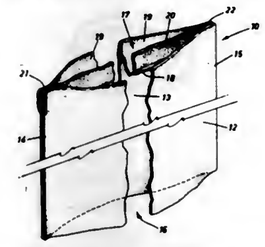
3,370,629
CARRYING CASE
Lester J. Neuman, 2238 Central St., Evanston, Ill. 60201
Filed Nov. 17, 1964, Ser. No. 411,787
3 Claims. (Cl. 150—1.6)



1. A flexible carrying case of the character described and comprising a horizontal elongated rigid supporting bar convexly rounded cross-sectionally or its upper side, a saddle formed of flexible sheet material draped over said supporting bar to provide a saddle arch section which overlies and rests upon the rounded upper side of the supporting bar with a pair of depending stirrup sections hanging freely of each other from the opposite sides of said supporting bar, said saddle being in the form of a single blank of flexible sheet material substantially coextensive with said supporting bar, the end regions of said blank which constitute the stirrup sections being provided with flap portions that are folded upwardly upon themselves inwardly of the carrying case in reentrant fashion along single fold lines to provide dual-thickness regions with the vertical marginal free edges thereof secured against each other in the regions of the blank which they overlie along vertical seam lines to provide upwardly opening article-receiving pockets with the side walls of the pockets normally against each other and disposed on the opposed inside faces of said stirrup sections whereby the saddle when empty may be coiled around the rigid supporting bar.

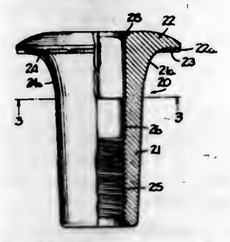
3,370,630
PLASTIC PACKAGE
Gordon Alexander Haugh, 1481 Lochlin Trail, Port Credit, Ontario, Canada, and Charles Edward Hancourt Waters, 4658 Upper Roslyn Ave., Montreal, Quebec, Canada
Filed Mar. 7, 1966, Ser. No. 532,348
Claims priority, application Canada, Aug. 28, 1965, 939,358
4 Claims. (Cl. 150—12)

A bag or package formed of heat-sealable plastic film and having a handle positioned within a gusset or pleat formed along one side of the bag. The handle, which is also formed of heat-sealable plastic film, extends the



length of the pleat and is heat welded to the bag at each edge thereof.

3,370,631
WOOD FASTENER
John J. James, Cranford, N.J., assignor to Diamond Expansion Bolt Co., Inc., Garwood, N.J., a corporation of New Jersey
Filed May 17, 1965, Ser. No. 456,197
3 Claims. (Cl. 151—37)



1. A threaded fastener comprising a hollow body portion being threaded at one end portion thereof and having a circular transverse cross-section with a substantially smooth external surface through the length thereof, a head portion extended radially outwardly from the longitudinal axis of said body portion adjacent the opposite end thereof, said head portion having an annular surface facing toward said body portion and disposed substantially in a plane extending at right angles to said longitudinal axis, said annular surface extending from the periphery of said head portion to adjacent said body portion, the other surface of said head portion opposite said annular surface and said body portion adjacent thereto having a wrench opening centrally disposed therein and being rounded from the periphery of said head portion toward said opening, said body portion adjacent the other end portion thereof being progressively flared outwardly from said longitudinal axis thereof to blend into said annular surface of said head portion, said annular surface having elongated teeth projecting therefrom, the length of said teeth extending radially across said annular surface, at least some of said teeth extending beyond said annular surface to said flared body portion adjacent thereto, said teeth being adapted to countersink and subsequently engage the surface adjacent to an opening in which the fastener is inserted.

3,370,632
LOCKING WASHERS
Masaharu Kubokawa, 11–8, 3-chome Minami-Nagasaki, Toshima-ku, Tokyo, Japan
Filed Dec. 7, 1965, Ser. No. 512,087
3 Claims. (Cl. 151—38)

A locking washer comprising an elastic metallic bar formed into a substantially circular ring shape, the bar having cut ends spaced adjacent and axially displaced

from each other in its unstressed position, and the bar formed with four sides each defining substantially identical



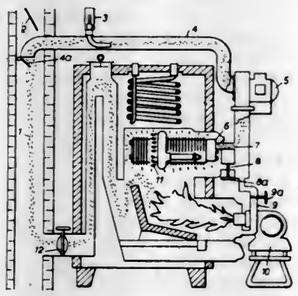
circular arcs in cross-section through the axis and curving centrally inwardly and forming together substantially outwardly oriented resilient angular corners.

3,370,633
NUT CAGE WITH PLUG-IN NUT
Glan Carl Camenisch, Lorrach, Baden, Walter Engelmann, Goppingen, and Karl Rosskopf, Lorrach, Baden, Germany, and Henri P. Poivet, St. Martin, d'Heres, Isere, France, assignors to A. Raymond, Baden, Germany, a firm
Filed Feb. 14, 1966, Ser. No. 527,329
Claims priority, application Germany, Feb. 23, 1965, R 39,973; Nov. 16, 1965, R 42,000
1 Claim. (Cl. 151—41.74)



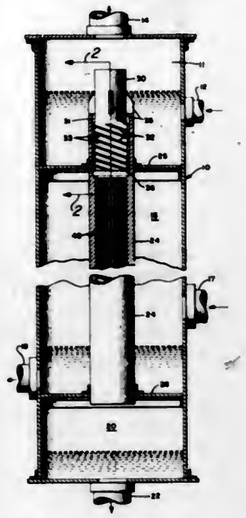
This invention is directed at a cage nut having an axial aperture formed in the base of the cage with the base having a series of teeth extending therefrom adapted to engage the threads of a screw or the like, and act as a locking or binding means.

3,370,634
APPARATUS FOR BURNING EXHAUST COMBUSTION GASES
Josef Mair, 11–7 Via Rovigo, Bolzano, Italy, and Franz Schwienbacher, 288 Via Roma, Merano, Bolzano, Italy
Filed Mar. 21, 1966, Ser. No. 545,184
Claims priority, application Italy, June 8, 1965, 12,755/65
2 Claims. (Cl. 158—1)



An apparatus integrated with a boiler to burn exhaust combustion gases which functions to draw off and mix combustion gases with air and to cause the heating of this mixture to flaming temperature, wherein the mixing is achieved in a body having a tortuous passageway to provide thorough mixing, the body is mounted above the boiler flame to facilitate heating of the mixture, and the discharge of the mixture is at the upper surface of the flame of the boiler which provides assurance that there will be complete combustion of the mixture.

3,370,635
EVAPORATOR TUBE ASSEMBLY
Emerson L. Kumm, Scottsdale, Ariz., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Apr. 16, 1964, Ser. No. 360,267
2 Claims. (Cl. 159—13)

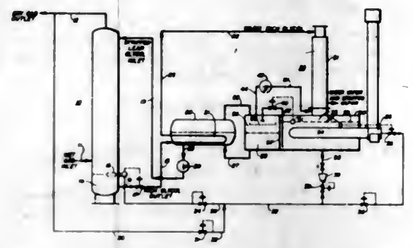


An evaporator tube assembly including a main tube adapted to extend vertically from an inlet tank through a heating tank to an outlet tank, the upper end of the main tube containing a liquid distributing inner tube having a plurality of ridges on the outer surface for cooperation with the main tube to form a plurality of spiral grooves extending around the inside of the tube wall. These grooves are open to the inlet tank at the top and are disposed below the liquid level which in turn is below the upper end of the inner tube. The portion of the inner wall of the main tube immediately below the lower end of the inner tube is smooth, the balance being formed with shallow, closely spaced, axially extending grooves. The smooth portion of the inner wall is located to receive a minimum of heat to reduce evaporation at this point and may be insulated if desired. In operation, liquid flows through the spiral grooves, establishes a substantially uniform film over the smooth wall area and flows vertically down the remaining portion of the tube to be vaporized by heat applied to the exterior of the tube in the heating tank.

3,370,636
APPARATUS FOR RECONCENTRATING LIQUID DESICCANT
Alex W. Francis, Jr., and Charles O. Meyers, Tulsa, Okla., assignors, by mesne assignments, to Combustion Engineering, Inc., a corporation of Delaware
Continuation of application Ser. No. 415,983, Dec. 4, 1964. This application Feb. 3, 1967, Ser. No. 613,971
39/24,410
5 Claims. (Cl. 159—16)

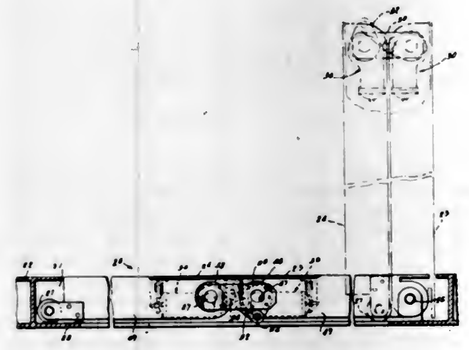
A system for reconcentrating a diluted liquid desiccant comprises an indirectly heated vessel fed with a diluted desiccant into the larger of two pressure isolated, horizontally juxtaposed compartments. The larger compartment is indirectly heated and releases vapor. Concentrated desiccant under control of the liquid level in the larger compartment is fed to the smaller compartment as a

result of the vacuum therein produced by a pump which removes flashed water vapor and desiccant vapor from



the smaller compartment from which concentrate is removed.

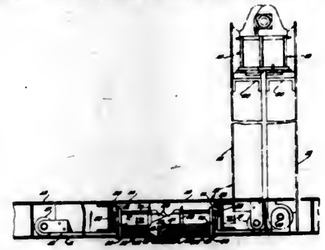
3,370,637
HATCH COVER OPERATION WITH ROTARY ACTUATORS
Rollin Douglas Rumsey, Buffalo, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Oct. 7, 1965, Ser. No. 493,856
20 Claims. (Cl. 160—188)



Foldable closure panels such as hatch covers are power hinged by piston lever rotary actuators rotatable about respective spaced parallel shafts contiguous to the adjacent edges of the panels, with the shafts coupled rigidly together against relative rotation. Stabilized opening and closing movements of the panels by operation of the actuators is attainable by coordinating link means extending across the joint and pivoted to fixed pivots on the respective panels. Attachment of the actuators to the panels may be in part through means on cylinder end closure attached to the panel frames. A bearing-stabilized piston structure is provided for the actuators.

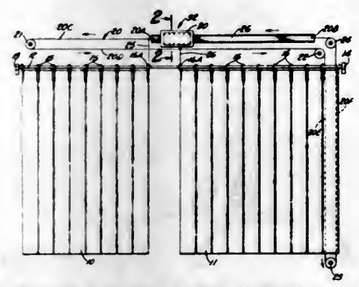
3,370,638
PISTON HATCH ACTUATOR ASSEMBLY
Rollin Douglas Rumsey, Buffalo, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed July 6, 1966, Ser. No. 563,257
13 Claims. (Cl. 160—188)

Rotary actuators for operating hatchway covers and the like comprise a tubular cylinder having respective opposite end closures defining with a piston reciprocable therein pressure fluid chambers. A hollow head member is assembled with the housing and journals a shaft to which the piston is connected by link means. Adjacent to the head



member is a closure ring through which the piston rod extends slidably.

3,370,639
DRAPERY ACTUATOR
Joe W. von Brimer, Van Nuys, Calif., (% VB Research & Development, 1700 Westwood Blvd., Los Angeles, Calif. 90024)
Continuation of application Ser. No. 364,230, May 1, 1964. This application May 26, 1967, Ser. No. 641,707
4 Claims. (Cl. 160—331)

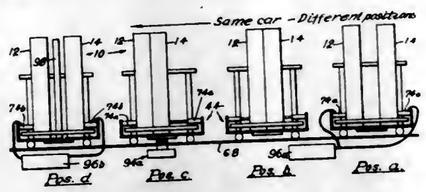


1. In a drapery actuating system including a plurality of pulleys and support means therefor, a cord carried on said pulleys, and means for attaching a drapery to said cord;
an actuator comprising an elongated member of magnetic material, said member including slots, and electrical windings disposed in said slots;
an elongated strip of nonmagnetic, electrically conductive material mounted adjacent said winding carrying member;
and a magnetic path return element of magnetic material fastened to said winding carrying member on the opposite side of said strip from said windings to form a magnetic gap with said winding carrying member;
said elongated strip being positioned within said magnetic gap such that when said windings are energized, one of said strips and said winding carrying member is movable relative to the other;
and means connecting the movable member of said strip and said winding carrying member to said cord.

3,370,640
METHOD OF CASTING IN A PLURALITY OF MOLDS
William R. Fenzan, Akron, Ohio, assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey
Original application Oct. 29, 1963, Ser. No. 319,722, now Patent No. 3,296,665, dated Jan. 10, 1966. Divided and this application Oct. 19, 1966, Ser. No. 587,902
5 Claims. (Cl. 164—136)

Upright molds are mounted on cars and moved into and past a pouring station at which the molds are filled. Each mold is made of separable parts and power means are

utilized to close the mold and move the mold into the pouring station. The molds are moved away from the

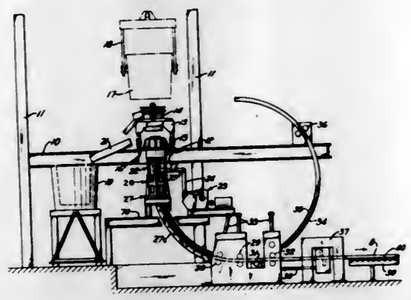


pouring station after which other power means are utilized to separate the mold parts so that the cast product can be removed therefrom.

3,370,641
RECIPROCATING MOLD AND COOLANT-SUPPORT SECTION CONTINUOUS CASTING MACHINE

Joseph I. Greenberger, Pittsburgh, Pa., assignor, by mesne assignments, to United Engineering and Foundry Company, a corporation of Pennsylvania

Filed Jan. 11, 1965, Ser. No. 424,779
8 Claims. (Cl. 164—282)



1. A casting machine for continuously casting ferrous molten metal, such as carbon, alloy and stainless steels, wherein a cast product is cast in a substantially vertical position and thereafter caused to assume a horizontal position for conveyance from the casting machine, and wherein during the casting process a stream of molten metal penetrates the interior of the partially solidified cast product comprising:

a vertically arranged mold for causing initial solidification of the walls of the cast product and having opposed open ends,

a vertically arranged first secondary cooling section including support means for at least two of the solidified walls of the cast product for causing further solidification of the cast product issuing from the mold and having opposed open ends,

an arcuately arranged second secondary cooling section following the first secondary cooling section for conveying the cast product from the vertical position to the horizontal position,

means for causing said mold and at least the portion of said first secondary cooling section adjacent the mold to oscillate in unison in a vertical direction,

said mold and said first secondary cooling section being arranged and disposed to form a straight vertical passageway for the cast product, having an effective total cooling height such that the cast product is maintained in a straight, unbent condition and free from any bending stresses incident to initiating the bending of the cast product from the vertical position to the horizontal position until sufficient solidification and cooling of the outer walls occur and below the location where detrimental internal washing action occurs due to said stream penetration, and

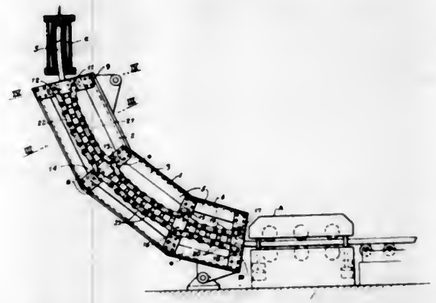
wherein

the total height of the mold and said first secondary cooling section is such that said second secondary cooling section receives the cast product while a substantial portion of the total section thickness of the cast product is still molten metal.

3,370,642
STRAND GUIDE FOR A CONTINUOUS CASTING PLANT

Walter Meier, Winterthur, and Armin Thalmann, Zurich, Switzerland, assignors to Concast AG., Zurich, Switzerland

Filed Aug. 3, 1965, Ser. No. 476,865
Claims priority, application Switzerland, Aug. 4, 1964, 10,173/64
1 Claim. (Cl. 164—282)



The strand guide system comprises a roller guide positioned below a continuous casting mold. The roller guide consists of a roller guide mounting means positioned adjacent the desired course of the strand and includes a plurality of guide roll pairs. Each of the roll pairs consists of a first and second roller spaced apart by a predetermined fixed distance and so mounted as to permit a limited deflection of each of the roller pairs in a direction transverse to the longitudinal axis of the strand. By this means, proper guidance is achieved in a guide arrangement requiring less set-up time.

3,370,643
CHILL

Harvey F. Lorenz, Cleveland Heights, Ohio, assignor to The Angell Nail & Chaplet Company, Cleveland, Ohio, a corporation of Ohio

Filed June 7, 1965, Ser. No. 461,873
1 Claim. (Cl. 164—371)

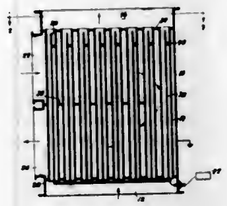


A radius foundry chill including an elongated body having an arcuate surface on one side and a generally flat surface on the opposite side with a stud member projecting downwardly from the flat surface. The stud member having a gear-like toothed construction of generally-herringbone gear-type configuration adapted for securing the chill to molding material or the like.

3,370,644
METHOD OF INCREASING THE RATE OF HEAT TRANSFER

William B. Daily, and Elio J. Speca, Wellsville, N.Y., assignors to The Air Preheater Company, Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 28, 1965, Ser. No. 516,936
1 Claim. (Cl. 165—1)

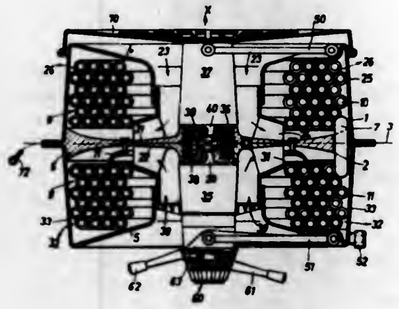


The method of increasing the rate of heat transfer between fluids in a heat exchanger by electronically increasing the circulation within a fluid and simultaneously removing particulate matter therefrom without mechanically increasing the resistance of the passageways to the flow of fluid therethrough.

3,370,645
AIR CONDITIONING APPARATUS

Wilhelm Wingen, Grossbelfendorf, uber Munich, Germany, assignor to Firma Georg Fritzmeler KG., Grossbelfendorf, uber Munich, Germany

Filed Feb. 14, 1966, Ser. No. 527,131
Claims priority, application Germany, Feb. 16, 1965, F 45,263
12 Claims. (Cl. 165—63)

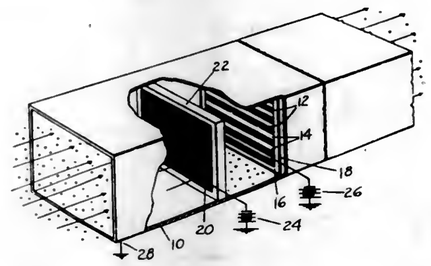


Air conditioning apparatus includes housings mounted on opposite sides of a wall of an enclosure, and a heat exchange coil mounted in each housing. The coils are in communication to form a circulation system for a cooling fluid. A blower unit including two opposed, axially intaking, radially discharging fans is mounted within the housings for movement to a mid-position in which the outer fan circulates outside air over the outer coil to cool fluid in that coil, and in which the inner fan circulates air inside the enclosure over the inner coil to cool the inside air. The blower unit is movable to a position on one side of the mid-position, in which the outer fan blows fresh air into the enclosure, and to another position on the other side of the mid-position, in which the inner fan draws stale air from the enclosure. The apparatus can be used as a heating unit by actuating a heating device adjacent the inner coils, and discontinuing flow of cooling fluid.

3,370,646
ANTI-FOULING SYSTEM

Philip S. Hopper, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Jan. 21, 1966, Ser. No. 522,316
1 Claim. (Cl. 165—95)

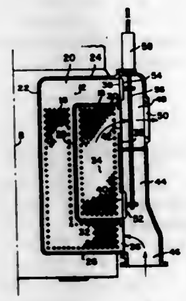


An anti-fouling system for heat exchangers wherein contaminate matter in a heat exchange fluid is ionized and retained in suspension in the fluid passing through the heat exchanger. The heat exchanger tubes are electrically charged to produce a field which repels the ionized contaminates from the walls of the heat exchanger.

3,370,647
CONDENSER

Paul J. Hamm, Yardley, Pa., assignor to De Laval Turbine Inc., Trenton, N.J., a corporation of Delaware

Filed Feb. 8, 1966, Ser. No. 526,000
2 Claims. (Cl. 165—97)



A surface condenser comprising first and second sets of tubes for carrying a cooling liquid in opposite directions within a vapor-receiving shell is provided with slide valves at either end of the sets of tubes for effecting reversal of flow of cooling liquid.

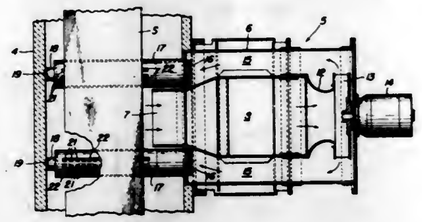
3,370,648
JET COOLING OF STRIP METAL

Charles G. Bigelow, Jr., Wayne, Stanley Bumble, Bryn Mawr, Joseph C. Magina, Newton Square, Floyd L. Schauermann, Fort Washington, and Charles R. Wilt, Jr., Chalfont, Pa., assignors to Selas Corporation of America, Dresher, Pa., a corporation of Pennsylvania

Filed Jan. 21, 1966, Ser. No. 522,088
7 Claims. (Cl. 165—120)

A continuous strip of metal is cooled by a plurality of jets blown against its opposite sides as it moves from a

furnace. The jet producing elements are constructed to produce eddy currents in the jets that overcome the



tendency for the jets to move the strip toward the elements.

3,370,649
WATER-FLOODING PROCESS
Larry G. Wolgemuth, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Oct. 19, 1965, Ser. No. 498,095
5 Claims. (Cl. 166—9)

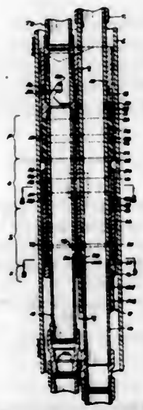
The invention comprises the use of partially hydrolyzed polyacrylamide as an additive to water employed in flooding of subterranean oil-bearing reservoirs. The invention comprises the use of polyacrylamide polymerized and partially hydrolyzed in the presence of an alkali metal polyphosphate. The alkali metal polyphosphate provides the necessary alkaline conditions for partial hydrolysis of the polymer as well as serve as complexing agents for any trace of metallic impurities present in the aqueous solution. Polymers produced in this manner impart greater oil recoverability to flood waters than attained by use of polyacrylamide solutions polymerized and hydrolyzed according to the prior art. The preferred technique comprises the continuous polymerization of the polymer at the well site and injection of the polymer solution into the subterranean oil-bearing reservoir.

3,370,650
HYDRAULIC FRACTURING OF SUBTERRANEAN FORMATIONS
David J. Watanabe, Orange, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Aug. 10, 1965, Ser. No. 478,746
14 Claims. (Cl. 166—42)

A method and fracturing fluid composition for hydraulically fracturing a subterranean formation wherein the fracturing fluid comprises a suspension of finely divided particles of a water-insoluble, oil-soluble homogeneous solid solution of wax and polymer in an aqueous solution of a water-soluble, high molecular weight, hydrolyzed polyacrylamide having from about 12 to 67 percent of the original carboxamide groups hydrolyzed to carboxyl groups.

3,370,651
WELL PACKER
Joe R. Brown, 8490 Katy Road, Houston, Tex. 77024
Filed Apr. 1, 1966, Ser. No. 539,387
9 Claims. (Cl. 166—134)

1. A dual-production well packer adapted to be lowered and set within a well bore, comprising
a first tubular support,
a second tubular support,
an upper abutment surrounding said tubular supports and secured to said second tubular support,
means connecting said first tubular support to said upper abutment whereby said first tubular support may be rotated within said upper abutment and to provide a limited longitudinal movement of said first tubular support with respect to said upper abutment,
a lower abutment surrounding said tubular supports and spaced longitudinally thereon below said upper abutment,
an anchoring assembly, including gripping elements, mounted on said tubular supports between said abutments,
setting means mounted on said tubular supports and coacting with said anchoring assembly to move said assembly into set position when actuated,

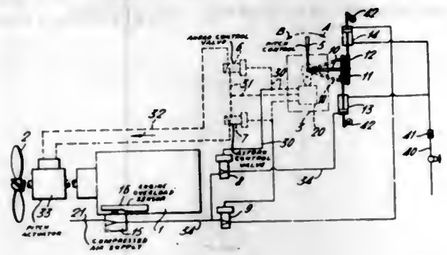


the setting of said anchoring assembly moving said gripping elements of said anchoring assembly into pipe-gripping position with said well bore to hold against longitudinal movement in both directions,
means releasably connecting said first tubular support to said lower abutment. and
means coacting with said lower abutment and releasably engaging said second tubular support to hold said second tubular support against longitudinal movement with respect to said lower abutment,
said releasable engaging means coacting with said lower abutment and said releasable connecting means to at least partially equalize tension forces in said first and second tubular supports.

3,370,652
CONTROL SYSTEM FOR VARYING THE PITCH OF PROPELLERS
Percy Stranks, Aylesbury, England, assignor to Bloctube Controls Limited, Aylesbury, England, a British company
Filed May 31, 1966, Ser. No. 559,647
Claims priority, application Great Britain, June 4, 1965, 23,990/65
4 Claims. (Cl. 170—135.72)

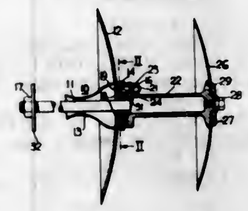
An engine load responsive control system for varying the pitch of marine propellers including a manually settable pitch control lever, a piston and cylinder unit energized by a load responsive member connected to the engine, a linkage operated by the piston of said unit and slidably connected to the lever to set back the same into a new position towards a zero pitch position thus reducing the pitch of the propeller, said linkage, as long as the

overload conditions prevail, prevents the lever from being manually moved from its new position in a direction of



increasing pitch, but allows the lever to be manually displaced from its new position in a direction of decreasing pitch.

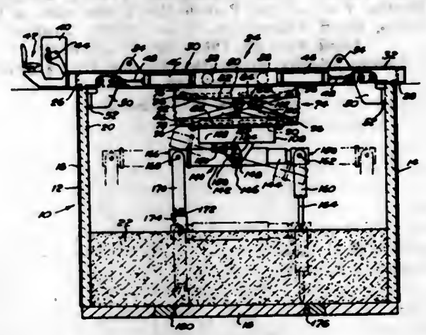
3,370,653
EXTENSION DISK SUPPORT FOR DISK HARROW GANGS
Owen P. Hixon, Onalaska, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed July 8, 1965, Ser. No. 470,477
4 Claims. (Cl. 172—599)



1. A disk harrow having a disk gang comprising multiple disks, spacing spools between said disks, a spindle bolt connecting said disks and spools, a washer attached at one end of said bolt and securing means coacting with the other end of said bolt to tighten said disk and spools into frictional engagement between said means and said washer, said washer being provided with spaced openings for receiving a spanner wrench to prevent turning movement of said bolt during said tightening movement of said means, the improvement comprising means for attaching an extension to said bolt, said means including a plurality of arcuate segments positioned about said bolt between said washer and the outer of said disks, each of said segments having a threaded opening therein lying in axial alignment with one of said openings in said washer, a stud passing through said one opening and being threadably received in said segment, and means for attaching said extension unit on said stud to said washer.

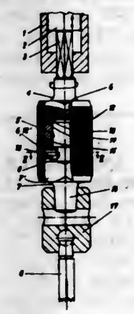
3,370,654
SOAKING PIT CLEAN OUT MACHINE
Lawrence Skendrovic, 402 Glencoe Drive, West Mifflin, Pa. 15122
Filed Nov. 8, 1965, Ser. No. 506,771
10 Claims. (Cl. 173—34)

A soaking pit clean out machine supported on the upper portion of the soaking pit walls and having a remotely controlled percussive tool depending therefrom into the soaking pit. The soaking pit clean out machine has a pair of spaced parallel rails that extend across the soaking pit and support a movable trolley member. A turntable is connected to the underside of the trolley by a scissor-like rigid extensible member. An extensible boom



member is connected to the turntable and has a percussive tool pivotally secured to one end. The percussive tool is positioned and operated from a location outside of the soaking pit and is arranged to remove the slag and refractory material from the bottom of the soaking pit.

3,370,655
TOOLS FOR DRIVING ANCHOR STUDS
Franz Chromy, Feldkirch-Gisingen, Vorarlberg, Austria, assignor to Dibotec A.G., Zurich, Switzerland, a company of Switzerland
Filed Mar. 1, 1966, Ser. No. 530,833
Claims priority, application Germany, Mar. 3, 1965, D 46,660
6 Claims. (Cl. 173—104)

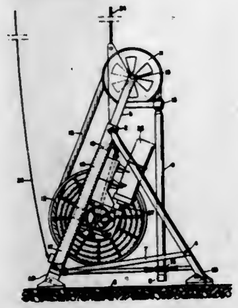


1. A percussion tool for driving self-drilling anchor studs and like fasteners comprising a percussion member, a rotary shaft, a chuck for holding a fastener to be driven and a connector connecting said chuck to said rotary shaft, said connector comprising two concentric members, a first one of which is connected to said rotary shaft so as to be acted upon by said percussion member and a second one of which has said chuck connected thereto, and a coupling member mounted to slide longitudinally of said concentric members and having surfaces interlocking with said members, said coupling member being shiftable between a coupling position engaging both members wherein it couples said two concentric members for rotation together and an uncoupling position engaging one member only wherein said two concentric members are free to rotate one relative to the other.

3,370,656
APPARATUS FOR SUBMARINE CORE DRILLING

Pierre Grolet, Viroflay, Pierre Moulin, Montesson, and Jean Parola, Rueil Malmaison, France, assignors to Institut Francais du Petrole des Carburants et Lubrifiants, Rueil Malmaison, Seine-et-Oise, France

Filed Nov. 29, 1965, Ser. No. 510,285
Claims priority, application France, Dec. 4, 1964, 997,552
4 Claims. (Cl. 175—6)



A submarine core drilling aparatus comprising a basic structure which is suspended by a supporting cable from the surface installation. A flexible conduit is wound upon a storage reel which in turn is carried by the basic structure. The free end of the conduit is connected to a rigid tubular part comprising a bottom motor operatively connected to a core drill at its lower end. The apparatus further comprises means for guiding the rigid tubular part above the sea bottom, means supported by the basic structure for feeding water under pressure into the conduit, means associated with the conduit storage reel to control the unwinding of the flexible conduit when the core drill is lowered and advanced into the underwater strata, and at least one cable which may or may not be distinct from the supporting cable. This cable contains electric power and has control and command conductors connected to a source of electric energy and a switchboard on the surface installation.

3,370,657
STABILIZER AND DEFLECTING TOOL

Wade H. Antle, Long Beach, Calif., assignor to Trudril, Inc., Zephyr Cove, Nev., a corporation of Nevada

Filed Oct. 24, 1965, Ser. No. 504,692
11 Claims. (Cl. 175—74)

A stabilizer and deflecting tool engageable between the lower end of a string of drill pipe and a rotary bit of a well drilling structure including, an elongated, vertically disposed, fluid conducting body having a splined socket entering its lower end and secured to a depending from the drill pipe string, an elongated, vertically disposed, fluid conducting mandrel having a splined upper end portion secured to and projecting upwardly from the bit with its splined portion telescopically engaged in the socket in the body to prevent relative rotation and allow for relative axial shifting between the body and mandrel, an elongate, vertically disposed, tubular shell surrounding the mandrel and the body and having a plurality of circumferentially spaced openings therein, means coupling the shell to the body for free relative rotation and for limited relative axial shifting, anti-friction bearing means coupling the lower end of the shell to the mandrel for free relative rotation and against relative axial shifting, an axially shiftable carriage in the shell and surrounding the mandrel, a plurality of circumferentially spaced bore engaging shoes engaged in the openings in the shell for radial shifting only, means operatively connecting the carriage to the shoes to urge the shoes radially outwardly in the openings in the shell upon downward movement of the carriage, a first spring means between the shell and the carriage yieldingly urging

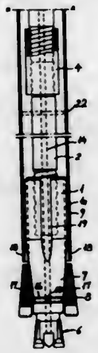


the carriage upwardly, and a second spring means in the shell between the lower end of the body and the carriage to urge the carriage downwardly against the resistance of the first spring means upon downward movement of the body relative to the mandrel and the shell.

3,370,658
DRILL AND TUBE ARRANGEMENT WITH KNOCK-OFF DRILL PORTION

Bengt K. B. Jansson, Faltjagarvagen 34 A, Skelleftea, Sweden

Filed Aug. 3, 1965, Ser. No. 476,884
Claims priority, application Sweden, Aug. 11, 1964, 9,691/64
13 Claims. (Cl. 175—215)

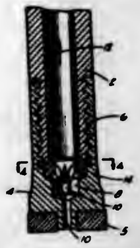


A drill is provided, for drilling substantially elongated cylindrical holes in the earth and like substances, comprising a drill rod having a drill head portion and a drill crown portion, both the head portion and the crown portions having cutting edges. A tube is provided, disposed about the drill rod, the tube being longitudinally movable a predetermined distance along the drill rod, and being adapted to knock the drill crown portion off the drill head portion, when the drilling operation is completed, by pulling the drill rod and drill head out of the drilled hole. Rinsing means are provided whereby fluid may be delivered to the drill head and extracted through the tube.

3,370,659
DRILL ROD AND BIT INCLUDING ONE-WAY VALVE STRUCTURE THEREIN

Paul Germain Gatien, 313 3rd Ave., Val d'Or, Quebec, Canada

Continuation of application Ser. No. 405,672, Oct. 22, 1964. This application June 21, 1967, Ser. No. 647,879
Claims priority, application Canada, Sept. 25, 1964, 912,578
3 Claims. (Cl. 175—318)

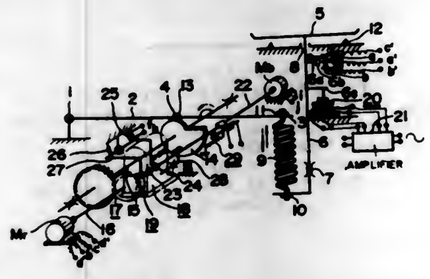


A resilient one way valve to be mounted between a drill bit and a drill rod. The valve has a generally circular outer ring portion for mounting the valve between the drill bit and drill rod to prevent relative movement of the valve, and a substantially conical central portion. The apex of the conical portion is directed towards the drill bit and contains radial slits extending from the apex to approximately half the diameter of said valve to thereby enable fluid under pressure to pass from the drill rod into the drill bit while preventing reverse flow.

3,370,660
WEIGHING APPARATUS COUPLED WITH PRICE COMPUTER

Tadashi Takahashi, 169 Yokoya, Uozaki-cho, Higashinada-ku, Kobe, Japan

Filed Feb. 9, 1965, Ser. No. 431,306
Claims priority, application Japan, Feb. 24, 1964, 39/9,823
2 Claims. (Cl. 177—25)



An article weighing and price computing apparatus is disclosed including a balance system having a platter to receive the article or object to be weighed. Stop means are engageable with the platter to limit movement thereof responsive to placing of an object thereon, and to absorb the shock due to such placing of an object thereon. Driving means are operable to displace the balancing system in opposition to the weight of the object to establish a balanced position following placing of the object on the platter and engagement of the platter with the stop means.

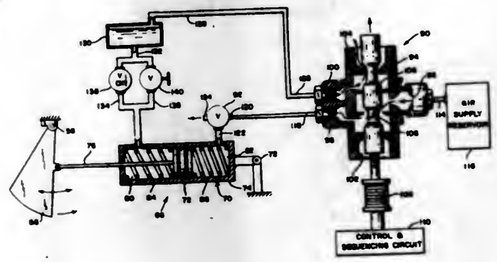
The disclosed driving means includes a rotatable driving shaft, a rotatable compensating shaft, a first motor driving the driving shaft and a second motor driving the compensating shaft. The first motor, responsive to engagement of the platter with the stop means, rotates the driving shaft through a number of equal angular displacements each corresponding to a first unit weight, and the number of displacements being the integral nearest the weight of the object. The second motor is operable to rotates the compensating shaft through a number of smaller equal angular displacements each corresponding to a unit weight which is an integral fraction of the just-mentioned unit weight. The number of angular displacements of the compensating shaft is equal to the difference between the weight of the object and the number of unit weights corresponding to the number of angular displacements of the driving shaft. The displacement effected by the compensating shaft corresponds to less than 1 of the minimum unit weights, and the second motor is conditioned to rotate the compensating shaft responsive to completion of rotation of the driving shaft by the first motor.

The computing mechanism is provided with selective clutch means by means of which it may be driven either by the driving shaft or by the compensating shaft.

3,370,661
CATCH GATES FOR WEIGHING APPARATUS AND THE LIKE

Gerald C. Mayer, Wayne, N.J., assignor to Howe Richardson Scale Company, Clifton, N.J., a corporation of Delaware

Filed Mar. 25, 1965, Ser. No. 442,639
19 Claims. (Cl. 177—60)



The pivotally mounted catch gate disclosed herein for cutting off the flow of material to a beam-supported scale hopper is operated by a mechanism which impresses harmonic motion on the catch gate so that the velocity of the gate as it moves away from its material feed position and towards its material cutoff position reaches a maximum at a position midway between the feed and cutoff positions and then steadily decreases to a zero magnitude in swinging from the mid-position to the cutoff position.

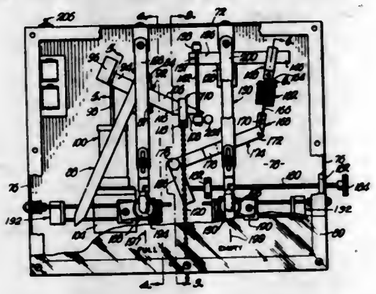
3,370,662
FULL AND EMPTY INDICATING APPARATUS FOR BEAM SCALE

Edwin J. Elsner, 6221 Morningside Drive, Kansas City, Mo. 64113

Filed Oct. 18, 1965, Ser. No. 497,209
8 Claims. (Cl. 177—60)

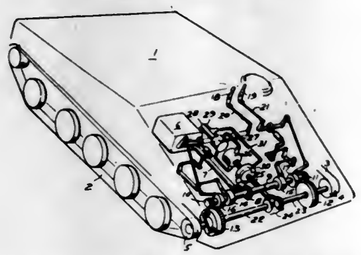
A load indicator for weighing continuously delivered accumulating material. A pivoting arm is coupled through a flexible element to the main scale beam and carries an indicator lever swingable with the arm to indicate the movement of the main scale beam. A second pivoted arm is coupled to the first arm and the indicator lever through linkage and to a swingable crank through a yieldable spring. One end of the crank is engaged by a frame

mounted adjustment screw to vary the bias exerted by the spring on the arm carrying the adjustment screw.



Material stopping means may be coupled with light-responsive electrical circuitry actuated by the lever to control the flow of material responsive to the movement of the indicating lever.

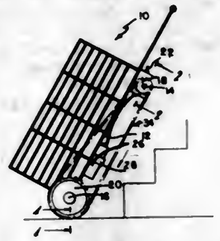
3,370,663
STEERING DEVICE FOR A TRACK-LAYING VEHICLE
Sten August Henstrom, Bofors, and Sven Erik Berge, Stockholm, Sweden, assignors to Aktiebolaget Bofors, Bofors, Sweden, a corporation of Sweden
Filed July 21, 1965, Ser. No. 473,635
Claims priority, application Sweden, July 31, 1964, 9,281/64
5 Claims. (Cl. 180—6.44)



A track-laying vehicle, especially a high speed combat vehicle, with a steering system which permits turning of the vehicle with great accuracy through a selected angle, for instance, for the purpose of aiming a gun mounted on the vehicle and also for very rapid and wide turns of the vehicle, for instance, to take evasive action. The vehicle also includes means to control turning of the vehicle even if part of the control system of the vehicle should fail, for instance, due to enemy action.

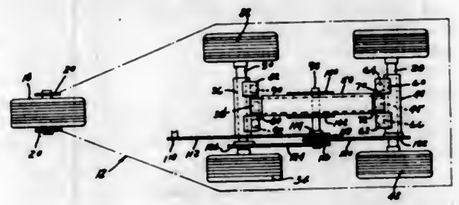
3,370,664
MOTORIZED STAIR-CLIMBING SHOPPING CART
Allen E. Caplan, 62—09 84th St., Middle Village, N.Y. 11379
Filed Aug. 25, 1966, Ser. No. 575,108
7 Claims. (Cl. 180—9.22)

1. A vehicle comprising a chassis including front and rear axles, pairs of wheels mounted on each of said axles, a prime mover on said chassis connected to one of said axles, resilient endless belt treads, engaged about said wheels and extending between said axles, said treads being substantially wider than said wheels and leaving the edges thereof extending beyond said wheels, the outer surface of said treads having central portions of reduced cross sectional thickness for increasing the flexibility of said treads, said treads having lug means on the edges of the outer surface thereof, at least one of said wheels driving said treads, said treads being tautly stretched over said wheels so that said detents are pulled radially inwardly towards the center of said wheels at the portions



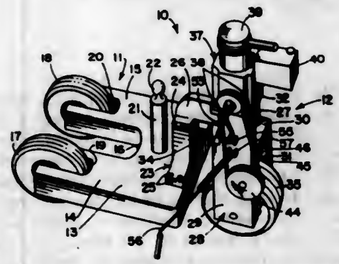
of said tread engaged by said wheels whereby only the central portion of said belt treads will engage a surface at the location of the wheels.

3,370,665
TANDEM AXLE VEHICLE
Kenneth P. Stanaback, 3640 Breton Road SE., Grand Rapids, Mich. 49508
Filed Oct. 21, 1965, Ser. No. 499,230
5 Claims. (Cl. 180—22)



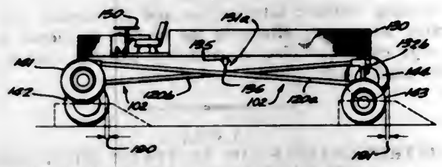
A powered, tandem axle, tiltable, cycle-type vehicle having a steerable front wheel assembly, and an H-shaped tandem rear axle assembly with forward and rearward axle units, each axle unit having a shaft and a bearing sleeve forming the legs of the H, and a trunnion connecting the legs as the H cross member; the trunnion ends having coaxial bearing connections to the sleeves and its center having a transverse bearing connection to the vehicle frame, with resilient biasing means between the trunnion and sleeves for upright stability.

3,370,666
TRAILER MANEUVERING DEVICE
John M. Holtzclaw, 2865 E. Main St., Ventura, Calif. 93003; Frederick A. Miller, 2400 El Camino Real, Mountain View, Calif. 94040; and Ross L. McWaters, 2742 Ocean Ave., Ventura, Calif. 93003
Filed Feb. 23, 1966, Ser. No. 529,576
5 Claims. (Cl. 180—26)



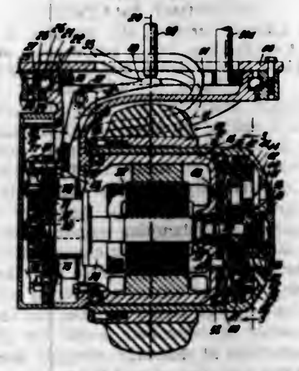
A self-propelled tractor for coupling to a socket type hitch assembly of a trailer for moving the trailer including a platform with wheels mounted in the rear end, the platform defining an open, rearwardly extending slot between the wheels for receiving the hitch assembly. A power and steering unit is coupled to the front end of the platform for rotation about a vertical axis in such a manner that the tractor can be reversed in direction by rotating the entire power and steering unit through 180°.

3,370,667
DRIVE ARRANGEMENT FOR VEHICLES WITH TORSION-FREE ARTICULATED SUSPENSIONS
Charles Richard Bishop, deceased, late of Garden Grove, Calif., by Muriel Janet Bishop, executrix, 10342 Hill Road, Garden Grove, Calif. 92640
Original application Dec. 14, 1964, Ser. No. 418,167, now Patent No. 3,266,815, dated Aug. 16, 1966. Divided and this application Apr. 12, 1966, Ser. No. 542,092
5 Claims. (Cl. 180—45)



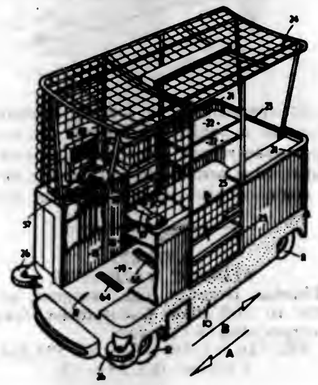
A powered vehicle having a rigid main frame; an articulating frame including a pair of side members which are pivotally attached to the main frame along a transverse axis at the longitudinal center of the main frame, a pair of end members which are pivotally attached to the main frame along the longitudinal central axis of the main frame, and pivotal corner connections of the end members to the side members; supporting wheels carried by respective corners of the articulating frame so that the weight of the vehicle and its load are at all times evenly distributed amongst the four wheels; a separate drive motor associated with each of the wheels; and differential drive means coupled to all four of the motors so as to supply energy to each wheel in accordance with its requirements; with the result that the vehicle is capable of climbing vertical obstacles, one wheel at a time.

3,370,668
MOTOR DRIVEN TRUCKS
Cecil Goodacre, Basingstoke, England, assignor to Lansing Bagnall Limited, Basingstoke, England, a British company
Filed Feb. 2, 1966, Ser. No. 524,581
Claims priority, application Great Britain, Feb. 3, 1965, 4,742/65
6 Claims. (Cl. 180—52)



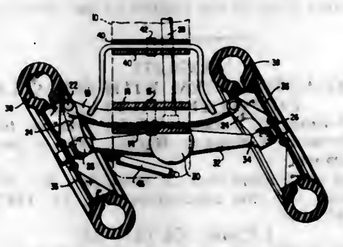
A motor drive for use as an industrial truck drive comprises a ground wheel and an electric motor and a housing therefor mounted in the interior of the ground wheel. The motor housing carries bearings for a sleeve surrounding the housing, which sleeve is driven by the motor and forms part of the ground wheel. There is also an epicyclic gear system between the motor shaft and the driven sleeve, which gear system comprises eccentrics on the motor shaft, and intermediate gear members in mesh with the eccentrics and an internally toothed annulus fixed to one end of the motor housing, the gear members being eccentrically mounted on spindles carried by an extension of the driven sleeve.

3,370,669
STEERING MEANS FOR SELF-PROPELLED VEHICLES
John W. Franklin, Coventry, England, assignor to Stacatruc Limited, Birmingham, England, a British company
Filed Aug. 16, 1965, Ser. No. 480,014
Claims priority, application Great Britain, Jan. 15, 1964, 1,719/64; Aug. 21, 1964, 34,200/64
3 Claims. (Cl. 180—79.2)



The specification discloses a steering system for a self-propelled, reversible vehicle in which a rotary steering control member is fixed in position between two locations on the vehicle for the operator, the location associated with each direction of travel being behind the control member when considered in that direction and the sense of the steering means being set by the operator assuming a location and pressing a pedal at the location, preferably by standing on the pedal.

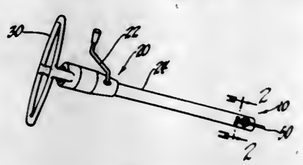
3,370,670
OSCILLATABLE AND LATERALLY SHIFTABLE DRIVE AXLES PROVIDED WITH STEERABLE WHEELS
Richard R. Love, Box 468, Buhl, Idaho 83316
Filed Nov. 26, 1965, Ser. No. 509,912
6 Claims. (Cl. 180—79.2)



1. A front end suspension and steering system for a tractor vehicle of the four-wheel driven type including in combination a frame having a front and rear end, an

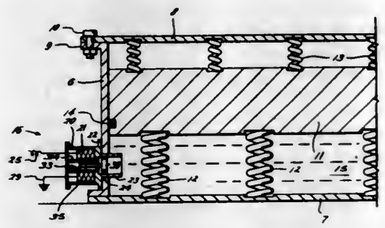
axle, a wheel rotatably connected to each end of said axle, a member pivotally connected to said frame rearwardly of the front end and extending transversely of and beneath said frame, an arm pivotally connected to each end of said member and arranged to project towards the front end of said frame, each of said arms connected to an end of said axle for positioning said axle beneath and rearwardly of the front end of said frame and in spaced parallel relation to said member for supporting said frame.

3,370,671
SAFETY LOCKING DEVICE
Stephen J. Stortz, Sr., 12267 Maria Drive, Warren, Mich. 48093
Filed Aug. 24, 1965, Ser. No. 482,178
6 Claims. (Cl. 180—82)



A vacuum-operated safety locking mechanism of the type utilized in a vehicle to prevent the movement of the parking brake release lever, or to prevent movement of the transmission selector lever from the park position, when the engine of the automobile is not running.

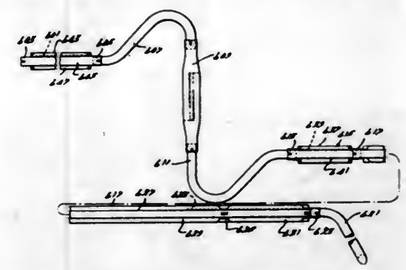
3,370,672
SEISMIC RADIATOR
John C. Eberlan, Houston, Tex., assignor, by mesne assignments, to McCollum Laboratories, Inc., Houston, Tex., a corporation of Texas
Filed Dec. 1, 1966, Ser. No. 598,254
2 Claims. (Cl. 181—.5)



A seismic radiator including a fluid-tight casing to be planted on the ground or in water and having a reciprocating inertia member therein forming a pulsing chamber filled with a hydraulic fluid. Primary actuators are mounted in the peripheral wall of the chamber for applying impacts through the hydraulic fluid to the inertia member and radiating plate at the bottom of the chamber casing.

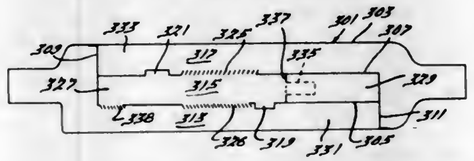
3,370,673
EXHAUST SYSTEM WITH SERIALLY-CONNECTED MUFFLERS
Paul F. Jettinghoff, Jackson, Mich., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Original application Sept. 2, 1964, Ser. No. 393,864. Divided and this application Apr. 18, 1967, Ser. No. 631,825
1 Claim. (Cl. 181—35)

A small, highly effective exhaust muffler is provided by the use of three longitudinal partitions (which may be fabricated from a single piece of metal) that subdivide the interior of a housing into three series connected gas passages for main gas flow. The partitions are louvered for secondary gas flow across the gas passages and the



resulting acoustic interference and turbulence acts with other attenuating effects in the muffler to silence a wide range of frequencies. A complete exhaust system using the muffler is disclosed.

3,370,674
RETROVERTED-FLOW MUFFLER WITH SIMPLIFIED PARTITION ARRANGEMENT
Paul F. Jettinghoff, Jackson, Mich., assignor to Walker Manufacturing Company, a corporation of Delaware
Filed Sept. 2, 1964, Ser. No. 393,864
28 Claims. (Cl. 181—54)

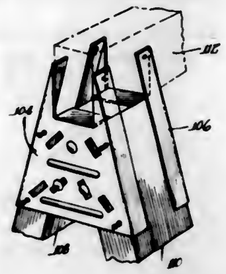


A small, highly effective exhaust muffler is provided by the use of two longitudinal partitions which subdivide the interior of a housing into three series connected gas passages for main gas flow. The partitions are louvered for secondary gas flow across the gas passages and the resulting acoustic interference and turbulence acts with other attenuating effects in the muffler to silence a wide range of frequencies. The partitions may be fabricated from a single piece of metal. A complete exhaust system using the muffler is also disclosed.

3,370,675
SUPPORT BRACKET
Charles O. Larson, Sterling, Ill., assignor to Charles O. Larson Co., Sterling, Ill., a corporation of Illinois
Filed Jan. 27, 1966, Ser. No. 523,315
3 Claims. (Cl. 182—224)

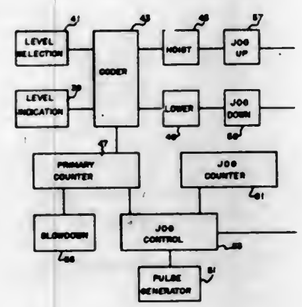
1. A bracket assembly for interconnecting a cross member and a pair of leg members of predetermined different sizes in converging relationship to form a support, and comprising a pair of similar clamping members each including a substantially triangular face plate with a slot extending downwardly from the apex for receiving a support member, said clamping members being disposed in spaced relationship and having elongate flanges extending along the edges of said face plate with the flanges on each clamping member extending toward corresponding flanges on the other clamping member for receiving and engaging inserted leg members, each face plate having inner and outer sets of slots with elongate axes extending generally in the direction of said flanges for selective use with different sizes of leg members, the outer set of elongate slots including upper and lower pairs of slots with

the elongate axes thereof intersecting a horizontal line across the face plate and symmetrically arranged on opposite sides of the vertical center line through the face plate with adjacent elongate edges facing each other, the inner set including a pair of elongate slots with the elongate axes thereof intersecting a horizontal line across the face plate adjacent the lower pair of slots of the outer set and symmetrically disposed on opposite sides of the vertical center line through the face plate with adjacent elongate edges facing one another, and plural fastener elements each having a shank arranged to pass through a



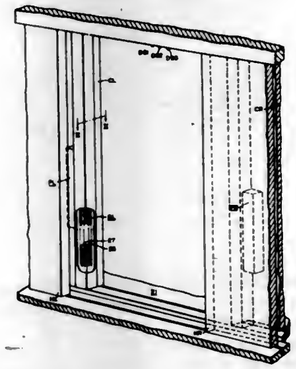
corresponding slot of one set of slots for holding the plates in position against inserted leg members of predetermined size, the lateral spacing between the slots of the inner and the outer sets being such as to accommodate predetermined sizes of leg members and the elongate apertures permitting the fasteners to slide therein from a position spaced from the leg members to a position in wedging engagement with adjacent surfaces of the leg members to clamp opposed surfaces thereof against corresponding flanges thus to accommodate minor variations in predetermined size of leg members being clamped.

3,370,676
MINE HOIST SYSTEM INCLUDING A MAIN COUNTER FOR LEVEL DETERMINATION AND A JOG COUNTER FOR LEVEL OFFSET
William J. McDonald, Schenectady, N.Y., and Edward B. Bynum, Jr., Roanoke, Va., assignors to General Electric Company, a corporation of New York
Filed June 15, 1964, Ser. No. 374,926
4 Claims. (Cl. 187—29)



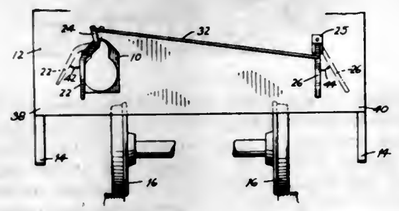
For regulating cage movement in a multi-level shaft where the cage may initially not be at a regular level, a mine hoist system including a primary counter for storing a count initially proportional to the inter-level distance to be traveled. A jog counter initially contains a count proportional to the distance the cage was jogged from the previous regular level. As the cage travels toward the selected level, the jog count is reduced in proportion to the distance traveled; i.e., at a normal rate. If the cage must pass its previous level, the primary count remains unchanged until the jog count reaches zero. Thereafter, the primary count is reduced at the normal rate. If the cage will not pass its previous level, the primary count is reduced at double the normal rate until the jog count becomes zero. Thereafter, the primary count is reduced at the normal rate. In either case, when the primary count reaches zero the cage should be at the selected level.

3,370,677
PROXIMITY SENSING APPARATUS AND SENSOR THEREFOR
Edward F. Federmann and Richard W. Stoeltzing, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 12, 1966, Ser. No. 520,119
18 Claims. (Cl. 187—48)



Field generator projects a field beyond the leading edge of a door during closure which is shaped to confine it essentially to a critical projection area. The resultant of field conditions for two doors controls stopping or reopening of the doors. Phase relations and sensitivity of the two fields are altered as the doors near closed condition. System operativeness is tested. For dual doors, the outer door is slightly retracted during part of closure.

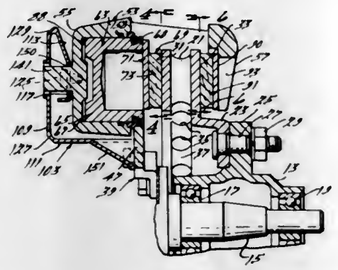
3,370,678
HAND BRAKE MECHANISM
Robert A. Nitsch, New York, N.Y., assignor to Elicon-National Inc., Totowa Borough, N.J., a corporation of New York
Filed Sept. 29, 1966, Ser. No. 582,939
2 Claims. (Cl. 188—33)



A vertical hand brake mechanism for operating the brake shoes of a modern "super" railway car including a brake mechanism mounted towards one corner of the end

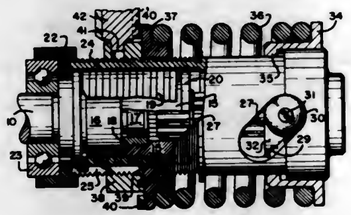
of a railway car. A hand wheel is mounted on the brake mechanism for actuation by an operator standing on the sill step or on the ground. A first trip lever is pivotally mounted on the brake mechanism and a link arm extends therefrom. A lever bracket is mounted on the same end of the railway car towards the other side thereof and a second trip lever is pivotally mounted thereon. A rigid rod interconnects the link and the second lever, both of the levers being disposed adjacent the lower corners respectively of the end of the railway car so that a man can move one or the other trip lever to release the brake mechanism.

3,370,679
DISC BRAKE WITH YIELDABLE SUPPORTING ELEMENT
Romayne E. Holmes, Jr., Madison Heights, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Oct. 5, 1966, Ser. No. 584,592
13 Claims. (Cl. 188—73)



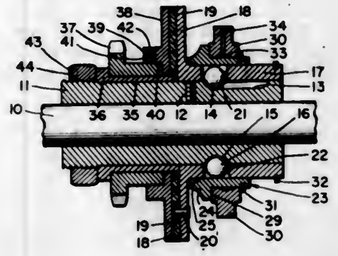
A floating caliper type disc brake embodying a yieldable support for accommodating the sliding movement of the caliper. The caliper is provided with a boss that extends through an elongated aperture formed in an intermediate portion of the yieldable support for resisting twisting of the caliper upon engagement of the brake pads.

3,370,680
OVERLOAD RELEASED COIL CLUTCH
Kenneth R. Bangerter, Ithaca, and Otmar M. Ulbing, Berkshire, N.Y., and John P. Krouse, Athens, Pa., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 3, 1966, Ser. No. 531,485
6 Claims. (Cl. 192—56)



A power wrench which automatically opens its clutch and stops its motor in response to a predetermined torque load and including a torque-responsive clutch having a wrap spring frictionally gripping and interconnecting driving and driven members and a torque measuring means for sensing torque and unwinding the wrap spring to release the clutch in response to a predetermined torque. The motor of the wrench is automatically shut off by a valve which closes in response to the release of the clutch.

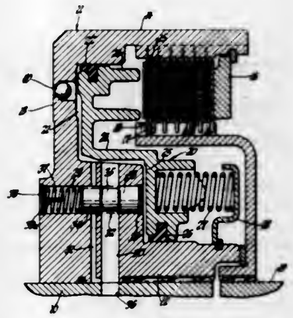
3,370,681
SPROCKET GEAR CLUTCH ASSEMBLY
Walter J. Humphrey, Reseda, Calif., assignor to Kelly-Moore Paint Company, Inc., a corporation of California
Filed Dec. 16, 1965, Ser. No. 514,222
5 Claims. (Cl. 192—66)



This disclosure relates to a sprocket gear and clutch assembly therefor made up of a hub assembly, sleeve, and cam means. A clutch plate is removably attached to the sprocket gear and is arranged to be rotated by a friction disc under control of the sleeve and cam structure. The hub means rotates the sleeve and cam structure and the friction disc and when this friction disc is brought into engagement with the plate, the sprocket gear is rotated. Suitable ball-type locking means are employed when the disc and plate are in engagement with each other.

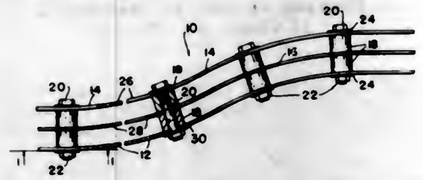
The plate may readily be replaced by simply removing the same from the sprocket gear and this advantage avoids the necessity of replacing the sprocket gear everytime the clutch plate becomes worn. In addition, there is provided a threaded adjusting means for positively positioning the plate relative to the driving disc when the same is in clutching engagement so that wear of the plate and disc can be compensated.

3,370,682
CLUTCH WITH MODULATING VALVE
Forest R. McFarland, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 27, 1966, Ser. No. 523,443
7 Claims. (Cl. 192—85)



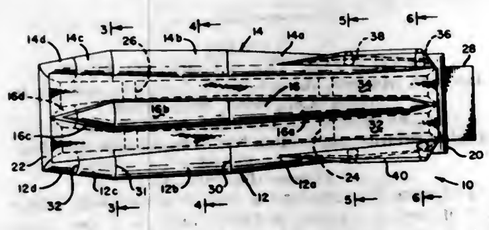
A clutch and controls therefor for providing smooth clutch engagement including a valve disposed in a bore in a rotatable clutch drum and spring biased to a position to admit maximum rate of fluid flow into a clutch servo chamber. The valve bore extends perpendicular to the plane of rotation of the drum and is positioned in the radial inward portion of the drum such that the centrifugal force effect on the valve is minimized. The valve bore provides an unrestricted opening directly to the servo chamber such that pressure in the chamber acts directly upon one end of the valve to move the valve against the spring. This provides improved valve operation by reducing the effect of oil viscosity changes, particularly upon cold start-up conditions of operation. A stop member prevents the valve from moving to a cut-off position such that fluid pressure will be admitted to the servo chamber through the valve irrespective of rise of pressure in the servo chamber. The valve is initially spring biased to admit pressure to the servo chamber at a maximum rate and moves in response to rise of pressure in the servo chamber to reduce the rate at which fluid is admitted to the servo chamber.

3,370,683
FLEXIBLE CHUTING
Russell H. Mayer, Jr., Clawson, Mich., assignor to United Industrial Engineering Corporation, Madison, Mich., a corporation of Michigan
Filed Jan. 26, 1966, Ser. No. 523,051
2 Claims. (Cl. 193—25)



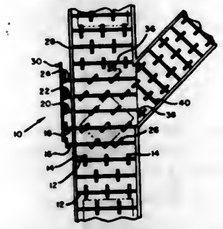
Flexible chuting for guiding rolling objects is shown, in which there are at least three upright track rails of a flexible material disposed in parallel, transversely spaced relation to one another. Two of these have elongated, transversely aligned slots receiving holding bolts, which also are received in non-elongated openings of the third, thus enabling an improved adjustably clamped set-up of the chuting rails in curvilinear outlines of one sort or another.

3,370,684
INFLATABLE ESCAPE SLIDE
Gordon B. Holcombe, Millbrae, Calif., assignor to Industrial Covers, Inc., San Francisco, Calif., a corporation of California
Filed Sept. 8, 1966, Ser. No. 577,889
2 Claims. (Cl. 193—25)



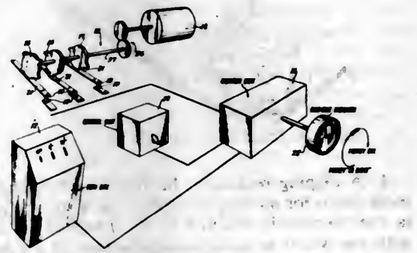
A double escape slide with inflatable parallel side beams and top, bottom and intermediate inflatable cross beams, all in continuous communication. An intermediate inflatable beam extends above the surface of the slide to divide it into two parallel chutes and to provide greater beam strength.

3,370,685
DIVERTER UNIT FOR ROLLER CONVEYOR
Joe D. Guille, Sunnyvale, Calif., assignor to Score Industries, a corporation of California
Filed Feb. 9, 1967, Ser. No. 614,864
6 Claims. (Cl. 193—36)



A diverter unit for roller conveyors wherein the rollers are held on a carrier with the axes of the rollers skewed with respect to the carriers. By rotating the carrier, articles on the conveyor can be diverted to a side path.

3,370,686
COIN CONTROLLED TIMED SERVICE ASSEMBLY
Kenneth Wilcox, Wolverhampton, England, assignor to Keypark Limited, London, England, a British company
Filed July 25, 1966, Ser. No. 567,423
Claims priority, application Great Britain, July 30, 1965, 32,686/65
7 Claims. (Cl. 194—9)

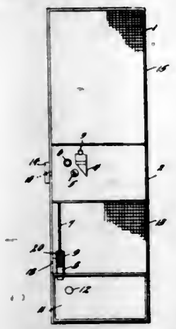


A coin controlled, time base actuating mechanism having a fixed speed motor driving an impulse producing means operatively connected to drive a bidirectional stepping switch in one direction and a coin operated impulse producing means operative to drive the stepping switch in the opposite direction. The stepping switch is operably connected to release manual control means, after the stepping switch has moved a predetermined number of steps from a starting position, to start the driving motor. Further means are actuated by the stepping switch, upon return to its starting position from the direction in which it was displaced by the coin operated impulse producing means, to release the manual control means for its service completing function.

3,370,687
MULTIPLE DOOR WARDROBE SAFE DEPOSIT BOX WITH SINGLE CHECK CONTROLLED MECHANISM
Max Winkler, 4 Raschibachstaig, 8037 Zurich, Switzerland; Anton Hofmann, Wald, 8707 Uetikon am See, Switzerland; and Ernst Koneth, 370 Nordstrasse, 8037 Zurich, Switzerland
Filed July 22, 1966, Ser. No. 567,189
Claims priority, application Switzerland, July 23, 1965, 10,555/65
1 Claim. (Cl. 194—59)

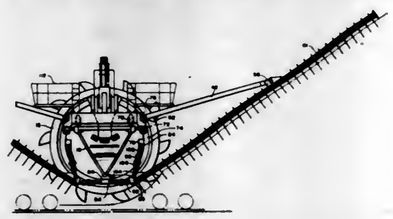
A wardrobe safe deposit box with a check controlled

mechanism and having one clothes case and one valuables case with a single check controlled mechanism connected



so that one key will operate one of the cases in dependence on the position of the key in the check box.

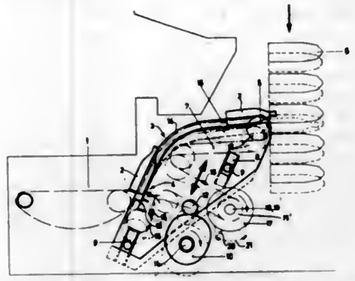
3,370,688
HARROW MOUNTING ON A RECLAIMER
Wiebrand Westerbrink, Amsterdam, Netherlands, assignor to Hewitt-Robins Incorporated, Stamford, Conn.
Filed Feb. 17, 1966, Ser. No. 528,237
5 Claims. (Cl. 198—7)



1. A digging reclaimer, having a harrow and a bucket mechanism for moving material from a storage pile wherein the harrow is adapted to be operated in association with the wheel so as to sweep the face of a pile of material to be reclaimed and wherein the harrow is associated with a carriage and there are means provided for adjusting the slope of the harrow and the heel of the harrow characterized by the fact that the harrow is connected to the movable carriage by an arm, said arm being pivotally connected adjacent its respective ends to the carriage and to the harrow, the latter connection being at a substantial distance from both ends of the harrow, and the heel of the harrow is pivotally connected to a pair of link members, said link members in turn are pivotally connected to said carriage; said link members being adjustable in length to effect adjustment of the slope of said harrow and the position of the heel of said harrow relative said carriage.

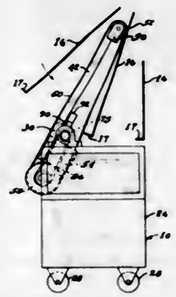
3,370,689
DEVICE FOR PERIODICALLY FEEDING CONTAINERS TO ADVANCING CARRIERS
Johannes Bernardus van der Winden, Amstelveen, Netherlands, assignor to Gebroeders Stork & Co.'s Apparatenfabriek N.V., Amsterdam, Netherlands, a limited liability company of the Netherlands
Filed July 27, 1965, Ser. No. 475,055
Claims priority, application Netherlands, July 28, 1964, 64—8,624
5 Claims. (Cl. 198—20)

A container handling machine includes a container supply, a continuously moving series of carriers, and a transit conveyer delivering containers from the supply to the carriers. Transit conveyer reciprocates so that



during each stroke its movement is synchronized with that of the carriers. Conveyors driven via differential gear including torque limiting member.

3,370,690
SHEET HANDLER-STRIPPER
Robert R. Seedorf, Barrington, Ill., assignor to The Roy M. Moffitt Company, a corporation of Illinois
Filed Oct. 21, 1965, Ser. No. 500,074
13 Claims. (Cl. 198—20)

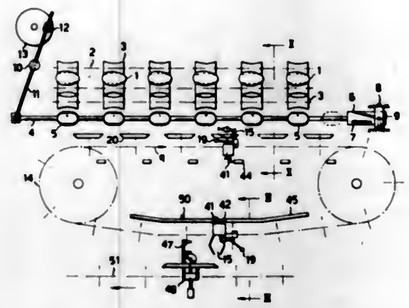


A sheet handler and stripper for use with a sheet dryer including a base having a shaft movably mounted thereon, a plurality of tubes communicating with a vacuum source secured to the shaft and having an opening along one side thereof, a perforated belt for each of the tubes having a run thereof substantially in contact with the opening therein, means for selectively driving the belts, and sensing means for operating the drive means for a predetermined time after a sheet holder of the sheet dryer passes the belt.

3,370,691
DEVICE FOR TRANSFERRING EGGS
Jacob H. Mosterd, Barneveld, Netherlands, assignor to Moba A.G., Basel, Switzerland
Filed Sept. 14, 1966, Ser. No. 579,289
Claims priority, application Netherlands, Sept. 16, 1965, 65—12,102
7 Claims. (Cl. 198—32)

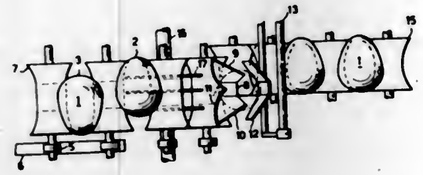
1. Device for transferring eggs, provided with a number of feed-in stations, juxtapositioned in a row, means for synchronously driving the feed-in stations, a movably mounted chain, part of which is parallel and near to the row of feed-in stations, which chain is provided with egg retaining members that are mutually spaced over the same distance as are the feed-in stations, each egg retaining member being provided with a tilting mechanism and a gripper supported by the related tilting mechanism, a

gripper control means supported by each retaining member, a tilt control means stationary mounted near said chain, a gripper control means in each retaining member and a stationary gripper control means near said chain,



the stationary tilt control means being adapted to cooperate with the tilt control means supported by the retaining members and the stationary gripping control means being adapted to cooperate with the gripper control means supported by the egg retaining members.

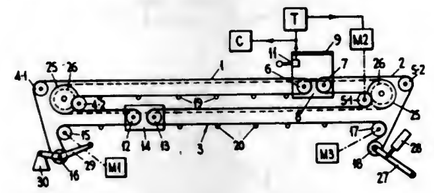
3,370,692
DEVICE FOR ORIENTING EGGS WITH THEIR POINTS IN A PREDETERMINED DIRECTION
Jacob H. Mosterd, Barneveld, Netherlands, assignor to Moba A.G., Basel, Switzerland
Filed Sept. 14, 1966, Ser. No. 579,319
Claims priority, application Netherlands, Sept. 16, 1965, 65—12,101
3 Claims. (Cl. 198—33)



Device for orienting eggs in which the points of the eggs are first shifted towards the outsides of rotating concave transport rollers mounted in a chain having a downwardly directed curve, at which curve a guiding member guides the thick ends of the eggs, which are nearest to the region of the rollers having the smallest diameter, to move out first so that all eggs leaving the guide are oriented with their thick ends leading.

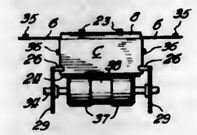
3,370,693
CONVEYOR ARRANGEMENTS
John Dennis Marsden, Crayford Erith, Kent, England, assignor to The General Electric Company, Limited, London, England, a British company
Filed July 19, 1966, Ser. No. 566,425
Claims priority, application Great Britain, July 23, 1965, 31,650/65
8 Claims. (Cl. 198—34)

A conveyor arrangement for accumulating articles, especially easily deformable articles such as unfired bricks, utilizing two conveyor belts having adjacent ends supported by pulleys on a movable carriage, the articles being fed continuously by the first belt towards the stationary second belt, and the carriage being movable to cause the second belt to unroll under each article in turn as the articles reach the junction of the belts until a predeter-



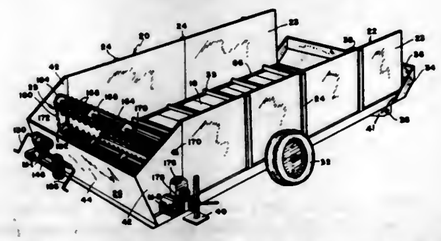
mined number of articles have been accumulated on the second belt. The second belt can then be operated to transfer the articles to further conveying means.

3,370,694
CASE CONVEYOR INFEED
Wendell E. Standley, Lake Forest, and Richard B. Wittmann, Chicago, Ill., assignors to Johns-Nigrelli-Johns, Inc., Skokie, Ill., a corporation of Illinois
Filed Oct. 6, 1966, Ser. No. 584,846
2 Claims. (Cl. 198—34)



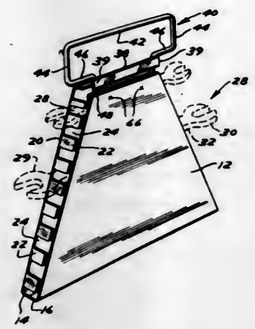
The mechanism herein disclosed is employed in a loading device for open-top cases into which the load is deposited en masse from above. The separate cases are first advanced onto a transfer support and then propelled slidingly along the support by laterally and inwardly extending push rods bearing against the trailing wall of the case. The push rods propel the case to a loading station on a loading conveyor which is narrower than the case and, when the case reaches the desired position, the push rods slip down past the end of the case. The push rods are long enough to engage the case trailing wall but short enough not to strike the edges of the loading conveyor.

3,370,695
VARIABLE SPEED CONVEYOR
John H. Robson, Rte. 1, Box 441, Crystal Lake, Ill. 60014
Filed Apr. 29, 1966, Ser. No. 546,455
7 Claims. (Cl. 198—103)



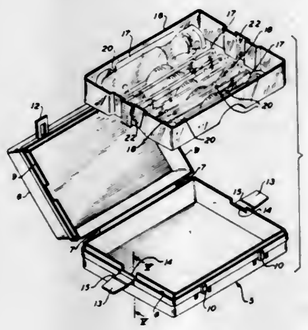
A self-unloading transfer feeder intermittently receiving quickly emptied dump truck loads of chopped silage and delivering same to a silage conveyor and processing equipment at a constant rate commensurate with the capacity of the equipment, the delivery rate being controlled by two speed controls connected in series with either one adjustably varying the delivery speed from a speed determined by the prime mover and a fixed gear reduction transmission.

3,370,696
WRENCH CARRIER
Norris Groe, Lake Mills, Iowa 50450
Filed June 22, 1966, Ser. No. 559,454
3 Claims. (Cl. 206—16)



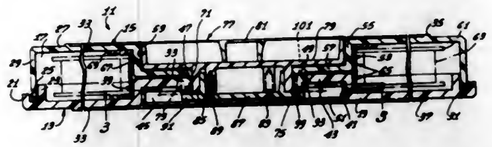
A pair of panels are hinged together at their lower edges, one panel having projecting fingers that accommodate therebetween the shanks of different-length wrenches to be carried. A latching mechanism involves a vertically reciprocal handle mounted on the panel not having the fingers thereon, the handle being reciprocal into a latching relationship with notches formed on the panel having the fingers.

3,370,697
DISPLAY PACKAGE AND ARTICLE CONTAINER
Jay R. Levey, Easton, Pa., and Joseph M. Karl, Washington, N.J., assignors to Oxwall Tool Co., Ltd., Flushing, N.Y., a corporation of New York
Filed May 8, 1967, Ser. No. 636,948
6 Claims. (Cl. 206—45.34)



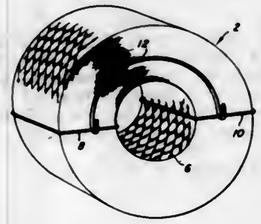
A display package and article container, such as for small hand tools and the like, has its transparent tool-holding blister platform locked to the container in inverted position with the tools held in platform-recesses against gravitation for visual display of such tools. The blister platfrom is locked in the container to prevent pilfering of the tools while on display, and after sale the purchaser merely disengages the blister platfrom from the locking tabs and reverses it, to position the tools uppermost in the article container ready for selected use of such tools as desired.

3,370,698
REEL CONTAINER
Beverly W. Geier, Torrance, Calif., assignor to Comdata Corp., Los Angeles, Calif., a corporation of California
Filed July 7, 1966, Ser. No. 563,456
9 Claims. (Cl. 206—52)



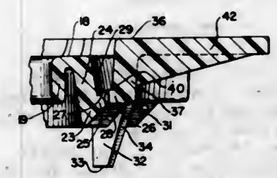
This disclosure describes a container for a reel which includes first and second complementary container sections. One of the container sections defines a locking surface and the other of the container sections carries a movable detent engageable with the locking surface to tightly hold the container sections together.

3,370,699
BARBED-WIRE BUNDLE
Seymour C. Gedge, Petoskey, Mich., and William H. Johns, South Euclid, Ohio, assignors to United States Steel Corporation, a corporation of Delaware
Filed Jan. 28, 1966, Ser. No. 523,684
4 Claims. (Cl. 206—59)



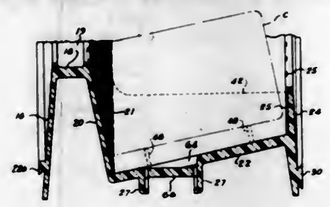
A barbed-wire bundle which eliminates the usual reel with its core. The bundle includes a plurality of helically wound layers with the direction of lay in each layer being opposite to that in adjacent layers. It is necessary that the layers have a pitch of at least 1¼" which is substantially greater than the pitch used in bundles with a core.

3,370,700
CLIP FOR INTERCONNECTING CANS TO FORM A MULTIPLE CAN PACKAGE
James C. De Shazor, Jr., 3314 Coy Drive, Sherman Oaks, Calif. 91403
Filed Sept. 16, 1963, Ser. No. 309,258
15 Claims. (Cl. 206—65)



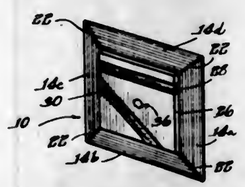
1. A multi-can package comprising: a pair of parallel rows of upright cans having beads projecting outwardly and upwardly from at least one end of each can; means for securing said cans together including a body of plastic having a plurality of downwardly extending hook-shaped teeth, one of said teeth being engaged with the underside of said bead on each can, a plurality of extensions on said body, one extension being positioned outside each of said teeth, an integral shoulder on the underside of each extension, each of said shoulders being engaged with the inside of said bead on each can, each of said extensions being connected to said body of plastic only by connectors affixed between each end of the extension and said body of plastic, and each extension being spaced from the body of plastic along its entire length to provide a continuous opening above said teeth, each of said teeth including a downwardly directed tooth extension providing a long inclined lower surface for directing said can bead to a position between said teeth and said shoulder during assembly of said package.

3,370,701
CARD FILE
John J. Van Acker, Chesterland, and Darwin S. Crouser and Clarence R. Kerfuanna, Mentor, Ohio, assignors to Addressograph Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed June 4, 1965, Ser. No. 461,388
9 Claims. (Cl. 206—73)



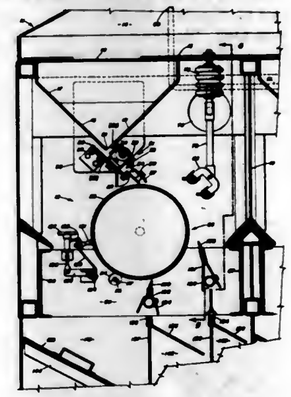
A card file for retaining cards in shingled overlapping positions with the top edge of each successive rear card projecting beyond the one in front. The file includes a pair of side walls, a bottom and a plurality of separator plates positioned in parallel diagonal grooves provided in the side walls. Each adjacent pair of separator plates forms a sloping card retaining pocket such that cards will settle by gravity to the bottom of the pocket in a wide range of file positions including horizontal, and such that the cards will also settle by gravity to an aligned position with one edge thereof against one of the side walls. Sliding dovetail connectors are provided on the exterior surfaces of the side walls for releasably attaching two or more files in side by side positions. A stand and a base are provided for supporting, respectively, a single card file or a plurality of card files at different selected elevational angles.

3,370,702
JEWELRY DISPLAY TRAY
Samuel M. Rosen, 333 N. Michigan Ave., Chicago, Ill. 60601
Filed Aug. 18, 1966, Ser. No. 573,350
4 Claims. (Cl. 206—76)



A jewelry display tray comprising a central panel and side walls extending upwardly and outwardly from the front side of the central panel and joined at their inner margins to the outer margins of the central panel. The side walls are joined together at their ends. The rear side of the central panel has support-engaging means attached thereto which comprise bands of fabric, or the like, secured at their extremities to the central panel. One of the bands is connected to opposite side margins of the central panel while another of the bands is connected to adjacent side margins of the central panel. This arrangement enables the tray to provide either a rectangular or a diamond shaped frame for jewelry displayed thereon. The front side of the central panel has an outwardly extending, jewelry support member attached to it. The support member is swivelable or rotatable to enable jewelry supported thereon to be properly oriented with respect to a viewer when the tray is used as either a rectangular or a diamond shaped frame for the jewelry. The support member advantageously is made of a flexible material to enable it to be bent around a portion of an article of jewelry by finger pressure thereby to secure the article thereon and to prevent it from being inadvertently disengaged from the support member.

3,370,703
HIGH TENSION SEPARATOR
James H. Carpenter, Jacksonville, Fla., assignor to Carpco Research & Engineering, Inc., Jacksonville, Fla., a corporation of Florida
Continuation of application Ser. No. 336,289, Jan. 7, 1964. This application Dec. 23, 1965, Ser. No. 517,885
19 Claims. (Cl. 209—127)



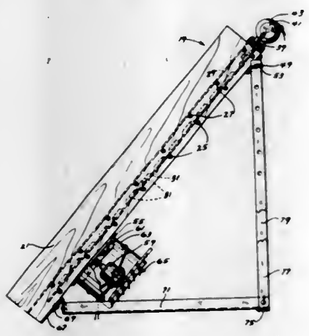
1. A high tension separator comprising a housing enclosing a plurality of separator units and having an opening in one side of said housing for each of said units; a rotor assembly mounted in each of said separator units; each of said rotor assemblies including a supporting frame, a pair of spaced bearings connected to said frame, a rotor mounted for rotation in said bearings, and electrically operated means to remove pinned particles from said rotor, said means being carried by said frame and including a first terminal; a trackway mounted in said housing in cooperative relation with said supporting frame to guide and movably support said rotor assembly to permit said rotor assembly to be removable as an assembled unit from said housing through the associated opening; said trackway acting to support and guide said assembly during removal; a plurality of second terminals mounted for connection to a source of electricity and having respective releasable connections to said first terminals when said rotor assembly is in operative position in said housing; means in each of said units to deposit particles to be separated on the surface of each of said rotors; a high voltage electrode mounted in said housing in each of said units in cooperative relation with a respective one of said rotors to cause separation of the particles

on the rotor; a bus bar mounted for connection to a source of high voltage electricity; and a plurality of electrical conductors connecting said bus bar with respective ones of said high voltage electrodes, each of said conductors including a generally U-shaped removable section to permit selective disconnection of each of said high voltage electrodes from said source of high voltage electricity.

3,370,704
METALLIC SULFIDE FLOTATION PROCESS
Robert E. Baarson, La Grange, and Charles L. Ray, Wheaton, Ill., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed May 14, 1964, Ser. No. 367,576
15 Claims. (Cl. 209—166)

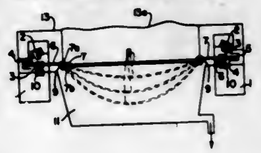
1. In a process for the separation of metallic sulfide ores by froth flotation, the steps of conditioning a water suspension of finely-divided metallic sulfide ores selected from the group consisting of copper and iron sulfide ores with a collector comprising an S-substituted isothioronium salt having the structure $[RSC(NH_2)_2]^+X^-$ where R is an aliphatic, cycloaliphatic or aromatic hydrocarbon having from 2 to 24 carbon atoms and where X is a halide, and separating as froth product a metallic sulfide concentrate selected from the group consisting of said copper and iron sulfide ores.

3,370,705
GRAIN CLEANING DEVICE
Emil G. Grulke, Kelley, Iowa 50134
Filed Dec. 24, 1964, Ser. No. 421,162
1 Claim. (Cl. 209—240)



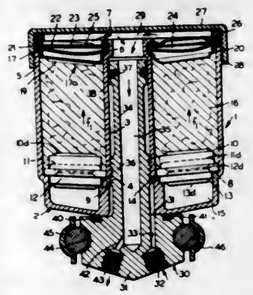
1. In combination,
a granary having a closable upper end,
a conveyor means having its upper end positioned above said closable upper end,
an inclined grain cleaning means having its upper end operatively secured to the upper end of said conveyor means and its lower end communicating with the interior of said closable upper end,
said grain cleaning means including a screen means and a fan means forcing air upwardly through said screen means,
said grain cleaning means also including a screen frame means having upper and lower ends, said screen frame means comprising a pair of elongated, spaced apart side boards and upper and lower end members extending between said side boards,
said screen means comprising a top screen means secured to said side boards and extending therebetween along the length thereof and a bottom screen means below said top screen means extending between said side boards,
said fan means positioned below said bottom screen means and forcing air through said bottom screen means and upwardly through said top screen means,
said bottom screen means having means operatively connected thereto adapted to shake said bottom screen means,
a first brace means pivotally secured at one end to said lower end member,
an upstanding brace means secured at one of its ends to the other end of said first brace means and operatively detachably secured at its other end to said upper end member whereby the slope of said top and bottom screen means may be varied.

3,370,706
VIBRATING SCREEN DRIVE
Paul Bruninghaus, Remscheid, Luttringhausen, Germany, assignor to Rhewum Rheinische Werkzeug- und Maschinenfabrik G.m.b.H., Remscheid, Luttringhausen, Germany
Continuation of application Ser. No. 304,755, Aug. 26, 1963. This application Oct. 24, 1966, Ser. No. 589,132
Claims priority, application Germany, Sept. 5, 1962, R 33,444
16 Claims. (Cl. 209—368)



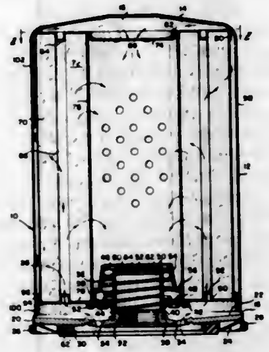
A device for efficiently electrically driving a flexible screen of the type used as an industrial sieve for imparting a vibrating motion to the same. The device consists of a number of semi-flexible arms, fixed at one end and attached at the other directly to the edge of the flexible screen. Each arm is provided with an alternating current electromagnet, the field of which is directed to an armature attached and located substantially midway between the two ends of the arm. The vibrating motion imparted to the arm by the alternating magnetic field is "amplified" through the inherent flexibility of the arm itself and transmitted to the arm-suspended screen.

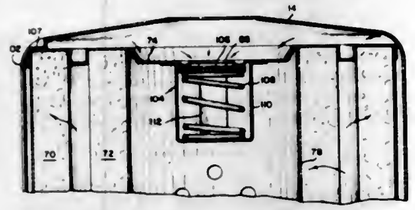
3,370,707
OIL FILTER, PARTICULARLY FOR AUTOMOTIVE VEHICLES
Per Ingemar Nordstrom, 913 Entre Rios, Buenos Aires, Argentina
Filed May 18, 1965, Ser. No. 456,659
Claims priority, application Argentina, Sept. 8, 1964, 189,898, Pat. 141,187
6 Claims. (Cl. 210—94)



An exchangeable oil filter containing in superposed relationship (1) a specific disc assembly acting as centrifugal separator for the heavy impurities of the oil, (2) a conventional filter portion, and (3) a disc and filter paper assembly pressed against (1) and (2) and provided with slots and fins, which 3 sections are passed by the oil from the bottom of (1) to the top of (3).

3,370,708
DUAL ELEMENT, DUAL VALVE, TWIST-ON TYPE FILTER ASSEMBLY
William H. Hultgren and Robert Lee Hall, Mount Carmel, Ill., assignors to Champion Laboratories, Inc., West Salem, Ill., a corporation of Connecticut
Filed Mar. 16, 1966, Ser. No. 541,441
4 Claims. (Cl. 210—130)

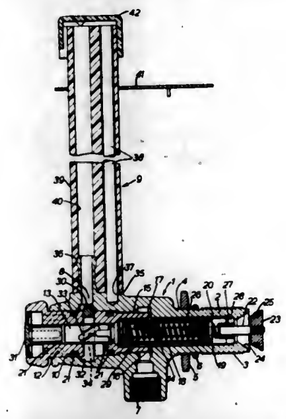




A filter unit having at least two spaced, concentric filter elements providing an inlet passageway therebetween, the inner element surrounding a central perforated tube which forms an outlet passageway, end caps sealing the opposite ends of said elements, inlet holes in one end cap, a valve closing an opening in the other end cap leading to the central passageway wherein the outer filter element is utilized upon cold starting and upon clogging of the inner filter element. The two filter elements provide a duplex filter device, as distinguished from the usual parallel flow of two filter elements in the same filter housing. The filter unit further provides one filter element that prolongs the life of the complete filter unit by adding effective area to the filtering of the liquid toward the end of the service life of the inner concentric filter element and a relief valve bypassing both filter elements.

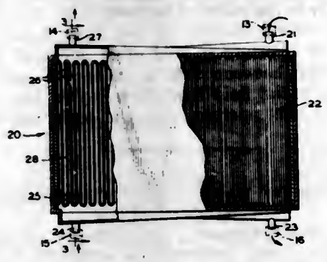
3,370,709
UNITARY VALVE AND FILTER ASSEMBLY
David Richard James, Covertside, Hasfield, England, assignor to Williams & James (Engineers) Limited, Gloucester, England, a British company
Filed Oct. 2, 1964, Ser. No. 401,182
Claims priority, application Great Britain, Oct. 5, 1963, 39,305/63
7 Claims. (Cl. 210—234)

A valve has a main valve member and a filter element which together form a unitary assembly. This unitary assembly is withdrawable as a whole from the body of the valve and is so arranged that when the valve is open flow through the valve passes through the filter element.



Also, an isolating valve member is provided which automatically closes to prevent leakage from the valve when the unitary assembly is withdrawn from the valve body.

3,370,710
COMPACT BLOOD DIALYZER WITH A PLEATED MEMBRANE THEREIN
Lewis W. Bluemle, Jr., Philadelphia, Pa., assignor, by mesne assignments, to Research Corporation, New York, N.Y., a nonprofit corporation of New York
Filed May 11, 1966, Ser. No. 549,224
6 Claims. (Cl. 210—321)

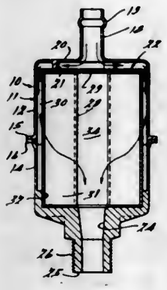


A dialysis apparatus comprising a housing, a semi-permeable membrane in the housing, the membrane comprising a compressed pleated tape-like member, first fluid inlet and outlet means in the housing communicating with only one pleated face of the membrane, and second fluid inlet and outlet means in the housing communicating with only the other face of the pleated membrane.

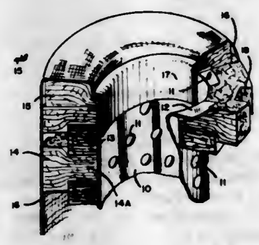
3,370,711
FILTER
William S. Hitzelberger and Robert K. Hathaway, Racine, Wis., assignors to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Continuation of application Ser. No. 3,069, Jan. 18, 1960. This application July 9, 1964, Ser. No. 381,437
1 Claim. (Cl. 210—448)

1. A full flow filtration unit comprising a two piece casing assembly and an annular pleated paper filter element contained within said casing assembly, said casing assembly defining a generally cylindrical chamber closed at opposite ends by transverse end walls, one of said end walls being formed with an inlet aperture in registry with

said cylindrical chamber, the other of said end walls being formed with an outlet aperture in registry with said cylindrical chamber, said pleated paper filter element defining a central chamber, an end cap secured to one end of said filter element for fixing the pleats thereof in position and for forming a closure for one end of said central chamber, said end cap being spaced from one of said end walls and from the aperture therein for fluid communication to said aperture therein, means on said one end wall engaging said end cap for fixing the spacing of said end cap from said one end wall, the outer periphery of the pleats of said element being spaced inwardly of the wall of said casing defining said cylindrical chamber for fluid communication with the outer periphery of said filter element, said casing being formed with a radially inwardly extending portion adjacent the other of said end walls, said radially inwardly extending portion being in engagement with the outer periphery of the pleats of said filter element for radially locating said filter element within said cylindrical chamber, and adhesive means for affixing the pleats at the other end of said filter element directly to the other of said end walls with the other end of said central chamber of said filter element in registry with the aperture in said other end wall for fluid communication between said aperture and said central chamber for radial fluid flow through said filter element between said inlet aperture and said outlet aperture.

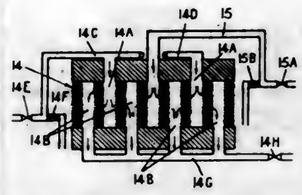


3,370,712
FILTER OF PARTIALLY COMPRESSED STACKED DISCS
Edward A. Smith, Glenville, and Arthur C. Wrotnowski, Greenwich, Conn., assignors to American Felt Company, Glenville, Conn., a corporation of Massachusetts
Filed Mar. 9, 1965, Ser. No. 438,260
4 Claims. (Cl. 210—457)



A filter cartridge for a cartridge-type filter in which the end seals are provided without resorting to metal discs attached to the ends of the core for supporting the end seals.

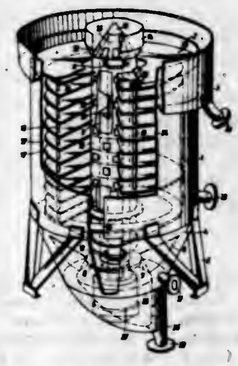
3,370,713
FILTERS
Ronald John Stevens, 30, Coombe Lane West, Kingston-upon-Thames, Surrey, England
Filed Apr. 8, 1965, Ser. No. 446,675
8 Claims. (Cl. 210—488)



This invention provides an edge type filter comprising in combination laminae arranged in the form of a pack. Apertures in each laminae etched by an electrolytic process, the apertures in alternate laminae aligning throughout the thickness of the pack to form inlet and outlet flow lanes. Bars between the apertures of each lamina of the same thickness as that of the lamina, the bars of alternate laminae aligning throughout the thickness of the pack and crossing the apertures in the intervening laminae thereby forming lateral flow passages. An apertured masking plate at each of two opposite sides of the pack, the apertures in one masking plate communicating with alternate inlet flow lanes and the apertures in the other plate leading to the intervening outlet flow lanes so that the liquid to be filtered is caused to flow through the flow passages and then into the outlet flow lanes, the filtered fluid then passing through the apertures in the other masking plate for utilization.

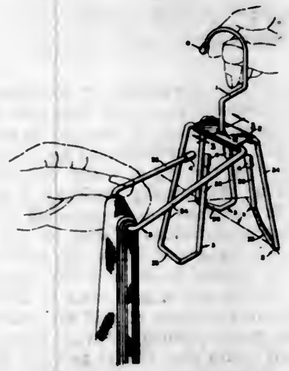
The foregoing abstract is not intended to be a comprehensive discussion of all of the principles, possible modes or applications of the invention disclosed in this document and should not be used to interpret the scope of the claims which appear at the end of this specification.

3,370,714
APPARATUS FOR THE MECHANICAL CLEARING OF SUSPENSIONS
Helmut Franz Trawinski, Schombrunner Strasse 21, Hirschau, Upper Palatinate, Germany
Filed Dec. 31, 1964, Ser. No. 422,756
Claims priority, application Germany, Jan. 4, 1964, A 44,930
12 Claims. (Cl. 210—519)



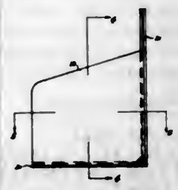
1. Apparatus for removing solids from suspensions by allowing the solids to settle on surfaces and after settling casting them off by centrifugal action, said apparatus comprising a container, a stack of elements in the form of open top and closed bottom collection pans presenting sedimentation surfaces for solids and mounted for rotation in said container, and drive means for rotating said elements, said drive means comprising a shaft arranged vertically in said container, a carrier and distributor tube supported on and rotatable with said shaft, a stationary sleeve rigidly supported on said container and bearing means mounted on said sleeve and supporting said shaft for rotation, said sleeve extending intermediate said shaft and said carrier tube and being spaced from said shaft and said carrier tube and shielding said shaft and said bearing means against the suspension.

3,370,715
NECKTIE HANGERS
Paul Kolozsvari, 432 36th St., Manhattan Beach, Calif. 90266
Filed Oct. 22, 1965, Ser. No. 500,604
10 Claims. (Cl. 211—116)



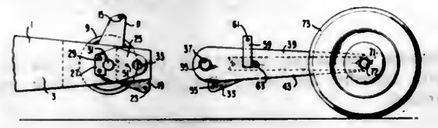
Necktie hanger adapted to accommodate a plurality of neckties or other pieces of garment in four separate groups, arranged in two pairs. Each group is formed by limbs with a number of angularly bent portions, held together by a common retaining plate member which can be suspended, e.g. by way of a hook. The individual limbs are laterally spaced in each pair, and between the pairs, to facilitate the removal and replacement of neckties in any group.

3,370,716
KNOCKDOWN FILING RACK
Herbert E. Natalis, 22 Linda Circle, Matawan, N.J. 07430
Filed Apr. 18, 1966, Ser. No. 543,417
3 Claims. (Cl. 211—177)



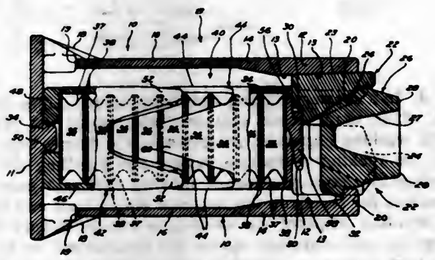
2. A knockdown storage unit comprising an elongated bottom member and a front panel member of extruded material, said bottom member and said front panel member having the same transverse cross section, the elongated side edges of said members having a recessed portion extending from one surface and providing a shoulder, said members having slots extending at an angle from each of said shoulders and opening up on said shoulders, said bottom member and said front panel member having abutting ends, side panel members of sheet material forming the sides of said unit, two adjacent edges of said side panels having inturned flanges engaged in said slots, the flanged edges of said panels engaging said shoulders, said flanges terminating short of each other at their adjacent ends.

3,370,717
PIVOTALLY MOUNTED CRANE BOOM CART
Alfred G. Reapsummer, Fort Lauderdale, Fla., assignor to Vincent M. Gilliam, Shaker Heights, Ohio
Filed Oct. 29, 1965, Ser. No. 505,696
8 Claims. (Cl. 212—59)



Structure for supporting a foldable boom at its terminal working end during folding operations. A boom cart for supporting a rotatable wheel is adapted to be secured to the terminal working end of the outboard boom section of the foldable boom. The rotatable wheel can be pivoted to a plurality of preselected positions about the terminal working end of the boom for supporting the boom during folding operations.

3,370,718
DRAFT GEAR
Harold E. Waddell, La Grange, Ill., assignor to W. H. Miner, Inc., Chicago, Ill., a corporation of Delaware
Filed Oct. 15, 1965, Ser. No. 496,460
2 Claims. (Cl. 213—32)

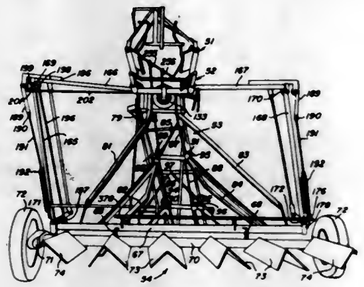


A friction draft gear having a stack of resilient pads retained in columnar relationship by a pair of cup-like members fitted over opposite ends of the stack and having interengageable fingers permitting compression of the stack of pads.

3,370,719
AUTOMATIC BALE STOOKER
Allen L. Oler, Rosemary, Alberta, Canada, assignor to Oler-Stringam Manufacturing Ltd., Alberta, Canada
Filed Feb. 9, 1966, Ser. No. 526,258
Claims priority, application Canada, Feb. 17, 1965, 923,550
7 Claims. (Cl. 214—6)

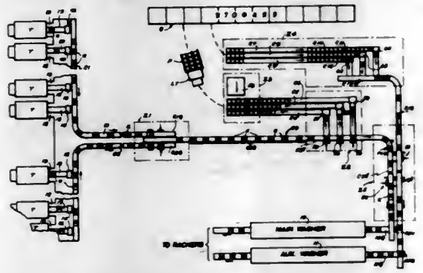
Automatic bale stooking apparatus for forming a pyramidal shaped stook. A chute guides the bales upward to a station where each bale is turned with one edge directed downwardly and deposited onto a carriage. The carriage is guided downwardly by a trackway, and a tripping mechanism causes each bale to be deposited into

a preselected position in a stook being formed on a supporting fork. Upon completion of the stook, a further



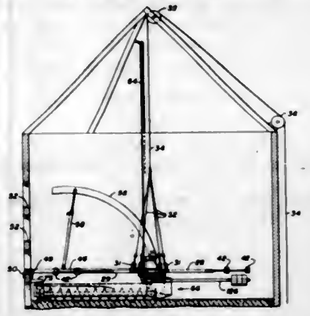
tripping mechanism causes the free end of the fork to drop thereby depositing the completed stook on the ground.

3,370,720
KEG HANDLING SYSTEM
Ernst R. Schickle, Tappan, N.Y., assignor to Rheingold Breweries, Inc., Brooklyn, N.Y., a corporation of New York
Filed Feb. 11, 1966, Ser. No. 526,784
18 Claims. (Cl. 214—16)



1. In a brewery having a plurality of unloading stations at which empty beer kegs are returned to the brewery and washing apparatus for cleaning the empty kegs prior to the racking thereof, a system for handling the kegs comprising conveyor means moving past said unloading stations for receiving the returned empty kegs and having a terminus adjacent the washing apparatus toward which kegs on said conveyor means are transported for feeding to said apparatus, means operative when there is a predetermined excess of kegs on a section of said conveyor means leading to said terminus to effect removal of kegs from said conveyor means in advance of said section, grouping means receiving said kegs removed from said conveyor means and accumulating said removed kegs in predetermined convenient groupings for storage thereof, degrouping means for receiving said groupings of kegs from storage and being operable to separate kegs from said groupings, an auxiliary conveyor receiving the separated kegs from said degrouping means and conveying such kegs in succession, keg distributing means operative to transfer successive kegs from said auxiliary conveyor to said section of the conveyor means, and control means for said keg distributing means actuatable to cause operation of the latter when there is less than said predetermined excess of kegs on said section of the conveyor means, thereby to continuously maintain an adequate supply of empty kegs on said section for feeding to the washing apparatus.

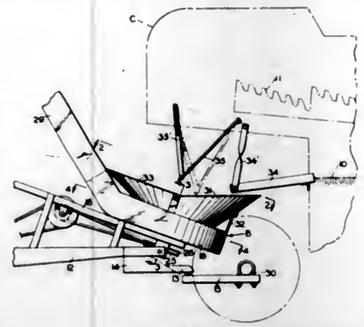
3,370,721
SILO UNLOADER
Shaun A. Seymour, Ephrata, and William W. Mann, Talmage, Pa., William E. James, Dijon, France, and Daniel C. Heitshu, Shippensburg, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Aug. 24, 1966, Ser. No. 574,604
10 Claims. (Cl. 214—17)



1. A silo unloader comprising an articulate structure having first and second parts, said first part comprising first journal means defining an axis of rotation, means connected to said first journal means for suspending the journal means from the top of a silo with said axis of rotation extending substantially vertically, a plurality of arms on said first journal means extending radially outwardly in different directions relative to said axis and having outer ends engageable with a silo wall to substantially center said journal means in a silo, means anchoring the outer end of one of said arms to said silo wall to positively prevent rotation of said first journal means about said axis, means defining a vertical passage through said first journal means coaxial with said axis of rotation, a spout mounted on said first journal means and extending upwardly and radially outwardly from said passage defining means, said second part comprising second journal means carried by said first journal means for rotation relative thereto about said axis, an impeller chamber fixed to and depending from said second journal means and having a vertically directed discharge opening coaxial with said axis of rotation and communicating with said passage defining means, a rotary impeller in said chamber and having a central horizontal shaft, a motor disposed along one side of said chamber, and a gearbox disposed along the opposite side of said chamber, said motor having a shaft coaxial and integrated with said impeller shaft, said gearbox having an input shaft coaxial and integrated with said impeller shaft, said gearbox having a first horizontal output shaft, a generally horizontal auger coaxial with said first output shaft and having one end coupled thereto, said impeller chamber having a material inlet opening adjacent said one end of said auger, said gearbox having a second output shaft, and means connected to and driven by said second output shaft to rotate said second part of said articulate structure as a unit relative to said first part about said axis of rotation.

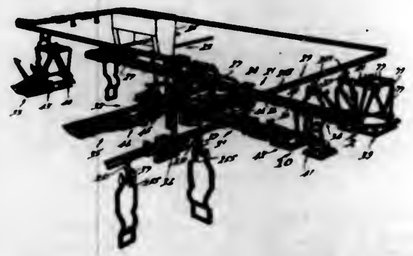
3,370,722
CHAFF AND STRAW COLLECTING AND SEPARATING MEANS FOR HARVESTER COMBINE
Boris M. Fingerut, Lake Grove, and Fred E. Kirby, Madras, Oreg., assignors to Portland Wire & Iron Works, Portland, Oreg., a corporation of Oregon
Filed Apr. 14, 1966, Ser. No. 542,499
5 Claims. (Cl. 214—42)

1. An improved blower assembly for separately distributing two blower-distributable materials delivered into the blower simultaneously, said assembly comprising a blower housing having bottom, side and top walls, said top wall having a central in-feed opening into said housing, a pair of partially funnel-shaped guideways on said housing having their bottom rims in registration with half portions respectively of the rim of said in-feed opening, and a pair of covered passageways leading outwardly in different directions from said side wall of said housing, said passageways and said guideways so located and positioned that



material passing down through one guideway into said housing will be engaged by said impeller in time to be discharged mainly into one of said passageways and material passing down through the other guideway will be engaged by said impeller in time to be discharged mainly into the other of said passageways, whereby the two materials can be separately distributed simultaneously by the same blower.

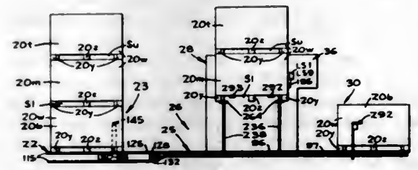
3,370,723
WORK TRANSFER APPARATUS
Adolph Czarnecki, Birmingham, and Steve M. Aksamit, Melvindale, Mich., assignors to Anchor Steel & Conveyor Company, Dearborn, Mich., a corporation of Michigan
Filed Sept. 20, 1965, Ser. No. 488,623
23 Claims. (Cl. 214—91)



A workpiece transfer device comprising a first conveyor means for transferring a workpiece along a predetermined path, a tip-arm assembly adjacent the path and adapted to transfer the workpiece to a generally upright position, a turnstile having clamping means thereon for supporting the workpiece in the upright position, means for indexing said turnstile through successive increments of less than 360°, and a second conveyor means for transferring a workpiece along a path substantially aligned with the indexed position of the turnstile.

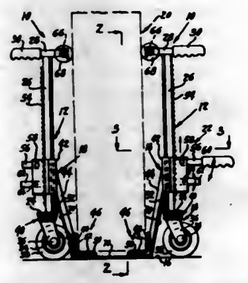
The purpose of the above abstract is to provide a nonlegal technical statement of the disclosure of the contents of the instant patent application and thus serve as a searching-scanning tool for scientists, engineers and researchers. Accordingly, this abstract is not intended to be used in understanding or otherwise comprehending the principals of the present invention hereinafter described in detail, nor is it intended to be used in interpreting or in any way limiting the scope or fair meaning of the claims appended hereto.

3,370,724
STACK HANDLING METHOD
Hugh C. Burns, Porterville, and Willard W. Smith, Gordon J. Coolidge, and Chester E. Dean, Lindsay, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
Application Oct. 12, 1965, Ser. No. 500,479, now Patent No. 3,325,021, dated June 13, 1967, which is a continuation of application Ser. No. 238,458, Nov. 19, 1962. Divided and this application Dec. 5, 1966, Ser. No. 630,148
3 Claims. (Cl. 214—152)



1. In a method of handling loads wherein the loads are positioned one on top of the other in a stack with a space between adjacent loads, the steps of lifting the entire stack of loads, inserting a support in the space between the lowermost load and the load thereabove as the stack is being lifted, lowering the entire stack after said support is inserted into said space to rest the portion of the stack above the lowermost load on said support, removing the lowermost load from under said portion of the stack, supporting said portion of the stack independently of said support, removing said support, and lowering said portion of said stack from its lifted elevation.

3,370,725
LIFTING DEVICE
James Woodrow Jones, 108 4th St., Deer Lodge, Mont. 59722
Filed Jan. 5, 1966, Ser. No. 518,827
8 Claims. (Cl. 214—390)

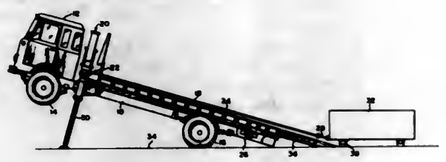


A wheel mounted elongated normally upright frame member having means thereon for lifting relatively heavy objects, the lifting means including means cooperating with means on the frame member which, upon actuation, effects axial longitudinal movement of the lifting means relative to the frame member.

3,370,726
MOTOR VEHICLE WITH DEVICE FOR LOADING AND UNLOADING HEAVY CARGOS

Mitsuyoshi Ijichi, Tokyo, Japan, assignor to Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan

Filed Dec. 23, 1965, Ser. No. 516,064
1 Claim. (Cl. 214—506)

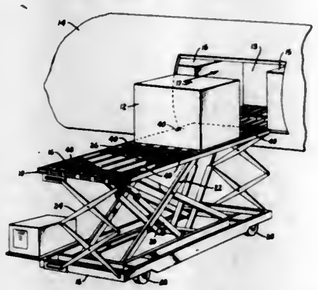


In a motor vehicle comprising a drive for the vehicle, a chassis frame, a cabin and a load carrying platform secured on that portion of the chassis frame disposed to the rear of the cabin, the combination of telescopic hydraulic hoist means of a bridge type mounted just behind the cabin on the vehicle and capable of being driven by the same drive as drives the vehicle to lift the front end of the vehicle, including wheels, off the ground and simultaneously to tilt the entire vehicle with the rear down until the rear end of said load carrying platform approaches the ground surface on which the vehicle rests, a gangboard detachably connected between the rear end of said load carrying platform as tilted and the ground surface to provide an extension of said platform substantially flush with the upper surface of the latter, and winch means including a winch secured to said chassis frame on the rear portion, a pulley disposed adjacent said hoist means, and a length of cable operatively coupled to said winch and said pulley to be engageable by a heavy cargo to be loaded and unloaded.

3,370,727
LATERALLY ADJUSTABLE CONVEYOR

Hugh H. Shaw, Salinas, Calif., assignor to American Sugar Company, Salinas, Calif., a corporation of New Jersey

Filed Nov. 12, 1965, Ser. No. 507,424
1 Claim. (Cl. 214—512)

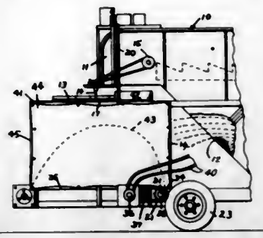


An elevator with a free handling roller conveyor which includes (a) power driven drive wheels projecting through the conveying surface of the roller conveyor for driving freight over the conveyor in a predetermined direction, and (b) resilient support means for the rollers of the conveyor between two sets of drive wheels for permitting freight to be shifted on the conveyor in a direction perpendicular to the conveying direction of the freight.

3,370,728
CHAFF COLLECTOR ATTACHMENT FOR COMBINES

Daniel Broeckel, Rte. 1, Lacrosse, Wash. 99143

Filed May 10, 1965, Ser. No. 454,527
3 Claims. (Cl. 214—522)



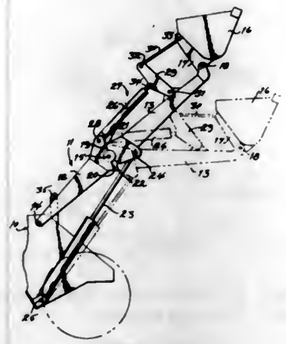
1. A chaff collector attachment mounted to the rear of a grain combine for receiving, collecting and selectively unloading chaff blown rearward through the chaff opening in the combine and for deflecting straw discharged downwardly from a straw opening located above and rearward of the chaff opening, comprising:
   (a) a deflector plate mounted to the combine above the chaff opening and in the path of the straw for deflecting the straw rearwardly;
   (b) a platform pivotally mounted across the rear of the combine below the chaff opening of the combine for receiving the chaff;
   (c) side and rear fabric walls attached to the deflector plate and extending downwardly to the platform enabling the platform to accumulate chaff;
   (d) a flexible connector extending between the combine and the platform to limit the downward swing of the platform to a normally horizontal position;
   (e) a conveyor system mounted on the platform for selectively unloading accumulated chaff, said conveyor system having:
      (1) a pair of spaced parallel continuous chains movably mounted to the platform with the lower flight of the chains passing above the platform and the lower flight of chains passing below the platform;
      (2) a plurality of spaced transverse slats mounted between the chains; and
      (3) a drive means connected to the chains for selectively moving the chains to move the slats over the platform to unload the accumulated chaff.

3,370,729
TRACTOR MOUNTED LOADER LINKAGE

Frederick J. Clarke, Far Rockaway, N.Y., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 17, 1966, Ser. No. 587,111
7 Claims. (Cl. 214—770)

1. A loader linkage for use with a tractor including, a boom assembly pivotally attached to the tractor at one end of the assembly, a bucket pivotally attached to the boom assembly at the other end thereof, tilt linkage pivotally attached to the boom assembly and the bucket, and lifting means for raising and lowering the boom assembly and the bucket, the improvement comprising: a pair of arms forming the boom assembly wherein the boom assembly includes a rearward boom arm and a forward boom arm pivotally connected together at respective ends; means connecting the lifting means with the forward boom arm; and sets of alternately engageable and disengageable stop surfaces of which the surfaces of each set are respectively on the pivotally connected ends of the booms arms and cooperatively arranged so that as the lifting means raises the boom assembly the rearward boom arm is first raised to a predetermined position while one set of said stop surfaces

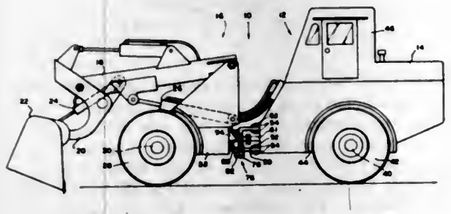


remains engaged, after which the forward boom arm pivots relatively to the rearward boom arm to raise the bucket relative to the rearward boom arm until another set of the stop surfaces becomes engaged.

3,370,730
ARTICULATED VEHICLE

Harry L. Fielding, Portland, Oreg., assignor to Mixermobile Manufacturers, Inc., Portland, Oreg., a corporation of Oregon

Filed Oct. 1, 1963, Ser. No. 313,115
10 Claims. (Cl. 214—778)

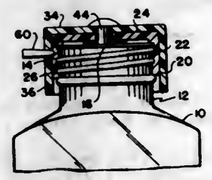


1. In an articulated vehicle,
a first frame,
wheels carrying the first frame,
a second frame,
wheel carrying the second frame,
vertical pivot means having a first member and a second member pivotal relative to the first member about only a generally vertically pivot axis,
the first member being fixed rigidly to the first frame,
horizontal pivot means connecting the second frame pivotally to the second member about a horizontal pivot axis extending longitudinally relative to the second frame,
outboard load means on one of the frames,
a first lug fixed to the second frame at one side of said horizontal pivot axis,
a first extensible hydraulic unit connected at one end to the second member and connected at the other end to the first lug at the other end of the unit,
a second lug fixed to the second frame at the side of the horizontal pivot axis opposite to that at which the first lug is positioned,
a second extensible hydraulic unit connected at one end to the second member and connected at the other end thereof to the second lug,
the hydraulic units having liquid therein tending to extend the hydraulic units with a sustained force so as to make the full weight of the other frame effective in accordance with the magnitude of said force in counterbalancing when the frames have been turned about the vertical pivot means to an angular relationship to each other,
and manually operable means for selectively varying the pressure of the liquid in the hydraulic units over a predetermined range.

3,370,731
SAFETY CLOSURE DEVICE FOR A CONTAINER

John J. Ehrbar, 4007 Garbor Drive, Warren, Mich. 48092

Filed June 6, 1966, Ser. No. 555,474
1 Claim. (Cl. 215—9)



An assembly including a container and a safety closure therefor is disclosed which requires several manipulations to open. The assembly comprises a container having a cylindrical neck at the top end thereof and integral threads molded on the cylindrical neck. The safety closure includes an interior cup-shaped cap element adapted to engage and seal the threaded neck of the container. An exterior cup-shaped element fits concentrically over the interior cap element and is loosely connected thereto by means of a centrally located coupling element. The depending collar of the exterior cap element is provided with a relatively small opening which is adapted to be aligned with a relatively small recess provided in the collar of the interior cap element. The corresponding opening and recess are located a fixed distance below the top wall of the exterior cap element. A tool having a relatively small head is adapted to be inserted through the opening in the collar of the exterior cap element into the recess in the interior cap element to hold the cap elements together as a unit to permit relative rotation between the cap elements and the container for applying or removing the cap elements. Such manipulations are difficult for small children to perform.

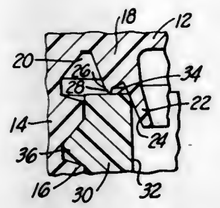
3,370,732
CAP SEAL

Donald H. La Vange, East Douglas, Mass., assignor to Polytop Corporation, Slatersville, R.I., a corporation of Massachusetts

Filed Feb. 16, 1967, Ser. No. 616,674
3 Claims. (Cl. 215—40)

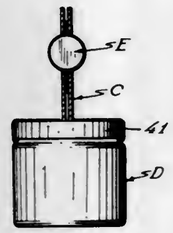
Assuming the cap seal is oriented to be positioned upon an upright neck, the cap seal has an interior downwardly extending circular resilient ring. Integrally formed with this ring and downwardly and inwardly directed with respect to this ring is a sealing and deflecting cone which is adapted to engage upon the interior of the bottle neck opening. Such engagement causes inward deflection of both resilient ring and the cone. On the lower face of the

ring is a downwardly extending sealing lip positioned to engage the top surface of the bottle neck outward from its opening. Since the resilient ring is attached to the remainder of the cap on its upper end, it is rigid in that direction, but since it is separated from the cap skirt in



the radial direction, deflection of the ring caused by engagement of the cone within the bottle opening causes deflection of the sealing lip toward engagement of the top of the bottle neck to thrust it down into firm sealing engagement therewith.

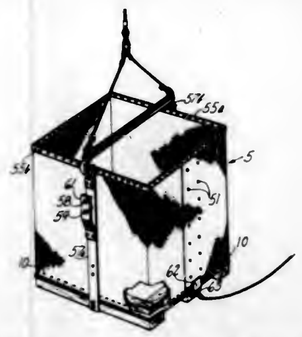
3,370,733
DISPLAYS
Jerry B. Giesler, Lombard, Ill., assignor to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota
Filed May 12, 1965, Ser. No. 455,114
12 Claims. (Cl. 215—100)



1. A display comprising in combination:
an object having a projecting end including a neck portion and a body portion,
a pair of paperboard panels secured in face contact and having registrable notches therein in a free edge thereof into which said projecting end extends,
strips of flexible plastic sheeting each having its ends secured to a corresponding panel with its center portion bridging the notch therein,
said center portions of said strips extending around opposite sides of said projecting end and engaged therewith,
said panels fixed to said projecting end thereby with said free edge extending substantially on the plane of the connected end of said neck portion short of said body portion.

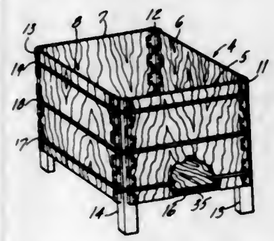
3,370,734
PALLET CONTAINER
William Burdette Wilkins and David J. Wyrough, Roxboro, N.C., assignors to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 20, 1965, Ser. No. 498,380
15 Claims. (Cl. 217—5)

A heavy-duty container having a side wall and a base united and arranged to provide rigid and integrated structure adapting the container for handling by fork-lift truck and crane. The components of the container are selected



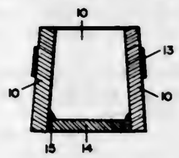
and arranged to facilitate the manufacturing thereof by assembly on a wrapping mandrel.

3,370,735
COLLAPSIBLE CONTAINER
David J. Wyrough, Roxboro, N.C., assignor to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 20, 1965, Ser. No. 498,888
8 Claims. (Cl. 217—12)



A so-called "knock-down" shipping container which is rigid in assembled form and collapsible into a flat "return" package characterized by separable side walls, and corner members which provide leg structure adapting the container for fork-lift truck handling, and an unfastened floor which seats internally the side walls at the upper ends of the leg structure. The container is held in assembled relationship about the floor by steel straps or other flexible tie means extending horizontally around the aforenamed components.

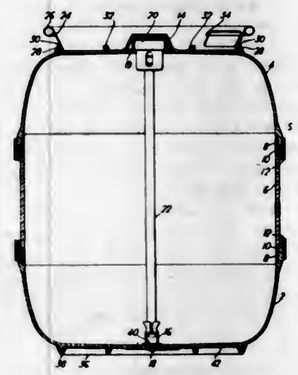
3,370,736
THERMOSETTING PLASTIC CASES AND NON-MOLDING METHOD OF MAKING SAME
Jerzy J. Wilentchik, 44 Prospect St., Yonkers, N.Y. 10701
Filed Dec. 19, 1963, Ser. No. 331,816
13 Claims. (Cl. 220—4)



10. A case of plastic material comprising a plurality of substantially rectangular sheets of thermosetting plastic material, said sheets being joined at edges thereof so as

to define a sleeve structure of predetermined cross-sectional area, an unnotched edge of one of said sheets being received in the notch of an edge of another of said sheets at each of said joined edges of said sheets, and another sheet of thermosetting plastic having an area slightly larger than said predetermined area and being wedged in one end of said sleeve structure in frictional engagement with said pairs of sheets, said other sheet being secured with cement edgewise to said plurality of sheets and said plurality of sheets being secured with epoxy cement edge to edge one to each other.

3,370,737
CONTAINERS
Ian Ainslie, Sanquhar, Scotland, assignor to Ian Ainslie & Company Limited, Sanquhar, Scotland, a British company
Filed Jan. 13, 1965, Ser. No. 425,220
Claims priority, application Great Britain, Jan. 21, 1964, 2,612/64
2 Claims. (Cl. 220—5)



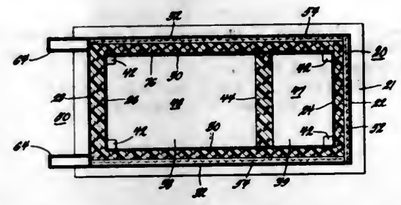
A container is formed of two cup-shaped end parts, and optionally an intermediate part, composed of glass fiber reinforced polyester resin. The ends of the parts are threaded, coated with adhesive and then screwed together.

3,370,738
REFRIGERATOR TRIM
Keith K. Kesling, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 346,149, Feb. 20, 1964. This application Mar. 21, 1967, Ser. No. 624,909
5 Claims. (Cl. 220—9)



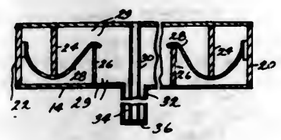
In the preferred form, the refrigerator cabinet has an inner wall provided near an edge with an outwardly extending offset of plastic material including a rib extending adjacent the straight outer wall forming a pocket alongside the rib between the front of the offset and the front of the outer wall. A resilient sealing gasket is compressed in the pocket to seal the insulating space between the walls. A U-shaped trim strip springs inwardly to press the walls against the gasket. In one form, a groove is provided on the opposite side of the rib receiving a projection of the trim strip which projects into it for preventing easy removal of the strip. This construction applies both to side and top walls and doors.

3,370,739
REFRIGERATING APPARATUS
Paul B. Burrus, Lebanon, and John C. Rill, Jr., Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 12, 1965, Ser. No. 471,047
2 Claims. (Cl. 220—9)



In the preferred form, the top and side outer walls of the refrigerator cabinet are lined with thin batts of resilient glass fiber insulation prior to the pouring of the foam into the remaining insulation space of the cabinet. The distortion of the top and side walls from the expansion of the foam forming insulation material is prevented by the easy compression of the bats of resilient glass fiber insulation.

3,370,740
VACUUM JACKETED JOINT CONSTRUCTION
James H. Anderson, 1615 Hillock Lane, York, Pa. 17403
Filed July 28, 1965, Ser. No. 475,354
13 Claims. (Cl. 220—15)

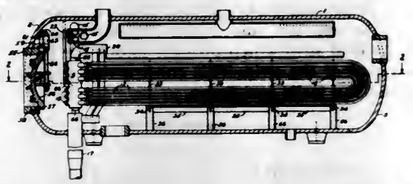


A double-walled thermally insulating, evacuated panel has an internal support arrangement which resists collapse of the walls by external forces acting on the walls. The support arrangement includes a series of post-like supports extending from the inner surfaces of the walls and tensioned cables passing in wave form over the free ends of the posts, thereby placing the latter in compression.

3,370,741
MANHOLE COVER AND MOUNTING MEANS THEREFOR
Eugene Porter Worthen, Braintree, and John Henry Stelling, South Yarmouth, Mass., assignors to Bethlehem Steel Corporation, a corporation of Delaware
Original application Aug. 22, 1960, Ser. No. 51,043, now Patent No. 3,254,705. Divided and this application Mar. 8, 1965, Ser. No. 437,749
2 Claims. (Cl. 220—25)

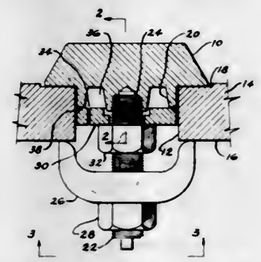
A manhole cover is mounted, inside a shell, through two pivotable links to a pin above the manhole opening,

to permit the manhole cover to be swung to either side of the manhole opening. The links are above the manhole



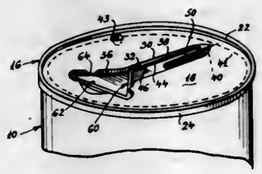
opening, thus permitting free access to the shell interior when the manhole cover is swung aside.

3,370,742
HANDHOLE CLOSURE
James E. Reardon, Chattanooga, Tenn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 21, 1965, Ser. No. 515,352
5 Claims. (Cl. 220—25)



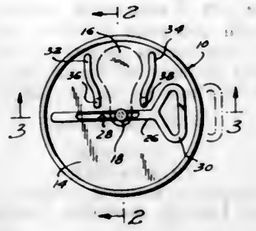
A handhole closure of the self inserting-weldable type where a skirt extends into the opening and is welded to the wall thereof at the skirt extremity. Mechanism is provided to effect a temporary seal without welding whereby after the temporary sealing the closure may be easily removed for inspection purposes.

3,370,743
ONE-PIECE WIRE CAN OPENER
Jeronimo Terriza, 128 Fort Washington Ave., New York, N.Y. 10032
Filed Feb. 16, 1966, Ser. No. 527,846
1 Claim. (Cl. 220—48)



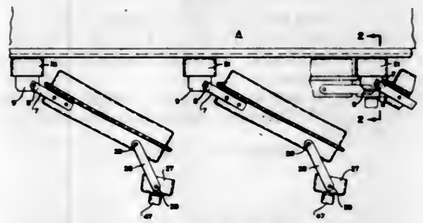
A one-piece wire can opener for puncturing and cutting the cover of the can. The can opener has an elongated body turned upon itself midway its ends forming parallel reaches, one outside reach being pointed at its free end formed with a knife edge along the side thereof inwardly of the point, the other outside reach terminating in a triangular shaped handle. The bend in the body is formed with an indentation adapted to coat with the top edge of the can to facilitate puncturing and cutting of the cover of the can.

3,370,744
CAN OPENER
Herbert Gontar, 14 Fellow St., Westport, Conn. 06880
Filed Nov. 22, 1965, Ser. No. 508,905
5 Claims. (Cl. 220—54)



1. A sealed container comprising: a top; sidewalls and a bottom defining a sealed interior compartment, the top having a weakened section adapted to be forcibly removed from the top to provide access to the interior compartment; key engaging means extending from the weakened section; an elongated substantially rigid key including surfaces defining an elongated slot intermediate its ends for receiving said key engaging means, a finger gripping portion at one end, and connecting means defined by surfaces of said key for connecting the key to the key engaging means; and adjustment means defined by the surfaces of said key defining said slot and said key engaging means for permitting adjustment of the key engaging means from a position substantially within confines of the top to an extended position beyond the top to provide increased leverage of the key whereupon the weakened section is adapted to be readily severed from the top by manually turning the key and twisting the weakened section about the other end of said key.

3,370,745
EXPLOSION RELIEF WALL
Ralph C. Parkes, Rydal, and William J. Henry, King of Prussia, Pa., assignors to National Drying Machinery Co., Philadelphia, Pa., a corporation of Pennsylvania
Filed May 25, 1965, Ser. No. 458,733
12 Claims. (Cl. 220—89)



1. In an explosion venting enclosure, the combination of a supporting frame including vertical support members,
a door movable from an open position to a closed position and said door being hingedly connected at one vertical edge thereof to one of the said members,
the unhinged edge of said door terminating in a vertical flange,
a first vertical U-shaped channel section secured to the said frame, the flanges of said channel section facing outwardly, and
one of said flanges receiving the said door flange,
a vertical panel section secured to the said frame,
said panel terminating outwardly in a vertical flange,
said panel flange being received by the second of said channel flanges,

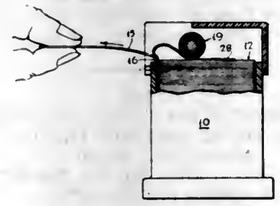
a second U-shaped channel section hingedly connected to the said door at the flange edge thereof,
said second channel being vertically disposed with flanges facing inwardly,
said flanges being in alignment with said flanges of the first channel member; and
locking means pulling the said channel sections together whereby the respective opposed flanges squeeze the flanges of the door and panel therebetween to complete the said enclosure.

3,370,746
DISPENSER FOR TABLETS
Eduard Haas, Strassergasse 34, Vienna 19, Austria
Filed Aug. 16, 1966, Ser. No. 572,730
Claims priority, application Austria, Sept. 8, 1965, A 8,199/65
5 Claims. (Cl. 221—24)



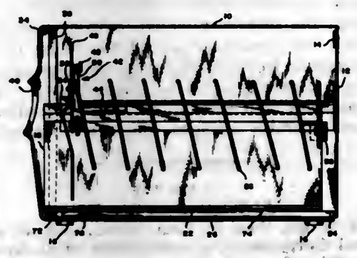
1. A dispenser for tablets comprising, in combination:
(a) a housing having the shape of a pistol;
(b) a barrel body mounted in said housing and defining an elongated barrel having two ends, an orifice directed outward of said housing at one end of said barrel, and a transversely open chamber at the other end of said barrel,
(1) said body being formed with guide means outside said barrel and elongated in a common direction therewith;
(c) a slider member slidably engaging said guide means for movement toward and away from an inoperative position;
(d) a trigger member projecting from said housing and fastened to said slider member for joint movement;
(e) yieldably resilient biasing means biasing said trigger member and said slider member toward said inoperative position thereof;
(f) an ejector member longitudinally movable relative to said barrel body between a normal position in which a portion of said ejector member is received in said chamber, and a cocked position in which said ejector member is longitudinally offset from said normal position in a direction away from said orifice;
(g) a tablet magazine releasably mounted in said housing adjacent said chamber;
(h) yieldably resilient discharging means in said magazine for moving tablets from said magazine inward of said chamber through the open side of the same,
(1) said discharging means holding one of said tablets in abutting engagement with said ejector member when the same is in the normal position thereof, and discharging said tablet into the chamber when the ejector member is in the cocked position;
(i) spring means urging the ejector member toward the normal position;
(j) motion transmitting means interposed between said slider member and said ejector member for moving the ejector member from the normal position to the cocked position and for thereafter releasing the ejector member for return to the normal position by said spring means when said trigger member is moved away from the inoperative position thereof against the restraint of said biasing means, said motion transmitting means including
(1) a first abutment member guided in said housing in a straight path,
(2) a second abutment member guided in said housing in an arcuate path intersecting said straight path,
(3) means urging one of said abutment members in a direction toward the intersection of said paths in such a manner that the abutment members engage each other while the second abutment member is located in said straight path, and said one abutment member moves past the other abutment member when said second abutment member moves out of said straight path, and
(4) means connecting said abutment members to said slider member and to said ejector member respectively for simultaneous movement with the connected member.

3,370,747
RETURN ADDRESS LABEL DISPENSER
John W. Desmond, 104 Water Drive, R.D., Media, Pa. 19063
Filed Oct. 7, 1966, Ser. No. 585,141
6 Claims. (Cl. 221—26)



A device for dispensing stacked sheet material from a receptacle where each sheet is secured at one edge thereof to the other sheets in the stack. A friction contact is utilized for causing the top sheet of the stack to bow outward through an opening in the receptacle. The sheet may then be separated from its binding by a tearing action from outside the receptacle.

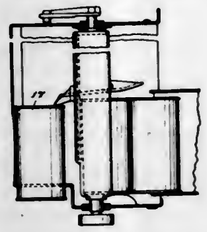
3,370,748
NAPKIN DISPENSER
Erhardt C. Koerper, Delafield, and Tristan Juergens, Madison, Wis., assignors to Wisconsin Tissue Mills
Filed Sept. 13, 1966, Ser. No. 578,625
4 Claims. (Cl. 221—59)



Disclosed herein is a napkin dispenser having a pull out drawer with a napkin pressure plate that is movable in tracks in the drawer and latched to the drawer

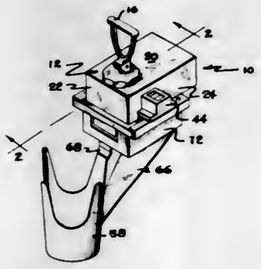
when the drawer is pulled out and released from the drawer when it is pushed in.

3,370,749
ARTICLE POSITIONING DEVICE FOR VENDING MACHINES
Jerome Nathan, Manchester, and Thomas H. Croteau, Hartford, Conn., assignors to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed July 7, 1966, Ser. No. 563,450
7 Claims. (Cl. 221—293)



A device for positioning articles in a vending machine wherein the articles are released one at a time by a gate which is pivotally and slideably movable. A deflecting member is mounted upon said gate and deflects a released article towards a delivery position as the gate is rotated and returned toward its normal position and the article is moved to a dispensing position. The said member then pushes the article from the dispensing position to the delivery position by sliding movement of the gate.

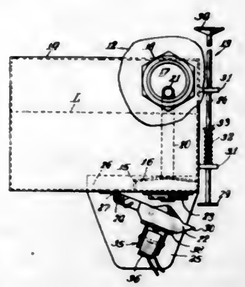
3,370,750
DISPENSING SPIGOT WITH COUNTER
Arthur Deutch, 8400 NW. 10th Ave., Miami, Fla. 33150
Filed Dec. 1, 1965, Ser. No. 510,902
5 Claims. (Cl. 222—30)



Apparatus for recording each dispensing operation of a beverage dispenser to ensure accounting for all beverage sales from the dispenser which includes components to selectively and separately record the filling of different sized containers from the dispenser, said apparatus further including a manually operated spigot having a receptacle holder movable into and out of position relative to said spigot and operably engaged with a mechanical counter.

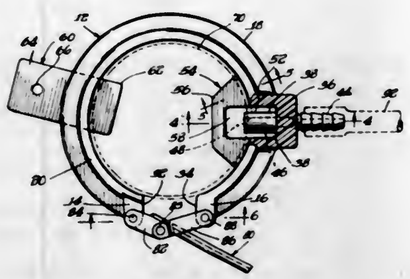
3,370,751
LIQUID DISPENSER
Albert T. Braga, West St. Paul, Minn., assignor to Whirlpool Corporation, a corporation of Delaware
Filed June 22, 1966, Ser. No. 559,557
2 Claims. (Cl. 222—76)

An electromagnetically operated dispenser for dispensing a preselected small quantity of water conditioning agent in a dishwasher or clothes washer.



The dispenser is a pump with a spring actuated, magnetically released plunger having a hammer action.

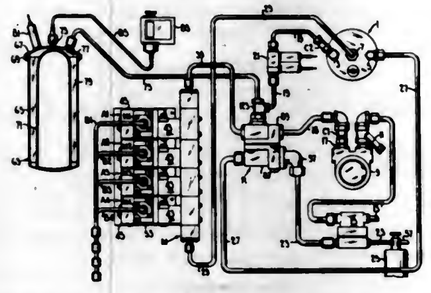
3,370,752
DEVICE FOR OPENING AND DISPENSING FLUID FROM A CONTAINER
Julius Abler, Libertyville, Ill., assignor to The Delta Company, Wheeling, Ill.
Filed Apr. 1, 1966, Ser. No. 539,407
1 Claim. (Cl. 222—83.5)



A fluid dispensing device of the type that is adapted to be clamped about the base of a cylindrical metal container of fluid whereby an opening is pierced in the vertical side wall of the container and the fluid is dispensed therefrom. The device comprises an integral, one-piece, substantially annular, molded, resilient plastic body member having an inner wall which provides a large, substantially continuous area of contact for engaging the vertical side wall of a cylindrical metal container. The inner wall, due to the resilient character of the plastic of the body member, is capable of resiliently conforming to the vertical side wall of the container when the body member is in a closed position thereby substantially preventing any buckling of the vertical side wall of the container which may cause rupturing at the seams thereof with the result that fluid in the container will be wasted.

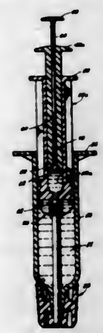
3,370,753
PLURAL SOURCE FLUID DISPENSER
Thomas O. Yingst, Pevely, and Leonard P. Traxel, Affton, Mo., assignors to Universal Match Corporation, St. Louis, Mo., a corporation of Delaware
Filed June 2, 1966, Ser. No. 554,763
5 Claims. (Cl. 222—129.1)

Dispensing apparatus blends tap water and carbonated water in a blender, the carbonated water being supplied from a carbonator under a pressure which is subject to variation. The tap water is delivered under pressure to the blender from a regulator which is responsive to pressure in the carbonator and to pressure in the water outlet of the



regulator for regulating the pressure of tap water delivered to the blender in accordance with the variations in pressure in the carbonator.

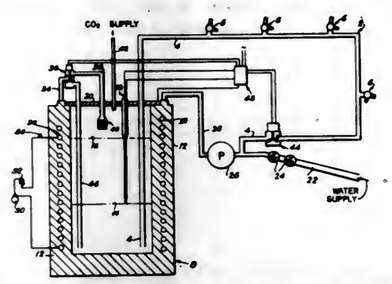
3,370,754
SYRINGE FOR MIXING AND DISPENSING TWO INGREDIENTS
Ralph J. Cook, Torrance, and Joseph M. Schumann, Inglewood, Calif., said Cook assignor to Products Research & Chemical Corporation, Burbank, Calif., a corporation of California
Continuation-in-part of application Ser. No. 464,978, June 18, 1965. This application Dec. 21, 1966, Ser. No. 613,692
23 Claims. (Cl. 222—132)



In a dual compartment container comprising three telescoping hollow members, the outer member forms a main compartment with the dispensing port at one end and the two remaining members are slidable in the outer member to dispense the contents of the main compartment. The two remaining members cooperate to form a second compartment having an inner port for communication with the main compartment and said two remaining members are slidable relative to each other to contract the second compartment to expel its contents through the inner port into the main compartment. A rod means normally closes the dispensing port and is not only operable to open the inner port but is also operable to reciprocate a dasher in the main compartment.

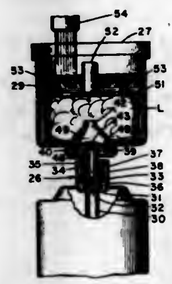
3,370,755
CARBONATED WATER SYSTEM
Joseph M. Querner, Wethersfield, Conn., assignor to Dunham-Bush, Inc., West Hartford, Conn.
Filed July 13, 1966, Ser. No. 564,987
6 Claims. (Cl. 222—146)

A system for carbonating, cooling and dispensing water is disclosed wherein a pump supplies fresh water to the top of the storage tank through a spray nozzle, so that the fresh water is carbonated. The same pump also recirculates carbonated water past the dispensing faucets to and from the body of water in the storage tank at such



time as no fresh water is being supplied to the system. Valves are provided to control the flow of water to the pump, and to direct the fresh water to the nozzle and the carbonated water to the bottom of the tank.

3,370,756
MEANS FOR HEATING SHAVING LATHER
Roxton C. McKinnie, 2435 Walgrove Ave., Los Angeles, Calif. 90066
Filed July 25, 1966, Ser. No. 567,596
4 Claims. (Cl. 222—146)

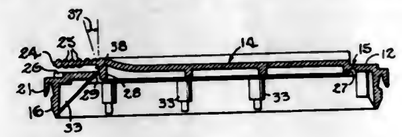


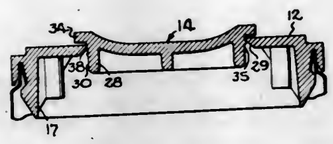
This disclosure relates to the heating of shaving lather from an aerosol type container by direct contact of the lather with hot water. The cover cap for the container is provided with an inlet valve assembly on its bottom such that the cover or cup may be removed and inverted and filled with hot water. The valve assembly is then positioned over the conventional push stem valve of the aerosol type container and urging downwardly of the cup causes lather to enter the cup and intermix with the hot water. The lather may be entrained or entrapped in the water by an applicator member receivable in the cup to hold the lather immersed in the water.

3,370,757
PLASTIC COVER FOR DISPENSING CONTAINER
John A. Foster, Rockford, Ill., assignor to J. L. Clark Manufacturing Co., Rockford, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 447,466, Apr. 12, 1965. This application Sept. 6, 1966, Ser. No. 586,903
10 Claims. (Cl. 222—153)

A generally rectangular single piece container cover is molded of resilient plastic and formed with an oblong central flap joined at one end by an integral hinge to one end of a dispensing opening in a flat top plate. Around the remaining peripheral edge, the flap is joined integrally to

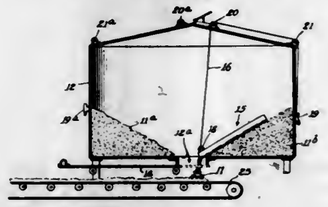
the top plate by a web of no substantial width and sufficiently thin to break and be torn all the way to the hinge ends by an upward pull manually applied to the free end of the flap to swing the latter upwardly and uncover the plate opening. By virtue of the resiliency of the plastic, no permanent deformation of the plastic occurs during breaking or tearing of the web so that the flap telescopes





back into the torn edge of the plate opening and fits closely therein to provide tight resealing. An overhanging flange around the flap and underside ribbing of the flap and plate provide the rigidity for limiting the reclosing movement while providing uniform plastic cross-sections to permit of high production molding.

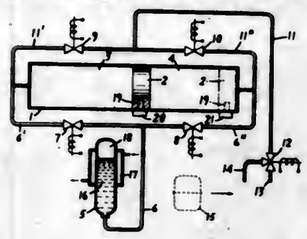
3,370,758
SONIC TOOL FOR ACTIVATING THE FLOW OF PARTICULATE MATERIAL
Albert G. Bodine, 7877 Woodley Ave., Van Nuys, Calif. 91406
Filed Dec. 19, 1966, Ser. No. 603,040
8 Claims. (Cl. 222—196)



A portable sonic tool including an elongated hollow elastic member in which is contained an orbiting-mass oscillator. The vibrational output of the oscillator is coupled to the elastic member and such oscillator rotatably driven by a motor, also contained within the elastic member, at a speed such as to cause a resonant vibration of the elastic member. The tool forms a self-contained resonant vibration system which when placed on the surface of particulate material to be activated effectively fluidizes such material by causing it to vibrate randomly as a resistive impedance load.

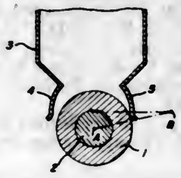
3,370,759
FLUID DISPENSER WITH ALTERNATE DISCHARGE FLOATING PISTON
Gustav Adolf Johansson, Nordborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed Dec. 7, 1965, Ser. No. 512,079
Claims priority, application Germany, Dec. 15, 1964, D 46,060
7 Claims. (Cl. 222—249)

This apparatus comprises a double acting floating piston in a cylinder having valved inlet-outlet orifices at each



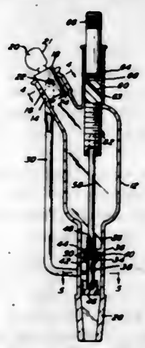
end, with piston carried magnet means cyclicly controlling the operation of the inlet and outlet valves.

3,370,760
DISTRIBUTING APPARATUS
George Leslie Wallis, Quillot End, The Quillot, Burwood Park, Walton-on-Thames, Surrey, England
Filed Nov. 15, 1965, Ser. No. 507,775
2 Claims. (Cl. 222—312)



Distributing apparatus for powdered or granular material comprising a hopper having at its lower end an elongated opening closed by a rotatable roller having a soft resilient surface, in which part of said roller coacts with a fixed smoothing member forming part of said elongated opening to control the flow of material therebetween, the rotational axis of said roller being pivotable about an axis parallel to said rotational axis so that the gap between the surface of the roller and the smoothing member may be continuously varied as desired to control the flow of material from the apparatus.

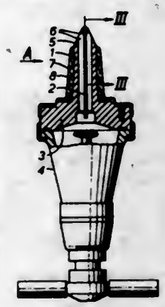
3,370,761
CONSTANT ADDITION FUNNEL
James C. Kontes, Vineland, N.J., and Roger Gilmont, Douglaston, N.Y., assignors to Kontes Manufacturing Company, Vineland, N.J., a corporation of New Jersey
Filed Apr. 18, 1966, Ser. No. 543,207
16 Claims. (Cl. 222—422)



A constant addition funnel for delivering fluids at a constant drop rate comprising a vessel, a valve adjacent the bottom of the vessel, a conduit extending from a position immediately above the inlet side of the valve through

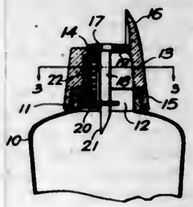
a control stopper to a position adjacent the outlet side of the valve, the control stopper being positionable to selectively place the conduit in communication with the interior of the vessel, said valve including a cooperating delivery tip and valve stem for maintaining concentricity therebetween.

3,370,762
DEVICES FOR DELIVERING MEASURED QUANTITIES OF LIQUID
William R. Berwick and Albert G. Berwick, Thornton Heath, Surrey, England, assignors to Gaskel & Chambers (Non-Drip Measure) Limited
Filed Mar. 16, 1966, Ser. No. 534,850
6 Claims. (Cl. 222—442)



A device for dispensing a measured quantity of liquid from an inverted bottle has an open inlet tube extending up from the measuring chamber to be thrust into the bottle mouth, and the inlet tube is internally divided into air and liquid conduits by a diametrically disposed separator plate extending substantially its length. The upper edges of the inlet tube are inclined downwardly and outwardly from a line containing the upper edge of the separator plate to provide enlarged tube end openings and inhibit the formation of air bubbles.

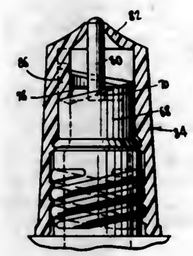
3,370,763
SELF-CLOSING CAP FOR FLEXIBLE TUBES
George J. Vranchea, 478 Fairgreen Ave., Youngstown, Ohio 44504
Filed June 28, 1966, Ser. No. 561,083
1 Claim. (Cl. 222—496)



A self-closing cap for a flexible tube comprising an apertured body member and a closure member movable axially in said apertured body member, and a spring urging said closure member to closed position.

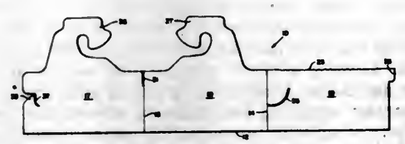
3,370,764
DISPENSING SCREW-TYPE CLOSURE CAP
Morton B. Stull, Boonton, N.J., (% Stull Engraving Co., 221–223 Banta Ave., Garfield, N.J. 07026)
Filed Dec. 29, 1966, Ser. No. 605,654
13 Claims. (Cl. 222—499)

A simplified dispensing closure cap construction having a tubular body through which the product passes, and having an orificed screw cap axially movable on the body between a raised dispensing position and a lowered sealing position. The upper edge of the tubular body has a



curved upper surface of helical inclination, engageable with a cooperable surface of sloped configuration in the cap, to provide for positive axial raising movement of the cap when it is turned in unscrewing direction.

3,370,765
SUPPORT FOR SUSPENDING COMBINATION TIE AND HANDKERCHIEF SET FOR DISPLAY
Mitchell C. Josem, Rochester, N.Y., assignor to Superba Cravats, Inc., Rochester, N.Y., a corporation of New York
Filed Aug. 11, 1966, Ser. No. 571,758
4 Claims. (Cl. 223—87)

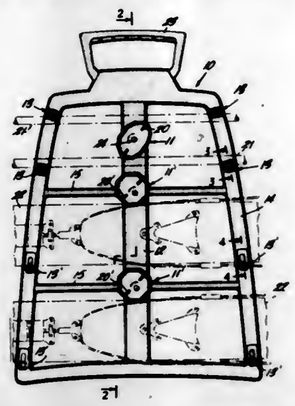


This hanger comprises a cardboard blank formed in three sections, an end one of which is folded between the other two sections. This end section has a straight upper edge, and a tongue at its outer end, which fits into a downwardly extending slot at the juncture of the other sections to hold the straight edge of the first section horizontal. Another tongue on the other end section engages in a slot in the first section to hold the blank folded. A necktie and a handkerchief may be suspended over the upper edge of the first section; and hooks are formed at the upper edges of the other sections, which register when the blank is folded, for hanging the tie and handkerchief from a display rack.

3,370,766
DEVICE FOR HOLDING SKIS AND SKI POLES
Richard G. Woolworth, Lancaster, Pa., assignor to Old Pal Inc., Lititz, Pa.
Filed Mar. 1, 1966, Ser. No. 530,880
5 Claims. (Cl. 224—45)

A device for holding and transporting skis and ski poles wherein one edge of each of the skis abuts against the

supporting fingers and the other edge of each of the skis is engaged by an adjustable cam means. Similarly, the ski



poles are supported between an adjustable cam means and a pair of spaced apart supporting elements.

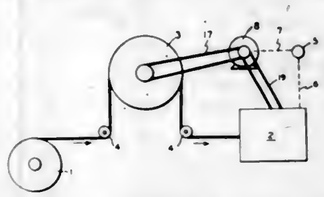
3,370,767
GLASS CUTTING DEVICE
Herbert I. Barrett, Missoula, Mont., assignor to B & B Industries, Inc., Missoula, Mont., a corporation of Montana
Filed Feb. 28, 1966, Ser. No. 530,269
7 Claims. (Cl. 225—96.5)



1. In a cutting device for glass or the like, a base member adapted for attachment to a support such as a carrying board or the like, said base member having a shoulder forming a raised portion with respect to said support and adapted for breaking scored glass thereover, said shoulder extending longitudinally of said base member, a pair of upstanding connecting means spaced apart on said base member, a cutter bar assembly carried by said connecting means for movement relative to said base member, said assembly further having spring means interposed between said cutter bar assembly and said base member holding said assembly and said member resiliently in spaced relation, said assembly further having control means for moving said assembly in the direction of said base member against the resistance of said spring means, said assembly further having a first track means juxtaposed above said shoulder and carrying a cutter member having glass scoring means in register with said shoulder, said assembly further having a second track means carrying a cutter control, said cutter control and said cutter member being interconnected by cable means carried by said assembly in such disposition that movement of said cutter control is transmitted to said cutter member.

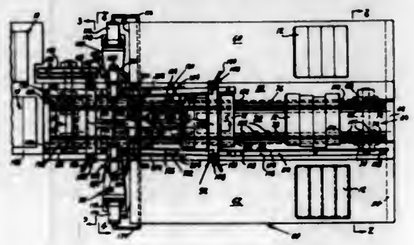
3,370,768
REGISTRATION AND TENSION CONTROL APPARATUS
Philip J. O'Toole, Bay City, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Feb. 14, 1966, Ser. No. 527,326
4 Claims. (Cl. 226—30)

1. In an apparatus where a continuous length of thermoplastic film having spaced surface markings is pulled at a substantially constant speed and under a substantially constant tension from a supply source and into a station for further operations, the improvement which comprises a roller having a surface which provides nonslipping frictional engagement with said film, said roller being located between the supply source of the film and the pulling means feeding film into the station for further operations, a means for driving said roller and said pulling means, an over-running clutch between said roller and said means



for driving, a sensing device for determining the location of surface markings on said film with respect to indexing points in said station, and a speed regulator for receiving from said sensing device indications of deviations from standard in the location of surface markings with respect to said indexing points and regulating the speed of the film at said roller and at said pulling means so as to reduce said deviations substantially to zero.

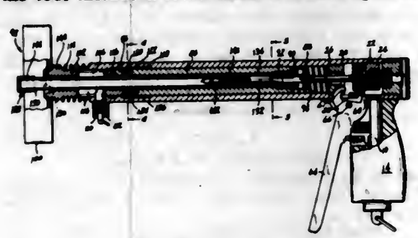
3,370,769
APPARATUS FOR MAKING PARQUET FLOORING TILES
John William Price, Jr., Madison, Va., assignor to Madison Flooring Company, Inc., Madison, Va.
Filed July 13, 1965, Ser. No. 471,549
12 Claims. (Cl. 227—3)



1. A device for assembling parquet flooring tiles comprising conveyor means for delivering in a predetermined path a plurality of substantially planar juxtaposed preformed wooden slats having edges substantially parallel to the direction of travel of said conveyor means from an input station to a securing station and frictional fastener driving means positioned at said securing station straddling said conveyor means for forcibly delivering frictional fasteners at preselected times into said edges of at least two juxtaposed wooden slats.

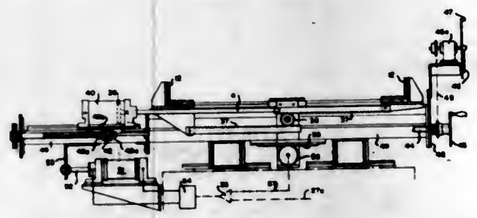
3,370,770
POWER-ACTUATED UNDERWATER TOOL
Robert W. Henning, North Haven, Oliver N. Lewis, Woodbridge, and Richard G. Lawson, Waterbury, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Jan. 20, 1966, Ser. No. 521,919
11 Claims. (Cl. 227—9)

An underwater power-actuated tool utilizing a disposable barrel member comprising a thin-walled tubular member containing a fastener and cartridge. Both ends of the barrel member, as well as a primer of the cartridge, are sealed against the entrance of water. The barrel member is so positioned with respect to the housing of the tool that the barrel member must be moved relatively therewith to move it into firing position. The firing means of the tool include a lever member which upon rotation



in one direction will cock the firing pin and upon rotation in the other direction will release the firing pin to actuate the cartridge.

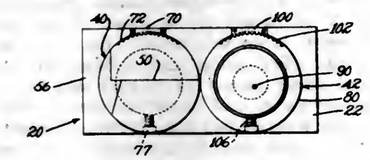
3,370,771
METHOD AND APPARATUS FOR POSITIONING STRIP IN A CONTINUOUS STRIP PROCESSING LINE FOR WELDING TO PRECEDING STRIP
Eli Shay, Warren, Ohio, assignor to Wean Industries, Inc., a corporation of Ohio
Filed Feb. 26, 1964, Ser. No. 347,488
20 Claims. (Cl. 228—8)



A method and apparatus for positioning the leading end of a strip in a continuous strip processing line with a predetermined longitudinal element spaced inwardly of the strip from an edge thereof, such as the longitudinal center line of the strip, in longitudinal alignment with the corresponding longitudinal element of the trailing end of the preceding strip for welding the leading end of the following strip to the trailing end of the preceding strip. The positioning is accomplished by sensing the transverse location of the longitudinal element of the trailing end of the preceding strip and transversely shifting the leading end of the following strip in accordance with the sensed transverse location of said longitudinal element of the preceding strip to position the leading end of the following strip with said longitudinal element thereof in longitudinal alignment with the corresponding longitudinal element of the trailing end of the preceding strip. Preferably the positions of both edges of the trailing end of the preceding strip are sensed and means are provided actuated by such sensing for transversely shifting the leading end of the following strip. By such method strips of unequal widths can be relatively centered for welding together.

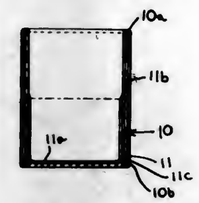
3,370,772
SOLDER APPLICATORS
Frederick S. Sillars, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., and Boston, Mass., a corporation of New Jersey
Filed Dec. 13, 1965, Ser. No. 513,260
6 Claims. (Cl. 228—43)

1. In a machine for applying solder to the side seams of moving can bodies, the combination of means for guiding can bodies for movement along a predetermined path of travel and an applicator comprising a base member having a first passageway, a discrete guide member mounted on said base member to aline the movement of the side seams of said can bodies, a discrete orifice member mount-



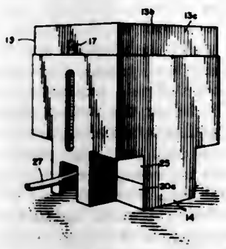
ed on said base member having a discharge passageway which communicates with the first passageway, and means permitting the independent selective positioning of said guide member and said orifice member with respect to the path of travel of said can bodies.

3,370,773
COMPOSITE CONTAINER
Robert W. Mayo, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Jan. 6, 1966, Ser. No. 519,148
1 Claim. (Cl. 229—14)



This application discloses a composite container comprising a paperboard sleeve which is open at both ends and a flexible bag formed from an impervious film, the bag being of a length which is more than twice the length of the sleeve and being fitted within the sleeve with its closed end adjacent to one end of said sleeve and extending beyond the other end of said sleeve, the bag then being reversely folded around the outside of the sleeve and extending back toward said one end of the sleeve, the terminal portion of said bag being again reversely folded to extend along the inside of the sleeve in the region between the sleeve and the closed end of the bag.

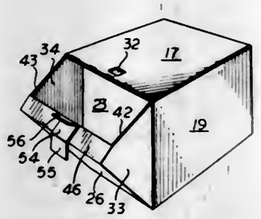
3,370,774
DISPENSING CONTAINER
Fritz J. Hopf, Ardmore, Pa., assignor to Hartman-Leddon Company, Inc., Philadelphia, Pa., a corporation of Delaware
Filed July 25, 1966, Ser. No. 567,644
17 Claims. (Cl. 229—14)



1. A dispensing container comprising an outer carton having top, bottom, and side panels; a support sleeve disposed within said carton; said sleeve being open at its

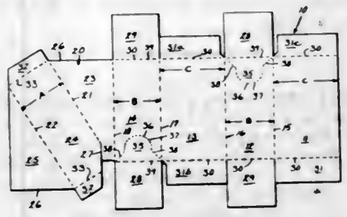
upper and lower ends and having side walls in surface engagement with the inside surfaces of the side panels of said outer carton; an inner carton having top, bottom, and side panels and being disposed within said sleeve and with the side panels thereof in slidable engagement with the side walls of the sleeves; the height of said outer carton and sleeve being substantially the same, and the height of said inner carton being substantially less than that of said sleeve; means for opening said outer carton to permit removal of said sleeve and inner carton therefrom; the side walls of said sleeve having indented corner portions at one end thereof; said inner carton being restrained by said indented corner portions against sliding movement in one direction within said sleeve during shipment thereof, and being supportable in elevated position by said indented corner portions when said container is in use.

3,370,775
SHIPPING AND STORAGE BIN CONTAINER CONSTRUCTION
John D. Link, Hinsdale, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 10, 1966, Ser. No. 585,440
8 Claims. (Cl. 229—17)



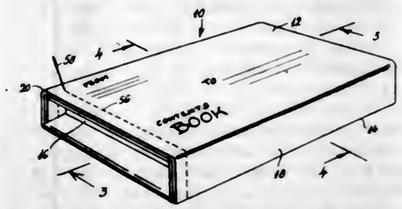
1. A shipping and storage bin container construction comprising, a plurality of side wall panels, each of said side wall panels being hingedly connected to and disposed substantially at right angles to the side wall panels adjacent thereto; end wall means for closing one end of the container, said end wall means being disposed at a respective end of each of said side wall panels, the end edges of said side wall panels opposite said end wall means defining an access opening; closure structure including a closure panel having one end hingedly connected to an edge of a first one of said side wall panels partially defining the access opening, said closure panel being pivotal between a closed position wherein it lies substantially in the plane containing said edges of said side wall panel defining the access opening and a fully opened position wherein said closure panel is disposed in a plane angularly oriented with respect to said first one of said side wall panels at an obtuse angle greater than 90°; and releasable lock means for securing said closure structure in its closed position including a locking flange secured to and arranged back-to-back with the interior surface of a second one of said side wall panels spaced and parallel from said first one of said side wall panels, said locking flange being disposed at the edge of said second one of said side wall panels partially defining the access opening and having an edge spaced and substantially parallel to said edge of said second one of said side wall panels, said releasable lock means further including a generally rectangular, combination pull and lock element, said element having a central portion fixedly secured to said closure panel at the edge thereof opposite the edge hingedly connected to said first one of said side wall panels, said element being provided with a lock tab hingedly connected to said central portion, said lock tab being disposed within the container and having an edge in abutting engagement with said edge of said locking flange when said closure panel is in its closed position so as to prevent pivotal movement of said closure panel toward its fully opened position, said lock tab edge being disengageable from abutting engagement with said locking flange edge exteriorly of the container so as to permit movement of said closure panel to its fully opened position.

3,370,776
DISPENSER PACKAGE
Robert A. Krzyzanowski, Milwaukee, Wis., assignor to Milprint, Inc., Milwaukee, Wis., a corporation of Delaware
Filed June 15, 1966, Ser. No. 557,760
1 Claim. (Cl. 229—27)



A dispensing package comprising carton having an inner diagonal wall dividing the carton interior into two compartments in which the diagonal wall is formed as a three-panel flap hinged to an outer wall panel of the carton.

3,370,777
BOOK MAILER CONSTRUCTION
Hans L. Levi, 432 Park Ave., S., New York, N.Y. 10016
Filed May 9, 1966, Ser. No. 548,505
8 Claims. (Cl. 229—40)



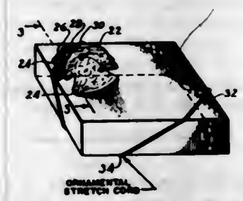
1. A shipping folder for a book or similar article, comprising a normally open sided container adapted to have the open sides closed upon the article inserted therein, and the container being formed of a pair of rectangular panels adapted to be spaced one from the other in parallel relation to accommodate such article therebetween, the ends of the container having formations adapted to contact the ends of an article shorter than the folder, each of said panels having parallel side edges and end edges so that there are pairs of each adjacent edges on the sides and ends of the container, the side edges being provided with hinged flaps, the flaps of said side edges being coextensive with the side edges, the flaps of each pair of adjacent side edges being adapted to be overlapped and connected, to form the closed sides of the container, each end closure formation being of inwardly collapsing pleat construction, said end formations along one of their end edges being hingedly connected each to one of two diagonally opposite end edges of said panels; and being secured in a fixed face to face position, each to one of the other two diagonally opposite end edges of said panels, along their other end edges, at least one of said other end edges being releasably secured in said fixed face to face position by means adapted to permit easy separation of the surfaces attached to each other.

3,370,778
HINGE ASSEMBLY FOR BOX CONSTRUCTION
Joseph O. Burman, Attleboro, Mass., assignor to Progressive Machinery Corp., Attleboro, Mass., a corporation of Massachusetts
Filed July 11, 1966, Ser. No. 564,397
3 Claims. (Cl. 229—44)



A box construction in which a hinge assembly is mounted, the hinge assembly including hinge members from which prongs are struck, the prongs having penetrating ends that are generally aligned with the portion of the hinge member from which they are struck prior to mounting of the hinge assembly in place, thereby providing for flush engagement of the hinge members with the walls on which they are secured, prior to penetration of the penetrating ends into said walls.

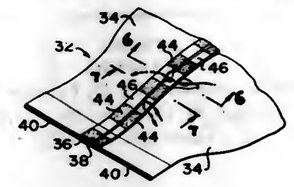
3,370,779
PACKAGE TIE WITH GIFT CARD
Bernard M. Cole, Old Westbury, N.Y., assignor to Stribbons, Ltd., New York, N.Y., a corporation of New York
Filed Feb. 13, 1967, Ser. No. 615,381
4 Claims. (Cl. 229—46)



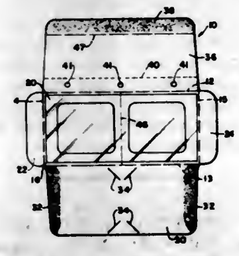
A stretch cord is tied with an ornamental bow in usual fashion to provide an elastic package tie. An ornamental gift card has a hole in one corner through which the loop of cord is passed as far as the bow. When the package tie is placed around the package the gift card is held on the package by means of the bow.

3,370,780
BAG WITH SELF-VENTING BACK SEAM
Fred B. Shaw, Hinsdale, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 22, 1965, Ser. No. 501,376
27 Claims. (Cl. 229—62.5)

A flexible package of a tubular configuration having contiguous (contacting or spaced) longitudinal edge portions joined by a strip of overlying material. The strip of material is joined to the edge portions at spaced intervals by adhesive, heat seals, etc. to form vent passages for a fluid media.

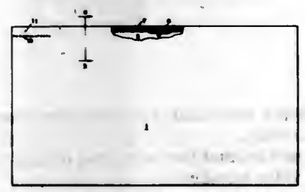


3,370,781
DISPLAY ENVELOPE
Maxwell H. Sroge, 377 Hawthorne, Glencoe, Ill. 60022
Filed Nov. 28, 1966, Ser. No. 597,304
2 Claims. (Cl. 229—71)



This invention comprises a windowed envelope for displaying photographs. The envelope includes means forming a portion of the envelope which readily cooperates with a storage album to enable mounting of the envelope in the album. The envelope includes a gummed flap which may be sealed for mailing the envelope with photographs therein, may be removed to permit mounting of the envelope in an album, or may be folded to form a brace whereby the envelope may be braced in an upright display position on a table or other flat surface.

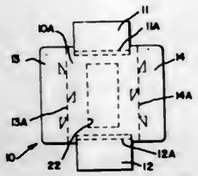
3,370,782
ENVELOPE AND OPENING MEANS THEREFOR
John H. Hickman, 1410 14th St., Baker, Oreg. 97814
Filed Mar. 23, 1966, Ser. No. 536,841
1 Claim. (Cl. 229—86)



A mailing envelope having an opening strip of an invisible nature incorporated therein adjacent the fold line between the closure flap and the front face of the envelope along a line of perforations extending entirely along the closure flap with the gripping end of the strip delineated by a second line of perforations and wherein the strip

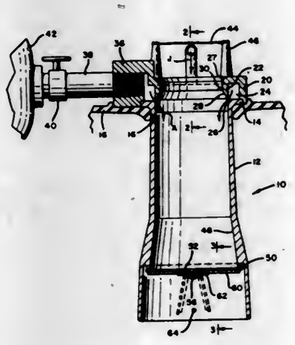
does not alter the general appearance of the envelope and which does not interfere with the safety of the envelope closure.

3,370,783
WRAPPING
Åke Nilsson, Vaksalagatan 19, Uppsala, Sweden
Filed Sept. 20, 1966, Ser. No. 580,658
5 Claims. (Cl. 229—87)



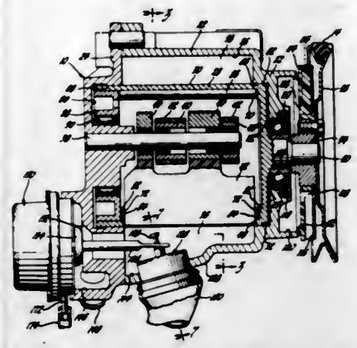
1. A wrapping for packing thin flat objects in a flexible buffer box comprising a flat body having foldable end flaps and longitudinal side flaps, said body having portions for supporting said objects against displacement laterally and longitudinally and having projecting portions, in the folded condition of the box, beyond the outline of said objects when packed in said box forming impact absorbing buffers.

3,370,784
INFLATION ASPIRATOR
Ronald H. Day, Mill Valley, Calif., assignor to Industrial Covers, Inc., San Francisco, Calif., a corporation of California
Filed Feb. 14, 1966, Ser. No. 527,177
8 Claims. (Cl. 230—95)



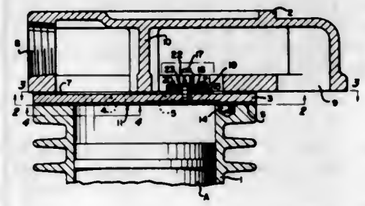
1. A device for inflating a container comprising:
a tubular body,
a valve seat around the inner wall of said tubular body,
a check valve member,
yieldable means biasing said valve member into engagement with said valve seat,
a fluid conduit surrounding the inner surface of said body on the upstream side of said valve member,
means forming an annular jet nozzle in said conduit coaxial with said body and opening therein, directed toward the downstream end thereof,
a duct across the upstream end of said body,
a slot in said duct facing said upstream end of the body, and
means for conducting pressure fluid to said fluid conduit and said duct.

3,370,785
FLUID FLOW CONTROL MECHANISM
James E. Pasek and Frederick L. J. Rehfeld, Saginaw, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 9, 1966, Ser. No. 556,493
4 Claims. (Cl. 230—202)



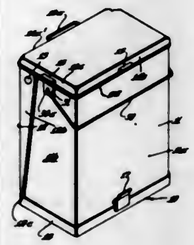
1. An air pump including a housing having an internal peripheral wall forming a cavity, an impeller positioned within said cavity and having an external peripheral wall at least portions of which are radially space from said internal peripheral wall to form a working chamber, said working chamber having an inlet, said impeller having a drive shaft extending exteriorly of said housing, rotation of said drive shaft causing an air flow into said working chamber through said inlet, and an air cleaner secured upon said drive shaft for rotation therewith, said air pump having an air flow path to said inlet restricted to pass through said air cleaner, said air cleaner comprising a disc member having a plurality of radially extending passages formed therein, said passages being open at their radially outermost ends to the atmosphere, said passages being open at their radially innermost ends to said inlet, rotation of said disc member and concurrent air flow therethrough causing a separation of foreign material from and cleaning of the air flow to said inlet.

3,370,786
MULTIFINGER DUAL VALVE
Arthur E. Brown, Corning, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 19, 1966, Ser. No. 543,597
9 Claims. (Cl. 230—231)



A valve for use with reciprocating piston compressors. It includes a valve plate having a plurality of holes and an inlet valve in the shape of a tree with a plurality of fingers extending laterally from the trunk. The trunk is secured to the valve plate at the end opposite from the fingers. The outlet valve has a central hub and a plurality of fingers extending outwardly from the central hub. The fingers of the inlet valve cover some holes in the valve plate and the fingers of the outlet valve cover the remainder of the holes in the valve plate. Each valve limits fluid flow to one direction.

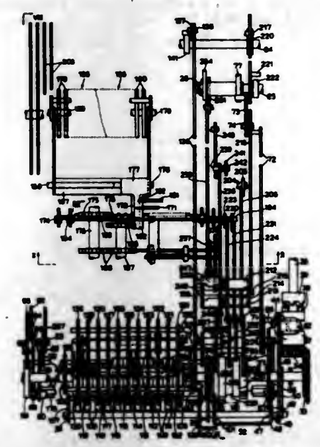
3,370,787
BAG-LINED GARBAGE RECEPTACLE
William H. Lindholm, 8514 W. 119th Place, Palos Park, Ill. 60464, and Donald W. Lindholm, 15929 S. Grove, Oak Forest, Ill. 60452
Filed June 8, 1966, Ser. No. 556,164
12 Claims. (Cl. 232—43.2)



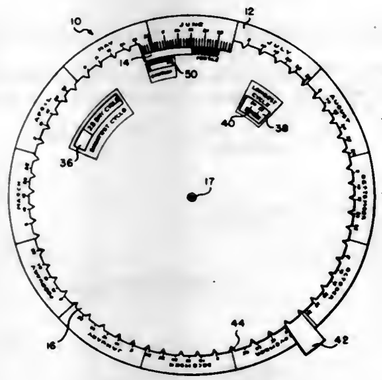
1. A receptacle adapted to receive a bag, support the bag in open upright position to receive material introduced through the top of the receptacle and discharge the filled bag through the bottom of the receptacle which comprises:
pivotally connected complementary members defining an open-ended tube in closed position and adapted to swing to an open position providing an enlarged space therebetween,
a lid selectively closing the top of the tube,
a base selectively closing the bottom of the tube, and
means selectively locking the members and base in closed position,
whereby a bag introduced through the top of the closed, locked-together members and base may rest on the base completely enveloped by the members in supported upright position lining the tube defined thereby to receive material through the top thereof which may easily be discharged through the bottom by unlocking the members and base and by swinging the members to an open position.

3,370,788
PROGRAM CONTROL DEVICE FOR A CALCULATING OR LIKE MACHINE
Teresio Gassino, Ivrea (Turin), Italy, assignor to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed Mar. 14, 1966, Ser. No. 533,974
Claims priority, application Italy, Mar. 31, 1965, 7,280/65
12 Claims. (Cl. 235—62)

A program control device for a calculating machine comprises a cam shaft adapted to be located in a plurality of operative stations to control in any station predetermined machine functions. The cam shaft is moved through a clutch and is arrested in a sequence of stations determined by a key depressed at the beginning of the sequence by a set of selectable elements cooperating with a set of variably toothed disks secured to the shaft, said elements upon having arrested said shaft being also adapted to disengage said clutch.

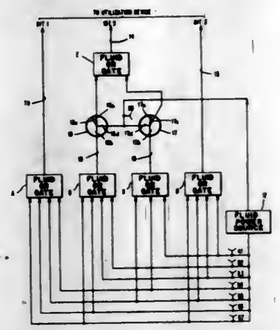


3,370,789
MENSTRUAL CALCULATOR
Lawrence M. Sherman, 209 Maple St., Needham, Mass. 02192
Filed Oct. 10, 1966, Ser. No. 585,449
11 Claims. (Cl. 235—85)



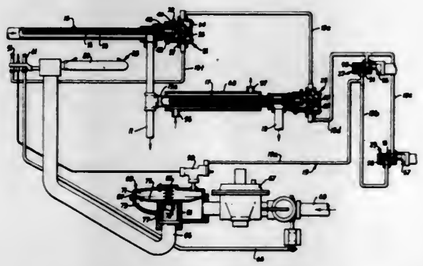
A menstrual calculator for indicating periods of fertility and infertility during menstrual cycles of varying duration. In one embodiment of the invention three superposed, independently rotatable, coaxial disks are utilized. The lower disk has a month-day calendar scale, while the intermediate disk has a plurality of fertile period increments and a corresponding plurality of shortest and longest cycle indicia. Means are provided on the upper disk for increasing the apparent length of the fertile period increments on the intermediate disk by one day for each day that a selected longest cycle indicia numerically exceeds a selected shortest cycle indicia.

3,370,790
FLUID SHIFT
Arnold Schonfeld, Levittown, and Marvin Jacoby, Fort Washington, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 18, 1965, Ser. No. 497,238
9 Claims. (Cl. 235—201)



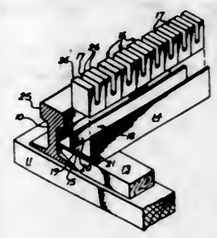
1. In a fluid keyboard for converting a decimal input into a binary output, a plurality of output channels, each of said output channels corresponding to a digit position, a plurality of fluid switches, each of said fluid switches operable upon actuation to connect a source of fluid to a selected one of the possible combinations of said output channels, means connected to one of said output channels and operable upon actuation for disconnecting said fluid source from said one output channel when said one output channel is a member of a combination connected to said fluid source or for connecting said fluid source to said one output channel when said one output channel is not a member of a combination connected to said fluid source.

3,370,791
MULTI-TEMPERATURE FLUID DELIVERY APPARATUS
Walter F. Maisbary, Oakland, Calif., assignor to Maisbary Manufacturing Company, Oakland, Calif., a corporation of California
Filed Jan. 7, 1966, Ser. No. 519,324
13 Claims. (Cl. 236—23)



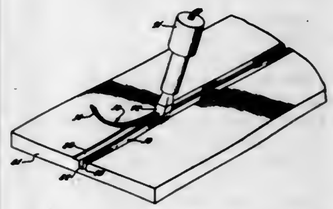
A multi-temperature fluid delivery apparatus constructed with a demand controlled heater formed to heat a hot line and at least one other line colder than the hot line, the control being effected by a thermostat in each line with each thermostat operating a temperature controlled valve placed in a gas pressurized control line in series relation whereby all the temperature controlled valves must be opened to provide heat, and a plurality of flow control valves disposed in parallel in the gas pressurized control line, with one of said flow control valves disposed on each fluid delivery line so that one of the fluid delivery lines must be flowing to provide heat in addition to the operation of the temperature controlled valves; the colder fluid delivery lines each being preferably formed with a fluid connection to the hot line for receipt of at least some fluid therefrom.

3,370,792
RAILWAY CROSSING
Paul Speer, Dallas, Tex., assignor to Speer Filler Strip Company, a corporation of Illinois
Filed Oct. 22, 1965, Ser. No. 502,042
10 Claims. (Cl. 238—9)



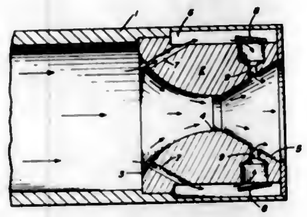
A railway crossing structure in which the space beside the rail through which the wheel flange passes is filled with a resilient material, so that vehicles passing transversely over the rails are relieved of shock. The resilient material is a series of blocks each of which are preferably provided with channels extending transversely of the rails, and structure is provided for holding these blocks in place.

3,370,793
CONDUCTOR BARS
Wilbur B. Chilcote, 18172 Rainer Drive, Santa Ana, Calif. 92705
Filed Apr. 30, 1965, Ser. No. 452,228
12 Claims. (Cl. 238—10)



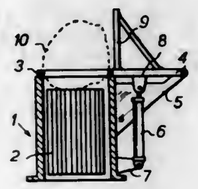
A flexible, electrical conductor bar, especially suitable for conducting current to sliding contactors, in the form of a flattened, tubular braid of wire having a layer of normally non-tacky, thermoplastic vinyl resin attached to the surface of one side thereof. The resin is fusible by heat to a temporarily tacky condition. The conductor is formed by extruding a layer of heated resin onto an exposed side of the flattened conductor element and the layer attaches by at least partially filling the voids between the wires as the resin layer cools. The conductor is suitably attached to a surface by laying the conductor bar along the surface, such as a slot track roadbed, in preselected position with the resin contacting the surface and moving a heated hand iron or soldering iron with pressure along the opposite side of the conductor bar from the resin layer whereby the resin is heated to a temporarily tacky condition and attaches the conductor to the surface.

3,370,794
ANNULAR PLENUM NOZZLE FOR CONTROLLING TRAJECTORY OF ROCKETS
David G. Drewry, Cumberland, Md., and Harry D. Harmoning, Andover, Mass., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 8, 1965, Ser. No. 507,635
1 Claim. (Cl. 239—265.17)



A system for controlling the trajectory of rocket vehicles solely through the use of the rocket's propellant gases. An annular plenum chamber bypasses a portion of the propellant gases before they enter the exit nozzle and they are later injected into the exit nozzle to modulate the hot gases passing therethrough.

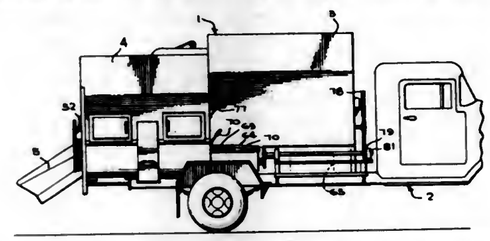
3,370,795
ROCK CRUSHER
Lorentz Selmer, Oslo, Norway, assignor to Ingenior F. Selmer A/S, Oslo, Norway
Filed July 6, 1965, Ser. No. 469,704
Claims priority, application Norway, July 9, 1964, 153,967
3 Claims. (Cl. 241—81)



This application discloses a rock crusher provided with an opening for receiving rocks to be crushed, which opening is provided with a protective rock sorter, including a frame adapted to retain rocks which are too large to be handled by the crusher, said frame being pivotally mounted on the crusher structure, and means for actuating the frame to remove rocks caught therein.

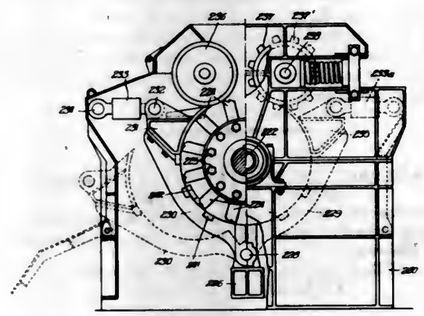
3,370,796
MIXING APPARATUS
Joseph Stanley Herr, Nottingham, Pa.
(P.O. Box 1416, Wickenburg, Ariz. 85358)
Filed Mar. 12, 1965, Ser. No. 439,393
6 Claims. (Cl. 241—101)

Feed mixing apparatus consisting of a loading tank and a mixing tank, with provision for feeding material to either tank selectively. The two tanks are separated by a wall having two closeable openings, to permit flow of material from the loading tank to the mixing tank and return. Control of the openings will allow loading the loading tank while mixing in the other with subsequent transfer from the loading to the mixing tank, or use of the two two tanks as a single mixing chamber by circulation through both tanks. A removable screen for a hammermill is also provided, having a retainer which is held



in screen-retaining position by the hammermill access door, and will drop by gravity to free the screen when the access door is opened.

3,370,797
APPARATUS FOR BREAKING SUGAR CANE AND THE LIKE
Harold F. Silver, Clarence R. Steele, and Frank B. Price, Denver, Colo., assignors to American Factors Associates, Limited, Honolulu, Hawaii, a corporation of Delaware
Original application Nov. 14, 1962, Ser. No. 237,575, now Patent No. 3,248,263. Divided and this application Mar. 4, 1966, Ser. No. 531,671
9 Claims. (Cl. 241—186)

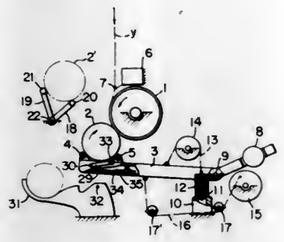


1. An apparatus for breaking sugar cane into pieces comprising a rotor having pivoted hammers adjacent the periphery thereof, an associated anvil surrounding said rotor constructed to provide a feeding opening adjacent the top of the apparatus, at least one driven feeding roll mounted adjacent to the top portion of said rotor and above said anvil for supporting the cane entering said feed opening and feeding same to said hammers, said anvil having openings of predetermined size therethrough, through which the broken cane passes, and breaker lugs on the inside of the periphery of said anvil extending inwardly into spaces between the ends of adjacent hammers on said rotor.

3,370,798
CENTERLESS WINDER
Shingo Hagihara, Yasutake Kobayashi, Katsumi Hasegawa, and Akio Ando, Ohtsu-shi, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Muromachi, Chuo-ku, Tokyo, Japan
Filed Oct. 27, 1964, Ser. No. 406,775
Claims priority, application Japan, Feb. 17, 1964, 39/8,159; May 20, 1964, 39/28,142; Aug. 11, 1964, 39/44,741
6 Claims. (Cl. 242—18)

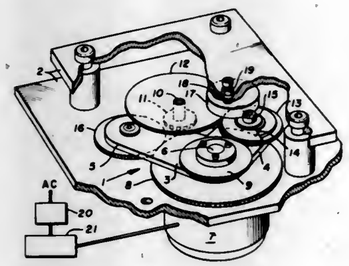
1. A yarn drum winder comprising a driving roll for surface driving a windup drum, windup drum supporting

arms having at least two drum receiving rolls thereon and being reciprocally movable toward and away from said driving roll, said drum receiving rolls supporting the end portions of a windup drum for engagement by said driving roll, empty drum supporting arms adjacent and above said winding drum supporting arms and having at one end thereof receiving rolls for supporting an empty drum, said empty drum supporting arms being oscillatable toward and away from said driving roll to move an empty drum into engagement with the driving roll to effect preparatory rotation of the empty drum prior to the



time the yarn becomes fully wound up on a windup drum and to further release it to fall onto the windup drum supporting arms, and a yarn switching means adjacent said driving roll means for switching the yarn from a full-wound drum to an empty drum while both drums are being driven, and means coupled to said windup drum supporting arms for moving said arms to move the full-wound drum out of engagement with the driving roll and discharge the full-wound drum after yarn switching and returning the said arms to their initial position to support the new windup drum.

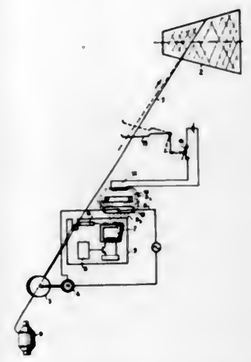
3,370,799
VARIABLE INTERMITTENT AND RESET DRIVE MECHANISM
Lawrence W. Rogers, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Jan. 10, 1966, Ser. No. 519,538
9 Claims. (Cl. 242—26.3)



A variable intermittent and reset drive mechanism including geared input and output members and a lever controlled to effect different gear connections to provide intermittent rotation of the output member in a forward direction and uninterrupted rotation in a reverse direction to reset the mechanism.

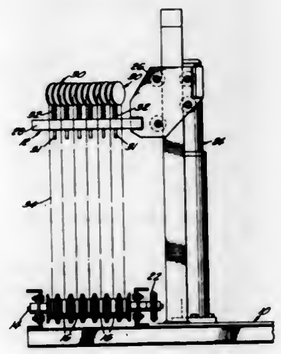
The drive mechanism is especially useful in applications requiring intermittent displacement of one or more elements at a predetermined rate and a resetting thereof at a comparatively rapid rate.

3,370,800
APPARATUS FOR SWITCHING AUXILIARY WORK PERFORMERS INTO OPERATION WITH TEXTILE MACHINERY
Nikolaus Karl Haberkern, Rapperswil, Switzerland, assignor to Zellweger Limited, Uster, Switzerland, a corporation of Switzerland
Filed Feb. 11, 1966, Ser. No. 526,759
Claims priority, application Switzerland, Feb. 19, 1965, 2,363/65
9 Claims. (Cl. 242—36)



A switching arrangement is arranged in the spooling machine which is actuated in dependence upon severance of a yarn in the yarn cleaner and deactuated upon upward movement of the yarn feeler. The switching arrangement includes a switch which is mounted outside the yarn cleaner and is magnetically actuated by the yarn cleaner upon severance of a yarn to actuate the yarn brake.

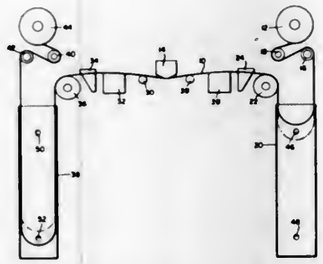
3,370,801
SKEW PULLEY ELEVATOR
Malcolm H. Ames, Littlerock, Calif., assignor to Panacolor, Inc., Hollywood, Calif., a corporation of Delaware
Filed Mar. 28, 1966, Ser. No. 537,818
5 Claims. (Cl. 242—55.01)



This patent describes a novel pulley elevator apparatus comprising a stationary bed of parallel powered shafts each containing thereon a plurality of pulleys, in a plane parallel to said stationary bed, a movable bed of parallel channel members each containing thereon a plurality of

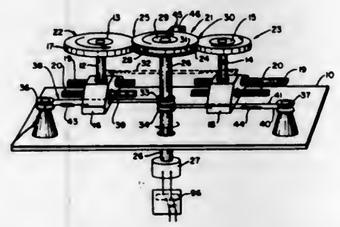
pulleys, said bed being movable with respect to said stationary bed, said pulleys on said movable bed being rotatable around an independently resiliently disposed mounting having an axis generally perpendicular to the movable bed, and means for moving said movable bed with respect to said stationary bed.

3,370,802
TAPE LOOP CONTROL CIRCUIT
Robert S. Wooldridge, Norristown, and Joseph E. Kienle, Dresher, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 4, 1965, Ser. No. 461,254
8 Claims. (Cl. 242—55.12)



A tape loop position control having a tape reel and reel motor for dispensing or taking up tape, a tape loop box which contains upper and lower loop position switches and a reel motor control circuit are included. A tape speed sensing device for sensing the reeling speed is connected to the reel motor control circuit together with the output of the loop position sensing switches so as to turn the reel motor on and off to control the length of the loop.

3,370,803
TAPE TRANSPORT APPARATUS AND ROLL THEREFOR
Chester W. Newell, San Jose, Calif., assignor to Newell Associates, Inc., Sunnyvale, Calif., a corporation of California
Filed Aug. 17, 1965, Ser. No. 480,324
37 Claims. (Cl. 242—55.12)



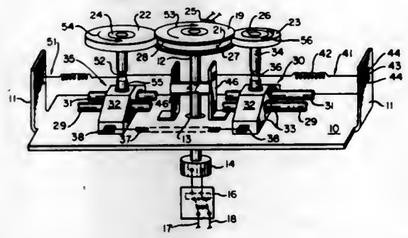
A recording tape roll of the type employing pliable material is formed in a manner characterized by its structural strength sufficient to retain its physical form without side support. The roll of tape includes a tension profile with little or no slope to provide substantially uniform tension in the convolutions of the roll over a major radial extent. The roll is further characterized by a leader portion which carries an elongated strip of adhesive material serving to seal the roll. The outer tip end of the leader portion is unadhered and free to extend naturally away from the roll in order to be picked up by means serving to peel the leader away from the tape roll when the roll is threaded through apparatus for feeding the tape from supply to take-up rolls.

The roll is wrapped by a method utilizing steps of drawing the tape from the supply roll while, at the point of departure of tape from the supply roll, the tape is placed in facial engagement with a resilient annular surface and the annular surface is moved continuously substantially with the tape at the point of departure while the supply roll and the annular surface are urged together with a predetermined force. A take-up hub is also arranged to receive the leader portion of the tape roll as by attaching the tape to the hub so as to initiate formation of the take-up roll. The tape is then pressed against the take-up hub and with a force greater than the predetermined force existing between the supply roll and the resilient annular surface.

Further, a tape transport apparatus feeds tape from a supply roll to a take-up roll. In the transport a means for peeling the tape leader from the roll serves to provide self-threading of each roll of tape as it is initially fed into the machine.

Several embodiments of the transport are shown: (a) The rolls advance and retreat relative to a rotating drive capstan; (b) The rolls are mounted on swing arms which carry the tape rolls as they advance and retreat relative to the capstan; (c) The axis of rotation of the supply roll, the take-up roll, and a rotating drive capstan all remain fixed while idler rollers move into and out of the enlarging and diminishing gap defined between the rolls and the capstan.

3,370,804
TAPE TRANSPORT APPARATUS
Robert F. Peyton, Palo Alto, Calif., assignor to Newell Associates, Inc., Sunnyvale, Calif., a corporation of California
Filed June 8, 1966, Ser. No. 556,117
7 Claims. (Cl. 242—55.12)

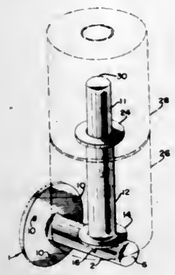


6. A tape transport of the type adapted to support a length of pliable recording tape wrapped to form supply and take-up rolls, means for supporting each of said rolls for rotation, a drive capstan, motive means for driving said capstan, a resilient peripheral surface around the capstan, means serving to urge the supply and take-up rolls into edge driving contact relation with respect to said periphery to respectively provide compressive forces therebetween, and means developing frictional resistance acting to modify said urging to develop a relatively greater compressive force applied between said take-up roll and said capstan periphery than between said supply roll and said periphery.

3,370,805
SUPPORT FOR ROLL MATERIAL
Walter M. Barbee, Rte. 2, Quanah, Tex. 75252
Filed Aug. 15, 1966, Ser. No. 572,323
3 Claims. (Cl. 242—55.42)

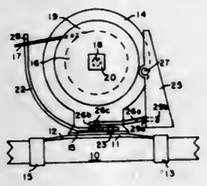
A holder for roll material including a base having an outwardly extending support member, an upstanding

standard intersecting the support member and connected thereto by a saddle member, and a disc member on the



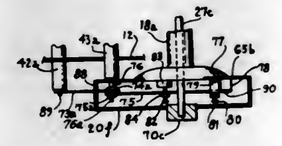
standard for supporting a roll thereon. The standard can also have a reduced end portion and a second disc member for supporting a second roll thereon.

3,370,806
FISHING REEL
George H. Odom, 208 Tuna, Galveston, Tex. 77550
Filed July 25, 1966, Ser. No. 567,515
11 Claims. (Cl. 242—84.2)



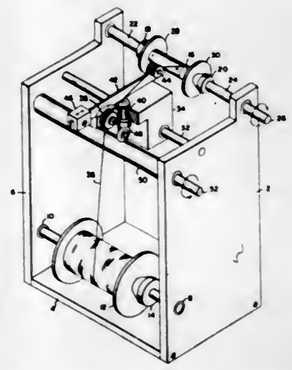
1. A fishing reel comprising a reel frame adapted to be attached to a fishing rod, said reel frame including a base plate and a side plate, a spool for fishing line rotatably connected with said side plate, means for rotating said spool, a generally rounded line carrier arm, said line carrier arm being rotatably attached at substantially one end thereof to said base plate and extending outward and upward from said attachment to a point above the path described by said fishing line extending from said spool under fishing conditions, an actuating lever pivotally attached near the midpoint thereof to said reel frame, a substantially L-shaped linking means connecting said actuating lever and said line carrier arm such that said line carrier arm is rotationally responsive to pivotal motion of said actuating arm.

3,370,807
FISHING REEL BRAKE
Walter T. Knauth, 1334 W. Gray, Houston, Tex. 77019
Filed Aug. 25, 1965, Ser. No. 482,434
1 Claim. (Cl. 242—84.52)



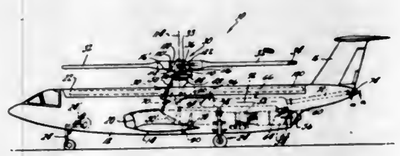
The invention comprises a fishing reel brake which works against the fishing line being paid out too fast and fouling up on itself due to the excess momentum developed by the reel as a cast is made. In the preferred form developed line friction releases a releasably latched sensing roller yoke to pivot downwardly to a lower, releasably latched position while camming leaf spring means carrying brake shoe means to move said brake shoe means to an axially innermost or fully applied position against reel end face means as the sensing roller yoke is brought to lower, releasably latched position placing greatest bight in the line.

3,370,808
COIL WINDER
William H. Cox, 2225 Gladys, Beaumont, Tex. 77701, and Adam D. Winters, Jr., 2808 California, Nederland, Tex. 77627
Filed Aug. 18, 1966, Ser. No. 573,344
7 Claims. (Cl. 242—158.4)



A guide for feeding wire onto a rotating coil form is driven in response to deflection of the wire by the previously formed turn by providing a carriage, driven in a path parallel to the axis of the coil form by the action of a roller against a pivoted wheel. The angle between the axis of the roller and the wheel is determined by lateral displacement of a guide pivoted on the carriage by the length of wire between the guide and the coil form. In order to produce multiple layers, automatic reversal of the carriage is accomplished by providing stops for engaging the length of wire between the guide and the coil. The guide is provided on one end of a pivoted arm, on the other end of which there is provided a weight. The wheel engaging the roller is positioned by the arm, and causes reversal of carriage movement when the wire engages a a stop, since the inertia of the weight causes the axis of the wheel to rotate past its central position.

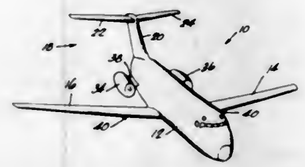
3,370,809
CONVERTIPLANE
Ray D. Leoni, Hamden, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 29, 1965, Ser. No. 467,910
25 Claims. (Cl. 244—7)



A convertiplane operable as both a fixed wing aircraft and a helicopter including at least one gas turbine engine either driving the aircraft as a fixed wing jet with the

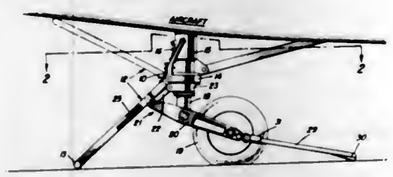
helicopter rotor retracted or, as a hot cycle helicopter with the helicopter rotor extended and including the necessary ducting to so connect the engine to the two-blade teeter-type helicopter rotor while permitting rotor retraction.

3,370,810
STALL CONTROL DEVICE FOR SWEPT WINGS
Richard S. Shevell, Los Angeles, and Roger D. Schaufele and Robert L. Roensch, Santa Ana, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Feb. 1, 1966, Ser. No. 524,024
3 Claims. (Cl. 244—41)



A device for use to decrease the possibility of stall in an aircraft having an aerodynamic-airfoil body which is completely located on the underside of an aircraft wing. The body must be substantially hollow and have a length of at least 50% of the chord length of the wing. The nose of the device must extend forward of the wing leading edge sufficiently to intersect the air stagnation streamline near aircraft stall.

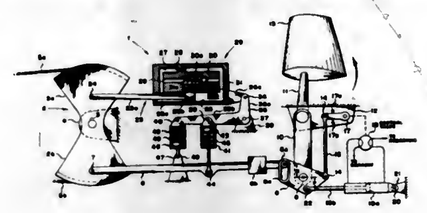
3,370,811
AIRCRAFT LAUNCHING MECHANISM
Frederick J. Boody, Irving, Tex., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 23, 1965, Ser. No. 516,161
6 Claims. (Cl. 244—63)



There is disclosed a launch bar for coupling a catapult shuttle to the nose gear of an aircraft. The bar is biased upward to a stowed position in which the wheel can be steered independently of the bar. A hydraulic cylinder lowers the bar for engagement with the shuttle, thereby locking the wheel so it will follow the rotation of the bar.

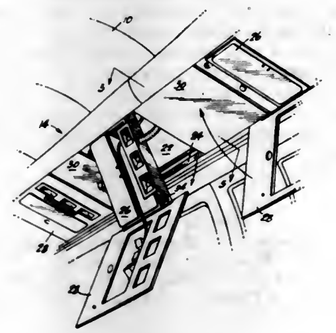
3,370,812
ACCELERATION LOAD CONTROL MECHANISM
William W. Williams, Atlanta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed July 18, 1966, Ser. No. 566,046
6 Claims. (Cl. 244—85)

1. An acceleration load control mechanism for aircraft having an external control surface hinged to fixed structure of the aircraft and exposed to aerodynamic forces comprising: a horn connected to and extending from said control surface; a lever; a first pivotal connection between said lever and the outer end of said horn; a pilot's push-pull rod; a second pivotal connection between said lever and said push-pull rod, said second pivotal connection being movable relative to said first pivotal connection linearly with respect to said horn; a power actuator; a third pivotal connection between said lever and said power actuator; a control for the extension and contraction of said actuator; a fourth pivotal connection between said lever and said control, said second and fourth and said second and third pivotal connections being disposed



on opposite sides of said first pivotal connection; and a drive operative on said second pivotal connection for the adjustment thereof, said drive being responsive to a pilot's input force of predetermined rate and magnitude moving said push-pull rod whereby the distance between said second and said first pivotal connections is varied while the distance between said third and said first pivotal connection remains substantially constant.

3,370,813
ADJUSTABLE PASSENGER READING LIGHTS AND UTILITIES
Albert W. Albertine, Santa Monica, and Jerome P. Stephens, Orange, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Oct. 22, 1965, Ser. No. 500,893
4 Claims. (Cl. 244—118)



An overhead passenger utility apparatus for use in commercial vehicles having utility boxes which are adjustable to correspond to the passenger seat spacing.

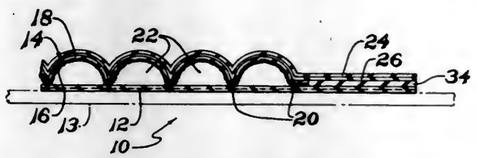
3,370,814
AIRCRAFT DEICING SHOE
Pedro W. Kageorge, Cuyahoga Falls, and Gilford E. Uden, Akron, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed June 23, 1966, Ser. No. 559,787
9 Claims. (Cl. 244—134)

1. Apparatus for preventing the accumulation of ice on an airfoil, said apparatus comprising:

(a) an inner ply adapted for attachment to an airfoil;

(b) an extensible elastic outer ply overlying said inner ply;

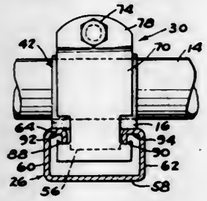
(c) a napped surface on the interior face of at least one of said plies;



(d) means for fastening local areas of said plies to each other to form a series of inflation passages between said plies; and

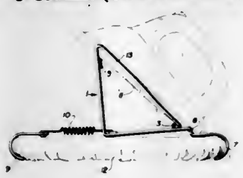
(e) means for communicating said passages with a pressure source to elastically distend the portions of the outer ply between said fastened areas.

3,370,815
SHOCK ABSORBING PAD FOR CONDUIT CLAMPING DEVICE
Orval A. Opperthauser, Bloomfield Township, Oakland County, Mich., assignor to F. Joseph Lamb Co., Warren, Mich., a corporation of Michigan
Filed Sept. 13, 1965, Ser. No. 486,792
5 Claims. (Cl. 248—74)



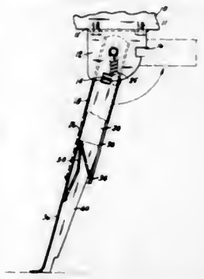
A shock absorbing pad for a conduit in the form of a split sleeve having flat shoulders on one side thereof for seating against inwardly turned flanges of a supporting channel with a pilot portion extending inwardly of the channel support between the channel flanges and with a pair of clamping brackets hooked under the flanges and extending around the sleeve for securely clamping the conduit within the sleeve and the sleeve on the flanges of the channel.

3,370,816
IRON HOLDER
Joseph E. Michaud, 35 Haynes St., Worcester, Mass. 01603
Filed Oct. 5, 1966, Ser. No. 584,394
8 Claims. (Cl. 248—117.6)



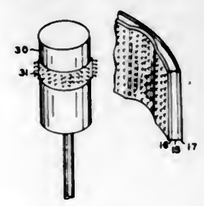
An iron holder comprising a pair of wire side frames spaced from each other by a plurality of parallel transverse bars wherein each side frame comprises a single piece of wire having one end curled loosely around one of the transverse bars at a point intermediate the ends of the bar, a hooked-shaped terminal portion and a hooked-shaped anchor resiliently connected to one of the transverse bars.

3,370,817
ADJUSTABLE TRAILER STABILIZER
Bernard R. Weber, Elm Grove, and Hans Hinrichsen, Wauwatosa, Wis., assignors to The Fulton Company, West Allis, Wis., a corporation of Wisconsin
Filed Nov. 1, 1965, Ser. No. 505,862
8 Claims. (Cl. 248—188.5)



A trailer stabilizer formed of telescopic leg members which may be easily and quickly adjusted to the desired height without the use of tools and which are automatically retained in adjusted condition by a spring cooperating with the telescopic leg members and normally, constantly urging the same into interlocked condition.

3,370,818
FABRIC TYPE FASTENING MEANS
Herbert M. Perr, 444 N. Long Beach Road, Rockville Centre, N.Y. 11570
Filed June 28, 1966, Ser. No. 561,172
1 Claim. (Cl. 248—205)

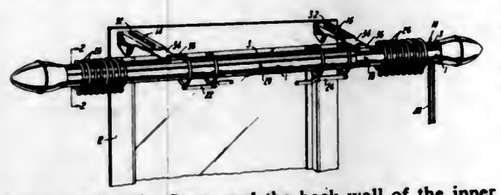


Article fastening means comprising a hooked fabric element with an adhesive backing, a loop fabric element with an adhesive backing, at least one of the elements having a resilient layer of foam rubber between the fabric and adhesive layers.

3,370,819
CAFE TRAVERSE ROD
Philip L. Kenney, New Haven, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Dec. 10, 1965, Ser. No. 512,448
4 Claims. (Cl. 248—265)

A universal mounting bracket for clamping either the inner or the outer of a similarly configured pair of telescoping rod members, each having a back wall provided with a rearwardly extending longitudinal flange, wherein the mounting bracket has a free end which overlies the top of either rod member and a downwardly extending hook portion on its free end for engaging a wall thereof. The mounting bracket being provided with a cam having a pair of fingers disposed at 90° relative to each other pivotally connected to the undersurface thereof with one of the fingers being spaced a greater distance below the undersurface of the mounting bracket on the other, as well as being shorter than the other, to engage the flange

and the back wall of the outer telescoping rod when placed perpendicular thereto and the other finger similarly engaging the flange and the back wall of the inner rod member.

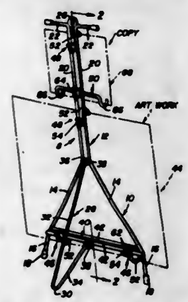


3,370,820
ASHTRAY CONSTRUCTION
Jules Liss, New York, and Martin Liss, Brooklyn, N.Y. (both of 1671 McDonald Ave., Brooklyn, N.Y. 11230)
Filed Aug. 25, 1966, Ser. No. 574,979
1 Claim. (Cl. 248—311)



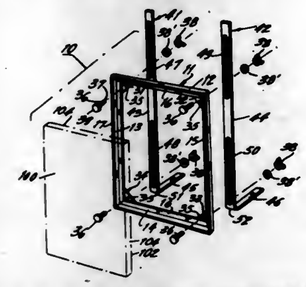
1. In a self-supporting ashtray construction for selective resilient attachment with a tubular member, the improvement comprising: a tray element having a substantially frusto-conical peripheral wall, said wall including an upper rim portion and an outer surface; a resilient bracket element including means for engaging said tubular member, said bracket member having a through opening therein; a spacer element having a generally planar main body member of rectangular configuration, and having first and second sets of projections extending laterally outwardly of the plane of said planar member, resilient washer means, and fastening means genetrating said tray element, bracket element, spacer element and washer; whereby the projections on said spacer element engage the outer surface and rim portion of said tray element, and said washer element is positioned between said spacer element and said bracket element to permit relative rotation between said tray element and said bracket element.

3,370,821
COMBINATION CARRIER DEVICE AND EASEL
Vordea E. Mingis, 1320 Ramblewood Lane, Woodlyn, Pa. 19094
Filed Jan. 28, 1966, Ser. No. 523,655
6 Claims. (Cl. 248—452)



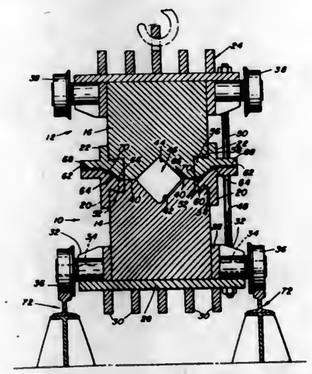
The multipurpose easel shown is characterized by a portable stand. It embodies a leg supported frame structure having an attachable and detachable foldable V-shaped prop. Suitable coplanar outstanding handgrips are provided at the top of the frame and interchangeable sets of hook-equipped brackets are manually adjustable on upper and lower portions of the frame and lend themselves to coordinating use for adjustably supporting and retaining pictures, photographs, paintings, placards, artist's canvases, flip-charts and the like. This easel lends itself to practical use by artists, for displaying paintings and pictures, by lecturers, architectural students and for numerous other purposes.

3,370,822
SUPPORT FOR X-RAY CASSETTE
Peter Stewart Miller, 119 B–1, 15 St., Garden City, N.Y. 11530
Filed Aug. 2, 1966, Ser. No. 569,742
5 Claims. (Cl. 248—476)



A support for an X-ray cassette, including a rectangular frame shaped to support the cassette and two support legs positioned behind the frame; the support legs being L-shaped with the first portion of each leg parallel to the rear of the frame and the second portion extending outward therefrom; the legs being removably secured to the back of the frame, whereby the legs may be secured in one of two alternate positions; with the first portions extending parallel to two parallel sides of the rectangular frame or extending parallel to the other two parallel sides of the rectangular frame.

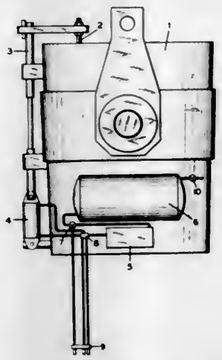
3,370,823
MOLD APPARATUS
Edmund Q. Sylvester, 2749 Landon Road, Shaker Heights, Ohio 44120
Filed Apr. 20, 1965, Ser. No. 449,515
2 Claims. (Cl. 249—168)



When castings are to be formed in permanent molds made up up of cope and drag sections, there is a problem of accurately aligning the two portions of the mold cavity

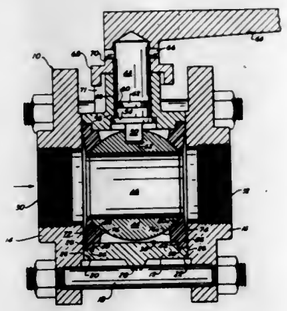
which are formed in the cope and drag, respectively. In the present arrangement, the alignment is accomplished by providing mating surfaces associated with the cope and drag on opposite sides of the casting cavity when the cope and drag are assembled.

3,370,824
PLUG-ACTUATING DEVICE FOR LADLES
Othmar Pühringer, Linz, Austria, assignor to Vereinigte Osterreichische Eisen- und Stahlwerke Aktiengesellschaft, Linz, Austria, a company of Austria
Filed Aug. 2, 1965, Ser. No. 476,549
Claims priority, application Austria, Aug. 3, 1964, A 6,676/64
1 Claim. (Cl. 251—62)



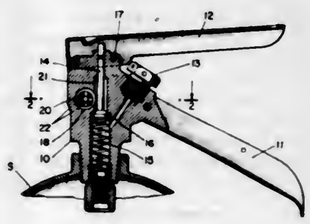
This disclosure relates to a self-contained plug-actuating system mounted on a ladle for receiving molten metal including a compressed gas tank for driving a gas-driven hydraulic pump to supply hydraulic fluid under pressure to a cylinder by means of which the plug or stopper of the ladle is withdrawn to discharge the contents of the ladle.

3,370,825
STRESSED BALL VALVE SEALS
Domer Scaramucci, 3245 S. Hattie, Oklahoma City, Okla. 73129
Filed July 19, 1965, Ser. No. 473,244
6 Claims. (Cl. 251—148)



1. A ball valve, comprising:
a body having opposite ends, a valve chamber therein between said ends, and a counterbore in one end of the valve chamber communicating with the adjacent end of the body and forming an outwardly facing circumferential shoulder in spaced relation from said adjacent end of the body;
a valve ball having a port therethrough and mounted in said valve chamber for turning movements between open and closed positions;
a tubular connector adapted to be secured to said adjacent end of the body having an inner diameter less than the diameter of said counterbore and having a substantially flat inner end positioned axially in alignment with said shoulder; and
an annular, synthetic resin sealing ring disposed in the valve chamber having an inner end facing in the direction of the ball and an outer end facing in the direction of said connector, said sealing ring having a circumferential flange portion extending radially outward into said counterbore and clamped between said shoulder and the inner end of the connector, said flange portion, in the relaxed condition thereof, having an axial thickness substantially greater than the distance between said shoulder and the inner end of the connector when the connector is secured to said adjacent end of the body and being rounded between the outer periphery thereof and the end thereof facing the connector, whereby said flange will be deformed and the inner peripheral portion of the sealing ring will be biased toward the ball when the connector is secured to said adjacent end of the body.

3,370,826
VALVE ASSEMBLY FOR FIRE EXTINGUISHER
Arthur Rodgers, Northbrook, Ill., assignor, by mesne assignments, to General Fire Extinguisher Corporation, a corporation of Delaware
Filed May 18, 1965, Ser. No. 456,753
6 Claims. (Cl. 251—148)

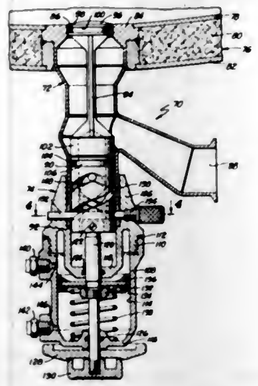


A valve assembly for a fire extinguisher cooperating with a swivel type discharge pipe in which the fluid connection between the valve outlet passage and the discharge pipe is integral with the valve body.

3,370,827
VALVE WITH INTERCHANGEABLE OPERATOR
Theodore A. Stehlin, 54 Grace Walk, Pasadena, Calif. 91105
Filed May 10, 1965, Ser. No. 454,414
3 Claims. (Cl. 251—14)

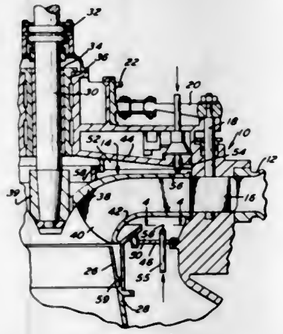
The valve is a sanitary valve characterized by its valve body presenting a face which is welded in line with a kettle interior. The valve disc, when in closed position, lies substantially in this plane so that the interior of the kettle has no dead spots which cannot be stirred. The interior of the valve is without pocket which can hold contaminants. The valve is preferably separable for cleaning so that the flange welded into the kettle represents only a small part, and the major portion of the valve including the disc and its operator can be removed for

cleaning. The operator can alternatively be a helical slot which terminates in a circular slot, for manual operation



or can be an interchangeable air cylinder which is also arranged to permit manual operation.

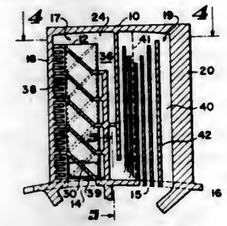
3,370,828
MEANS TO CONTROL AXIAL THRUST IN HYDRAULIC MACHINES
Richard B. Willi, Norristown, Pa., assignor to Baldwin-Lima-Hamilton Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Dec. 5, 1966, Ser. No. 599,027
10 Claims. (Cl. 253—26)



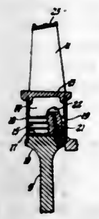
The disclosure relates to a means to control axial thrust in hydraulic machines. Axial thrust in hydraulic machines such as turbines, pumps and pump-turbines may cause serious damage to the main thrust bearing in the machine. Means are provided for precisely controlling the axial thrust in hydraulic machines. Trapped fluid above and below the runner in hydraulic turbines causes pressure to be applied on the runner and a resulting axial thrust. Pressure pipes which emit fluid jets are utilized to either increase or decrease whirl above and below the runner and thus accurately control axial thrust in the hydraulic machines.

3,370,829
GAS TURBINE BLADE CONSTRUCTION
Clifford R. Banthin, Redding, Conn., and Richard D. Semple, Media, Pa., assignors to Avco Corporation, Stratford, Conn., a corporation of Delaware
Filed Dec. 20, 1965, Ser. No. 514,952
12 Claims. (Cl. 253—39.15)

A turbine blade is constructed with an internal spiral air passage formed by an internal spiral ramp which is cast integrally with the turbine blade. A spiral passageway is formed by the ramp in combination with a uniform diameter insert.

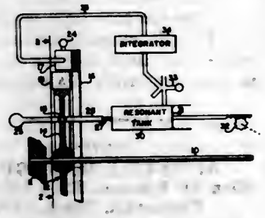


3,370,830
TURBINE COOLING
Lawrence H. Nickles, Allestree, Derby, England, and John E. Harper, Greenwood, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 12, 1966, Ser. No. 601,067
7 Claims. (Cl. 253—39.15)



Air-cooled turbine blades are mounted on a turbine rotor, the rotor rim and blade roots defining communicating passages for cooling air. A tube mounted within the passages and extending into both the rotor and the blade root minimizes leakage through the gap between the rim and root. The tube is retained by being lodged against shoulders at the bottoms of counterbores in these two structures, one end of the tube being flared or expanded so that it cannot fall out of the hole through which it is originally moved into place.

3,370,831
TURBINE CONTROL APPARATUS
Jeffrey M. Lazar, Rosemount, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Jan. 21, 1966, Ser. No. 522,086
4 Claims. (Cl. 253—52)



1. Turbine control apparatus comprising:
a rotatable reaction wheel having a plurality of peripheral blades;

a first fluid amplifier for driving said wheel having an inlet port adapted to be connected to a source of fluid under pressure, a first outlet port oriented to act as a nozzle for normally directing fluid against said blades, a second outlet port for discharging fluid remote from said blades, and a control port which, when energized, provides a fluid control signal to interrupt the normal flow of fluid through said first outlet port and initiate flow of said fluid through said second outlet port;

means for producing a train of fluid pulses having a frequency which varies with the speed of rotation of said wheel;

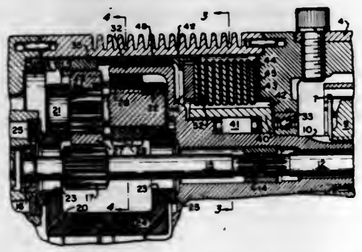
a resonant chamber having an inlet connected to receive said train of fluid pulses and an outlet, said resonant chamber producing an output signal only when the frequency of said train of fluid pulses is substantially the same as the resonant frequency of said chamber;

a second fluid amplifier having an inlet port adapted to be connected to a source of fluid under pressure, said second fluid amplifier having a control port and an outlet port through which fluid is discharged when a signal is provided at said control port;

means connecting said outlet of said resonant chamber to said control port of said second fluid amplifier;

an integrator connected to receive fluid from said outlet port of said second fluid amplifier, said integrator being operable to supply a signal to said control port of said first fluid amplifier, thereby interrupting the flow of fluid normally discharged against said blades of said reaction wheel when the speed of said wheel substantially corresponds to the resonant frequency of said resonant chamber.

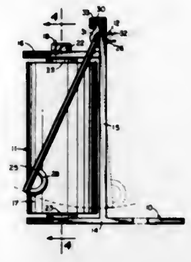
3,370,832
HOISTS
Emanuel G. Spyridakis, Athens, Pa., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 12, 1966, Ser. No. 520,144
14 Claims. (Cl. 254—168)



An overhead hoist including a planetary gear train connected at one end to a power input means and at the other end to a load supporting means. The gear train is connected to a brake system by a cam means which locks the brakes to stop the gear train in response to stopping of the hoist. The planet gears are mounted on crowned splines which allow them to rock to automatically distribute the load uniformly on the teeth of the planet gears.

3,370,833
AUTO-TIRE HOSE GUARD
Glen M. Johnson, 22 S. Jefferson St., Kennewick, Wash. 99336
Filed Jan. 3, 1967, Ser. No. 606,635
5 Claims. (Cl. 254—190)

A guard having a vertically orientated roller carried by a body structure adapted to releasably communicate with a mounted auto tire to prevent a hose used thereabout to become fouled between the tire and its supporting surface. The guard body is supported on the outer curved surface



of the tire, between it and its supporting surface, by releasable fastening prongs to provide for simple positioning and removal.

3,370,834
ELECTRIC FENCE POST
Frank Reznicek, 1412 7th St., Columbus, Nebr. 68601
Filed Mar. 4, 1966, Ser. No. 531,926
2 Claims. (Cl. 256—10)

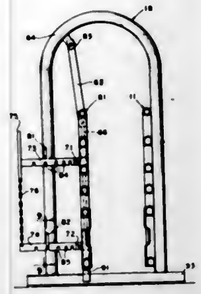


A fence post having upper and lower post sections coaxially interlocked by a rigid insulating member which completely insulates the upper section from the lower section. The insulating member forms a narrow drip edge in outwardly spaced surrounding relation to the lower post section whereby there will be no tendency for rainwater or the like to run in under the insulating member to the lower post section and thereby effect an electric leakage.

3,370,835
ADJUSTABLE WORKING CHUTE
Albert L. Crowson, Baker, Oreg., assignor to Commercial Welding Co., Inc., Baker, Oreg., a corporation of Oregon
Filed Oct. 5, 1965, Ser. No. 493,087
9 Claims. (Cl. 256—26)

A working chute has fixed side panels secured to one side of arched frames having combined bases and guide. Adjustable side panels are suspended from the frames by links pivoted to the tops of the frames and are guided by the bases of the frames. A dart gate is mounted to one

of the frames for movement between a first position opening outwardly of the chute, a second, closed position forming a portion of the side of the chute, and a third position extending across the chute. At the entrance end



of the chute one end of an entrance panel is pivotal on the end adjustable side panel and the other end of the entrance panel is slidable along a line parallel to the chute.

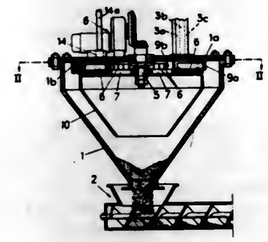
3,370,836
FENCE SYSTEM
James E. Ashworth, Moraga, and August L. Bartz, Alamo, Calif., assignors to United States Steel Corporation, a corporation of Delaware
Filed July 29, 1966, Ser. No. 568,953
10 Claims. (Cl. 256—47)



1. A fence system comprising a sheet metal open terminal post, said terminal post including two inwardly extending flanges one at each longitudinal edge of said sheet, said flanges being arranged substantially normal to one another with a space therebetween so as to provide a vertical opening, one of said flanges having a receptacle therein adapted to receive a rail extending tangentially to the other of said flanges, and means on said terminal post adjacent at least one of said flanges for receiving a chain link fabric fence.

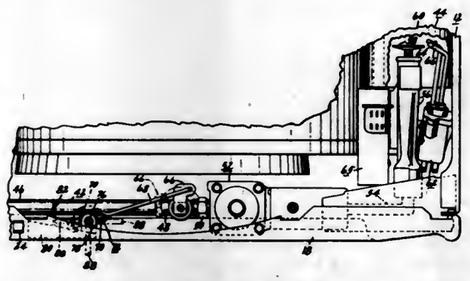
3,370,837
APPARATUS AND METHOD FOR CONTINUOUS MIXING OF GRANULAR SOLIDS, POWDERS, LIQUIDS, OR GAS
Jacques Piot, Paris, France, assignor to Stein & Roubaix, Paris, France, a corporation of France
Filed Nov. 30, 1965, Ser. No. 511,025
Claims priority, application France, Nov. 30, 1964, 996,826; Nov. 4, 1965, 37,309
15 Claims. (Cl. 259—8)

The present invention provides a mixer or emulsifier of instantaneous and continuous action using centrifugal force, characterised essentially by the fact that the various constituents of the mixture or the emulsion, solid materials in grain or powder form, liquids or gas, are introduced in such a manner as to make contact, in predetermined positions, with a rotating member carrying ribs in such a manner that the trajectories which these various constituents follow in the interior of the apparatus under the effect of the entrainment of rotation, are concurrent in a fixed point chosen on the periphery or beyond the periphery of the rotating member, intersect there at small angles, in such a manner that the assembly of the materials intimately mix at this point, the mixture thereby produced leaving the apparatus in the form of a narrow high-speed jet.



If one of the constituents of the mixture is air, the other material in the form of powder or grains, these two constituents, having been introduced as described above at suitably chosen positions, have at the position of ejection speeds which are very near each other in magnitude and direction, but are acquired independently, that is to say that the momentum which the material possesses was communicated to it entirely by the mechanical means of entrainment in rotation. The conditions for introducing a material into a pneumatic transport apparatus without turbulence are thus realised.

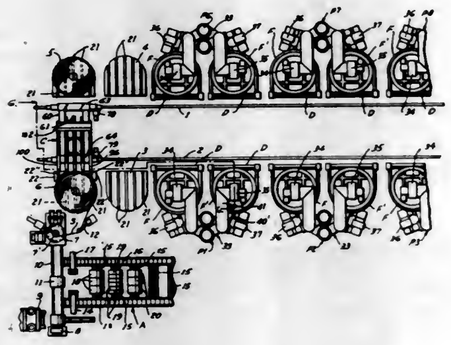
3,370,838
SUPPLY CONTROL SYSTEM FOR DOMESTIC GAS DRYING APPARATUS
Melvin A. Menk, Englewood, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 20, 1966, Ser. No. 558,782
8 Claims. (Cl. 263—33)

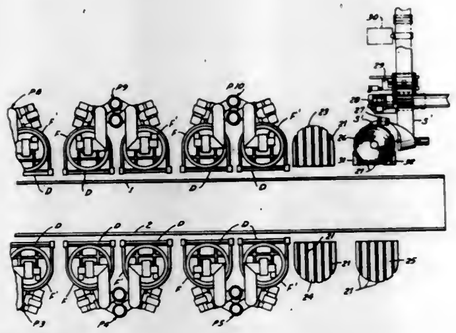


1. In a domestic gas drying apparatus the combination of an outer casing having a front wall with a recessed door well therein, said recessed door well including a forwardly facing planar surface having an opening therein for access to the interior of said outer casing, a door, means for supporting said door on said outer casing for movement into said recessed door well for blocking the opening therein, a gas burner located within said outer casing, fuel supply means located rearwardly of said front wall and interiorly of said outer casing for directing an air-gas mixture to said burner, said fuel supply means including manually operable shutoff valve means, means for automatically igniting said burner including coacting means on said door and the planar surface of said door well,

said outer casing including means enclosing said fuel supply means from exteriorly of said outer casing, remote control means for operating said manual shutoff valve means including an actuator arm directed through said front wall, said actuator arm being positionable to fully close or fully open said manually operable valve, said remote control means including means for positioning said actuator arm between its valve opening and closing positions so as to extend forwardly of said forwardly facing planar surface on said door well whereby said actuator arm serves to maintain said door in a position to disable said coacting means unless said manually operable shutoff valve means is in its fully opened or closed positions.

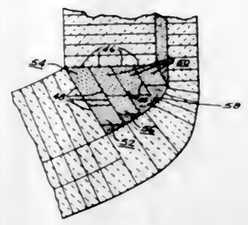
3,370,839
COIL ANNEALING APPARATUS
Lee Wilson and John Arnold, Rocky River, Ohio, assignors to Lee Wilson Engineering Company, Inc., Cleveland, Ohio, a corporation of Ohio
Filed June 15, 1965, Ser. No. 464,113
11 Claims. (Cl. 266—5)





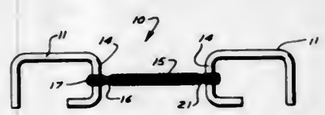
Apparatus for the annealing or other heat treatment of metal articles, particularly coils of strip metal, in which furnaces are positioned in a row along a trackway on one or both sides thereof and a charging car is supported for travel on the trackway and adapted selectively to be positioned at each furnace for charging or unloading thereof. Storage platforms are located at the ends of the row of furnaces and the charging car includes a rotatable turntable structure whereby furnaces on either side of the tracks may be serviced by the car.

3,370,840
BASIC OXYGEN FURNACE CONSTRUCTION
Michael E. Cole, Pittsburgh, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 30, 1965, Ser. No. 476,055
3 Claims. (Cl. 266—43)



A construction for the knuckle area of oxygen converter vessels consisting of a plurality of refractory brick having substantially parallel skew end surfaces and substantially parallel face surfaces, the brick being disposed such that their skew end surfaces are parallel to the face surfaces of the brick in the barrel zone and their face surfaces are parallel to the face surfaces of the inclined brick in the bottom zone.

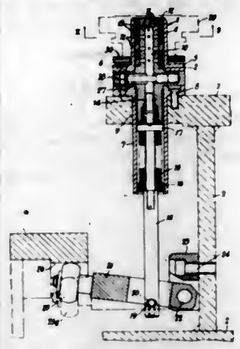
3,370,841
ELASTOMERIC TENSION MEMBER AND METHOD OF MAKING SAME
Frank D. Werner, Bloomington, and Paul S. Petersen, Minnetonka, Minn., assignors to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 20, 1965, Ser. No. 498,340
11 Claims. (Cl. 267—73)



A tension carrying member made up of multiple elastic strands that are fastened over at least one end clip, and wherein the strands are stressed over the end clip to a tension greater than that which it will encounter during service, and means are provided to maintain the strands in the portion where they pass over the end clip at this high tension at all times.

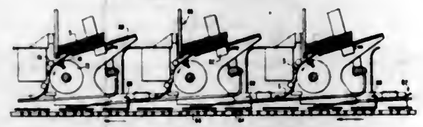
3,370,842
MANDRELS AND OTHER WORK HOLDING MEDIA
Alfred E. Sykes, 329 Leicester Road, Markfield, Leicester, England
Filed Nov. 30, 1965, Ser. No. 510,515
5 Claims. (Cl. 269—20)

1. An expanding mandrel, including a relatively non-distortable substantially cylindrical reactor block having a central bore therein and cylindrical bores disposed radially in the reactor block and communicating with the central bore, and a relatively distortable sleeve surrounding the reactor block, there being located within said radially disposed bores four axial rows of thrust units symmetrically disposed in the reactor block, each row consisting of four equally spaced thrust units; each thrust unit being capable of being urged by fluid pressure into contact with the inner wall of the sleeve, whereby on fluid pressure being applied to the thrust units, the sleeve becomes distorted to increase its effective outside diameter, the mandrel being further characterized in that the outer surface of the reactor block between the rows of thrust units is



provided with flats to allow those parts of the distortable sleeve between the rows of thrust units to distort radially inwardly on the effective outside diameter of the sleeve being increased.

3,370,843
METHOD AND APPARATUS FOR PRODUCING PRINTED PUBLICATIONS
John R. Woodside, Bronxville, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Feb. 8, 1966, Ser. No. 525,950
8 Claims. (Cl. 270—18)



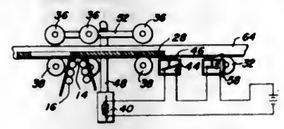
A sheet collating operation is disclosed whereby the number of sheets that can be collated in a single pass through a collator is doubled which includes the steps of printing a matrix of sheets repetitiously on a web in a repeated pattern, with each matrix having at least two unlike sheets positioned laterally of the web comprising a group, and at least two unlike page-ordered sheets along the length of the web comprising a set, cutting the sheets apart while maintaining the predetermined matrix arrangement: characterized by repetitiously stacking the sets of sheets while maintaining the page-ordered relationship of each set as the sheets are moved to obtain a plurality of stacks, placing the stacks in an ordered relationship for collation, removing a set of sheets from the stacks, advancing the removed sets of sheet station while maintaining the relative order among the removed sheets, and advancing the sets of sheets from each of the sheet stations and collating the same with the removed sheets to obtain a plurality of similarly collated array of sheets.

3,370,844
CARD HANDLING-SCANNING DEVICE
Russell R. Roberts, Ontario, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Aug. 23, 1966, Ser. No. 574,382
9 Claims. (Cl. 271—3)

1. A sheet moving apparatus for transporting sheets individually across a stationary scan slit in the path of movement of the sheet comprising

a first transport means for rapidly bringing a sheet toward a first predetermined position at a first predetermined speed;

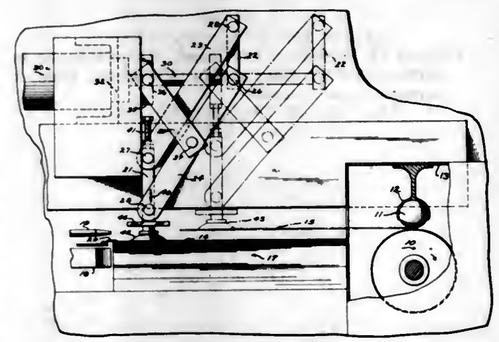
a second transport means arranged to engage the sheet when the same has reached said first predetermined position and to transport the sheet at a second predetermined speed toward a second predetermined position, said second transport means also being arranged to cause the sheet to traverse the scan slit in its path;



a programmer adapted to activate said second transport means when said sheet is at said first predetermined position and to inactivate said second transport means when said sheet has reached a second predetermined position; and

a third transport means adapted to remove the sheet from said second predetermined position, said third transport means arranged such that it engages the sheet after inactivation of said second transport means, the speed of said first and third transport means being greater than the speed of said second transport means.

3,370,845
SHEET FEEDING APPARATUS
Robert K. Newcomb, Bound Brook, N.J., assignor to General Binding Corporation, Northbrook, Ill., a corporation of Illinois
Filed Sept. 7, 1965, Ser. No. 485,220
11 Claims. (Cl. 271—26)

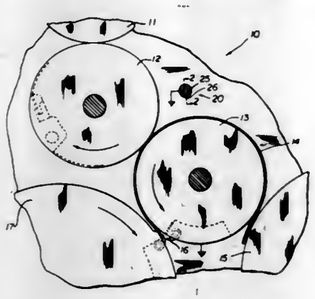


A sheet feeding mechanism for transporting the top sheet of a stack of sheets from a first position to a laterally removed position, including air means for separating the topmost sheet from the remainder of the stack and a mechanical linkage device moving a sheet lifting suction cup vertically and then horizontally, and conversely to successively feed sheets from the stack.

3,370,846
ELECTROSTATIC HOLD-DOWN DEVICE
Michael H. Semenhuk, Lyndhurst, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Mar. 29, 1965, Ser. No. 443,381
5 Claims. (Cl. 271—51)

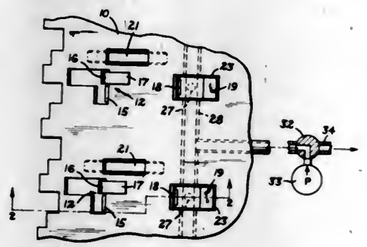
1. In an electrostatic system for establishing an electrostatic field and ionized particles in the field, an electrostatic device for establishing an electric field between

the device and a conductive member and for producing ionized particles which are directed toward the conductive member by the field, said device comprising a conductor having a high voltage applied thereto relative to said conductive member to establish said field, an insulating housing having an exposed surface and surfaces adjacent said conductor covering said conductor to protect operating personnel from the high voltage applied thereto and exposing a part of said conductor facing said conductive



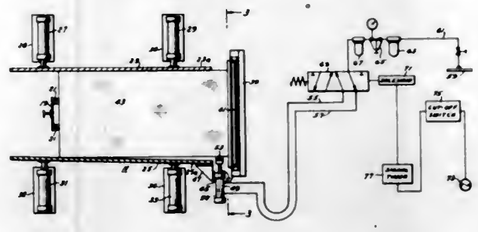
member, said housing being electrically connected to ground and being made substantially entirely of a plastic insulating material free of voids and having high voltage insulating characteristics, said material having electrically conductive particles dispersed generally uniformly throughout the material to provide sufficient conduction to disperse electrostatic charges on the housing with the conductivity of said housing being insufficient to conduct any significant current due to the voltage applied to said member.

3,370,847
SHEET REGISTERING DEVICE
William H. Weidman, Cleveland, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Apr. 30, 1965, Ser. No. 452,175
4 Claims. (Cl. 271—60)



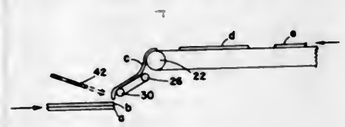
1. Apparatus for feeding sheets in an underlapped manner to a sheet handling machine which includes a feed table forming a support for the sheets, registering means to intercept and front register each sheet moved over said table prior to feeding each sheet to said machine, a first member positioned beneath said feed table, a second member positioned on said first member and having a top surface flush with the top of said feed table and defining with said first member a slot directed at a shallow angle to the feed table, and a passageway in said first member adapted to be connected to a source of air pressure and communicating with the slot defined by the first and second members for creating a jet of air issuing from said slot and moving over the surface of said feed table toward said registering means in the same direction as the sheet movement to create an area of low pressure effective to hold the leading edge of incoming sheets of paper close to the surface of said feed table.

3,370,848
APPARATUS FOR PILING SHEETS
Turner C. Bartlett, Baltimore, Md., assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed Nov. 22, 1965, Ser. No. 509,119
2 Claims. (Cl. 271—68)



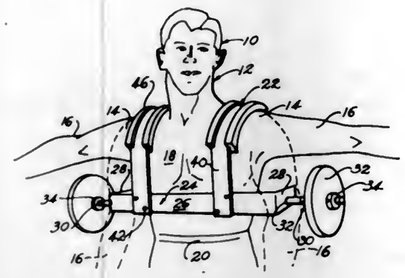
A pair of converging side guides are arranged in a wedge shaped stop adjacent to the end of a sheet conveyor to align the leading end of the sheets as they leave the conveyor, and a reciprocating bumping device is located in a position to bump the rear of the sheets into alignment against one of the side guides as they leave the conveyor.

3,370,849
STACKING APPARATUS
Francis G. Martin, Agawam, Mass., assignor to The William Carter Company, Needham Heights, Mass., a corporation of Massachusetts
Filed Sept. 12, 1966, Ser. No. 578,751
7 Claims. (Cl. 271—68)



1. Stacking apparatus comprising:
a conveyor for supporting and advancing a succession of transversely flexible articles face up along a pathway, and
means adjacent the end of said supporting pathway for guiding said articles as they advance beyond said pathway into supported flat vertically stacked relation with alternate articles face up in the stack and with intervening articles face down in the stack and with the ends of the intervening articles reversed with respect to the ends of the alternate articles, said means including
a table spaced below the end of said pathway,
means for reciprocating said table longitudinally with respect to the end of said pathway, forwardly away from said pathway as alternate articles advance beyond said pathway to lay said alternate articles face upwardly in said stack on said reciprocating table, and for reciprocating said table rearwardly as intervening articles advance beyond said pathway, and
means for folding the leading ends of the intervening articles as they advance beyond said pathway rearwardly to lay each of said intervening articles face downwardly in said stack as said reciprocating table advances rearwardly.

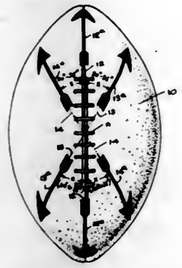
3,370,850
WEIGHT LIFTING EXERCISE DEVICE
James E. Moore, Atlanta, Ga. (4114 P. Providence Road, P.O. Box 577, Charlotte, N.C. 28201)
Filed July 31, 1964, Ser. No. 386,646
6 Claims. (Cl. 272—84)



1. In an exercising device to be positioned on the shoulders of the body either on the back or front thereof to hang and be supported on the body for exercising same,
(a) a pair of rigidly connected shoulder support members having ends spaced from each other and having respective shoulder support portions positionable on opposite sides of the neck on a respective shoulder, said respective members extending from a respective shoulder down the body,
(b) said members being open at the ends and terminating a short distance down the body providing an open support between the shoulder support portions of the shoulder support members which may be placed on the body,
(c) adjustable weight means on said support members below each of the shoulders and armpits,
(d) said ends of said shoulder support members having a soft cover thereon,
(e) a frame member connecting said shoulder members, said frame member extending around the body on both sides and terminating in a side member a short distance around the body and being open between opposed side members to fit over the body when taking it off or putting it on, and said weight means being attached to each side member.

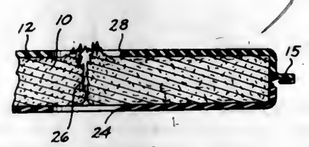
3,370,851
FOOTBALL INCLUDING BALL-TO-KICKING LEG ORIENTATION MEANS
Francis Thomas Murray, 1435 Abbey Lane, Gladwynne, Pa. 19035
Filed Mar. 9, 1965, Ser. No. 438,209
1 Claim. (Cl. 273—65)

1. In a football of prolate spheroidal shape having a cover with lacing extending longitudinally along a portion of the top of the ball, at least three sets of clearly delineated, visible guide marks formed on said laced top of the ball, said sets of guide marks being disposed along lines which intersect at the midpoint of said lacing with the guide marks of each set visible at least upon both of the opposite end portions of the football, one of said lines being coincident with said longitudinally extending laced seam and the other lines being symmetrically disposed in intersecting relation each at an angle of between 30 and 35 degrees with respect to said one line, whereby any one of said lines of guide marks may be employed as a guide for precisely orienting the ball relative to the vertical plane of swing of the longitudinal axis of the kicking leg while held in the hand with its major axis disposed substantially horizontally so that when vertically dropped the ball is in correct position for execution of a predeterminedly desired type of punt, said one line of guide marks extending in coincidence with the seam being utilizable as an indicator to aline the longitudinal axis of the ball with said longitudinal axis of the kicking leg for a straight ahead end-over-end punt, while said other lines of guide marks extending in intersecting relation to said



one line coincident with said seam are selectively utilizable as indicators for correct angular orientation of the major axis of the ball across said longitudinal axis of the kicking leg for a straight-ahead spiral punt having a clockwise or counterclockwise spin of the ball about its major axis depending upon which line of said guide marks extending in intersecting relation to said one line coincident with the seam is alined with the longitudinal axis of the kicking leg.

3,370,852
SELF-ENLARGING-PUNCTURE FIREARM TARGET
Walter Kandel, 4159 N. Overlook Terrace, Portland, Oreg. 97217
Filed Feb. 8, 1965, Ser. No. 430,983
5 Claims. (Cl. 273—102.1)

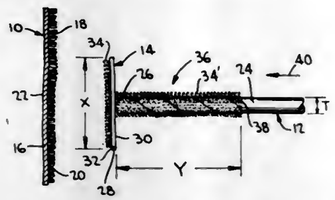


A sheath of elastic material having a target design on its front face is stretched over a stiff backing sheet of target material having a front face of highly visible color contrasting with the color of the outer face of the elastic sheath. Upon puncturing the elastic sheath with a bullet, it retracts selectively in the area of the puncture and forms an enlarged opening which reveals a substantial area of the highly visibly colored backing sheet.

3,370,853
PROJECTILE USED IN STAGING A BLOODLESS BULLFIGHT
Irvin Feld and Israel Feld, both of 4501 Connecticut Ave., NW., Washington, D.C. 20008
Filed July 7, 1966, Ser. No. 563,611
3 Claims. (Cl. 273—106.5)

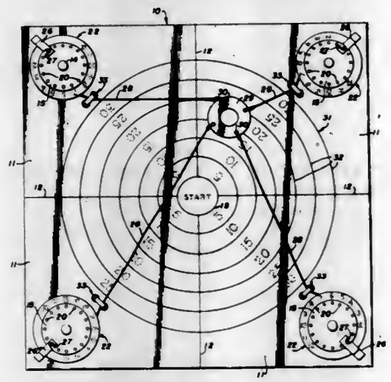
A method and means whereby banderillas and pointed projectiles used during a bullfight can be properly and effectively propelled toward the bull and attached to its hide, without in any way piercing its hide and thus without drawing any blood. A first and second inter-engageable

cooperating interlocking means are provided. The first of said interlocking means is secured to a selected area of the bull while the other of said interlocking means is secured to the end of an elongated projectile to be propelled toward the bull. The inter-engaging means on the



projectile, such as a banderilla, will contact and interlock with the interengaging means on the bull. The projectile will, thereby be coupled to the bull itself, thereby simulating the appearance of the projectile actually piercing the bull's hide.

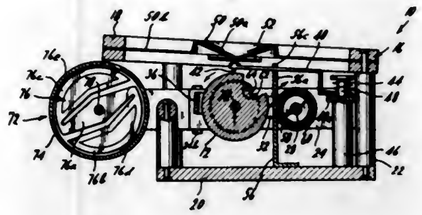
3,370,854
DIAL TUG GAME
Paul B. Washburn, Rte. 1, Box 87-A, Azle, Tex. 76020
Filed Nov. 12, 1965, Ser. No. 507,508
1 Claim. (Cl. 273—134)



1. A game apparatus consisting of a board, reels rotatably mounted on a surface of said board and spaced apart to define a square, intersecting straight lines on said board dividing said square into square quadrants, spaced circular lines on said board concentric with the intersection of said straight lines defining a field of play, a score point indicator movable on said field of play, cords wound on said reels and connected with said score point indicator, equally spaced indices on and located around said reels near their peripheries, indicia on said board at least partially around each said reel, said indicia being spaced to correspond with the spacing of said indices means for rotating said reels individually, and chance controlled means for determining the angle of rotation of said reels.

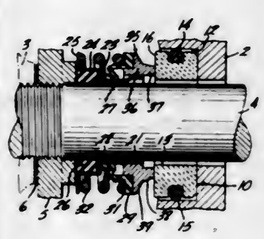
3,370,855
AUDIO DEVICE
Kenneth W. Lindsay, Great Neck, N.Y., assignor to Ideal Toy Corporation, Hollis, N.Y., a corporation of New York
Filed June 2, 1965, Ser. No. 460,738
9 Claims. (Cl. 274—1)

An audio device for use in a doll and the like. An axially rotatable record cylinder is mounted on a support for rotation and also for movement into and out of a playing position. Sound-reproducing means are arranged to engage the record cylinder in the playing position. An actuating assembly connected to the cylinder drives it during each play. The actuating assembly is first energized by a pull string which is withdrawn from the device. The pull string, in addition to energizing the actuating assembly, moves the record cylinder out of the playing position



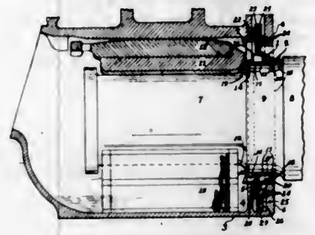
to restore the sound-reproducing means to its initial position. Upon release of the pull string the record cylinder is restored to the playing position. Preferably, the record cylinder has a plurality of circumferentially extending grooves which are interleaved with each other to enable the sound-reproducing means to track any one of the grooves for playback of the corresponding sound sequence.

3,370,856
FLUID SEALS FOR ABRASIVE MATERIAL
Gilbert E. Buske, Stamford, Conn., assignor to Textron Inc., Providence, R.I., a corporation of Rhode Island
Filed Jan. 5, 1965, Ser. No. 423,470
6 Claims. (Cl. 277—89)



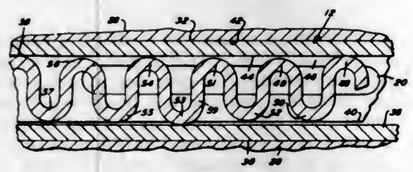
1. In a rotary pump for liquids containing solid particles, comprising a casing having a shaft opening, an impeller shaft extending through said opening and an impeller mounted on said shaft in said casing; a rotary liquid tight seal on said shaft between said impeller and casing in position where it is exposed to the liquid and solid particles being pumped, said seal comprising a first sealing ring surrounding said shaft adjacent said opening, means providing a fluid tight seal between said first sealing ring and casing and holding said first sealing ring against rotation, said first sealing ring having an annular radial sealing surface facing inwardly of said casing, a second sealing ring surrounding and rotating with said shaft inside said casing and contiguous with said first sealing ring, said second sealing ring having an annular body portion and an integral annular lip portion of less radial extent than said body portion extending axially toward and engaging said radial sealing surface of said first sealing ring, flexible sealing means providing a fluid tight seal between said shaft and said second sealing ring while permitting limited movement of said second sealing ring relative to said shaft, means biasing said second sealing ring toward said first sealing ring to press said annular lip portion of said second sealing ring against said sealing surface of said first sealing ring, the outer peripheral surface of said second sealing ring receding continuously from said radial sealing surface of said first sealing ring at an angle of at least 20° to provide continuously diverging surfaces and avoid spaced abutment surfaces between which solid particles can wedge to lift said lip portion of said second sealing ring off of said radial sealing surface of said first sealing ring, the space radially surrounding said seal being free and unconfined to permit expulsion of said particles from between said diverging surfaces.

3,370,857
DUST GUARD AND LUBRICANT SEAL FOR RAILROAD JOURNAL BOXES
Jordan Brown Roman, 1011 8th St., Huntington, W. Va. 25701
Filed Apr. 26, 1965, Ser. No. 450,789
5 Claims. (Cl. 277—130)



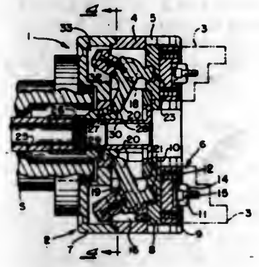
3. A dust guard and lubricant seal made of lubricant-resistant and elastomeric material for use at the dust guard cavity, the rear end of a railroad axle journal box, two vertical edges, paralleling for a distance the vertical sides of the journal box dust guard cavity and filling the space between the vertical sides in the vicinity of the horizontal center line of the dust guard cavity wall openings and with an extension at the seal bottom which fills all space to the bottom of the dust guard cavity so that the seal will be located whereby its central circular sealing-lip opening will be on the same horizontal and vertical center lines as the opening in the dust guard cavity walls which makes the seal opening concentric with the axle center line.

3,370,858
PISTON RING ASSEMBLY
Helmuth G. Braendel, Malvern, Pa., assignor to Gould-National Batteries, Inc., St. Paul, Minn., a corporation of Delaware
Continuation-in-part of application Ser. No. 378,880, June 29, 1964. This application Aug. 23, 1965, Ser. No. 481,738
2 Claims. (Cl. 277—139)



1. A piston ring assembly for use in and with the cylinder piston of an internal combustion engine or the like comprising a single annular rail, said rail having a top surface for establishing intermittent contact with the top of a piston groove, said rail having at least one radially outwardly extending circumferential projection terminating in a cylinder wall engaging surface, a lower surface on said rail below said top surface and substantially parallel thereto, an axial surface on said rail intersecting said lower surface, a spacer ring below said rail, an annular resilient compressible means in biasiing engagement with said lower surface and said axial surface, said means also contacting said ring, said means being an axially corrugated member having a plurality of circumferentially spaced axially extending bights, said bights including first bights in contact with said lower surface, second bights in contact with said ring, and intermediate bights between the first and second bights, first, second and intermediate bights being disposed in repetitive distribution about the circumference of said corrugated member, said intermediate bights having an axial length which is shorter than the axial length of the first and second bights so that said intermediate bights are out of contact with the ring and the lower surface, and the outer diameter of the ring being disposed between the outer diameter of the corrugated member and said wall engaging surface on the circumferential projection, said corrugated member being made from a flat material so that said first and second bights on said member have line contact with said ring and lower surface, and adjacent bights on said member being interconnected by generally axially directed portions having outer peripheral surfaces in contact with said axial sur face on the rail.

3,370,859
CHUCK
Milton L. Benjamin and David D. Walker, Chagrin Falls, Ohio, assignors to Erickson Tool Company, Solon, Ohio, a corporation of Ohio
Filed July 16, 1965, Ser. No. 472,448
2 Claims. (Cl. 279—119)



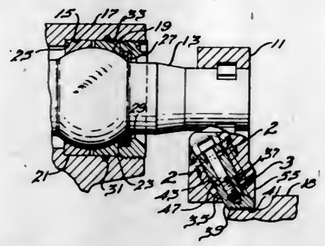
A chuck having lever means which when rotated cause radial movement of the chuck jaws into and out of workpiece gripping position. Counterweights attached to the lever means counteract the centrifugal force acting on the jaws during rotation of the chuck tending to reduce the gripping action thereof, whereby a substantially uniform grip is maintained on a workpiece regardless of the speed of rotation of the chuck.

3,370,860
BACKING SCREW
George Hohwart, Farmington, and Paul Toth, Allen Park, Mich., assignors to N. A. Woodworth Company, Ferndale, Mich., a corporation of Michigan
Filed May 28, 1965, Ser. No. 459,541
1 Claim. (Cl. 279—123)

This invention is a chuck jaw assembly having a backing screw behind the jaw insert that is uniquely constructed to provide solid back-up support for the insert and that is capable of sustaining the extremely high clamping pressure imposed on the jaw insert in use.

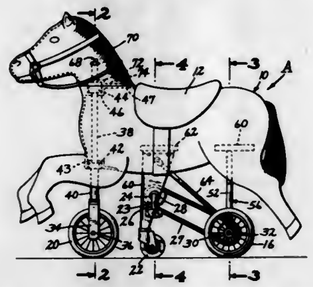
Specifically, the backing screw is provided with a transverse slot the open end of which is initially at least par-

tially closed so that interference occurs between the external threads of the screw and the internal threads of the hole in which it is mounted. This interference tends to spread the parts of the screw at opposite sides of the slot. This spreading action in turn assures that all of the screw threads in front of the slot seat rearwardly against the internal threads and that the screw threads behind the slot seat forwardly against the internal threads. As a result, the rearwardly seating external threads are simply forced back against the internal threads with greater force under clamping pressure and the full force is distributed over the entire area of the engaging threads.



As a special feature, a fastening screw may be provided which extends through the backing screw and the transverse slot therein and into the jaw insert. When the fastening screw is tightened it pulls the insert back against the backing screw and prevents the insert from falling out of the hole. In addition, tightening of the fastening screw augments the frictional engagement normally established between the internal and external threads by the transverse slot.

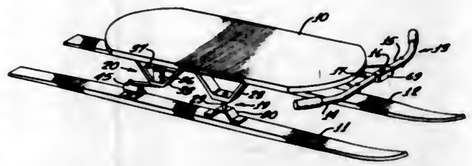
3,370,861
STEERABLE TOY VEHICLE
Joseph G. Lenta, 23 E. Buffalo St., Duluth, Minn. 55811
Filed Mar. 2, 1966, Ser. No. 531,276
2 Claims. (Cl. 280—1.202)



The disclosure relates to a steerable toy vehicle and includes a body member having a single front steering wheel, a pair of spaced rear wheels together with a vertical brace centrally transversely of the body and intermediate the front and rear wheels. The intermediate brace has a caster-type wheel in alignment with the front wheel and the brace is in closer spaced relation to the front wheel than the rear wheels.

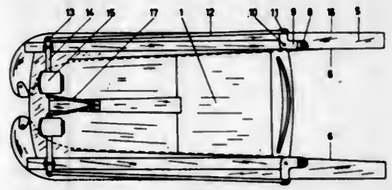
3,370,862
SKI SLED
Norman Huffnagle, 10282 Overhill Drive, Santa Ana, Calif. 92705
Filed Dec. 13, 1965, Ser. No. 513,202
10 Claims. (Cl. 280—21)

A sled having a platform, a duality of skis and a means connecting the platform to the skis, the connecting means including an arrangement for causing the skis to rotate about their longitudinal axes when they are



pivoted in a horizontal plane by the exertion of a force at the rearward portions of the skis through a steering mechanism.

3,370,863
STEERABLE SLEIGH OR STEERABLE TOBOGGAN
Josef Schrall, 1 Fritz-Platz, 817 Bad Tolz, Germany
Filed Mar. 17, 1966, Ser. No. 535,661
Claims priority, application Germany, Mar. 18, 1965, Sch 36,725; Mar. 11, 1966, Sch 38,649
8 Claims. (Cl. 280—21)



A steerable sleigh having two runners which have upwardly bent front portions and which are inclined towards one another in forward direction. The runners are secured to the frame of the sleigh so that they can be tilted about respective longitudinally extending axes which are closer to the respective inner edge of each runner than to the respective outer edge of the same runner.

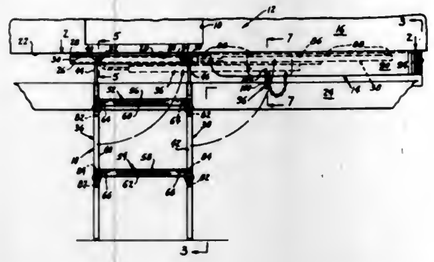
3,370,864
ADJUSTABLE QUICK-ACTING CLAMP
Jack L. Burgoon, Toledo, Ohio, assignor to American-Lincoln Corporation, Toledo, Ohio, a corporation of Ohio
Filed Mar. 7, 1966, Ser. No. 532,382
9 Claims. (Cl. 280—79.2)



1. In combination, a cylindrical member, a band extending circumferentially of said cylindrical member with ends of said band terminating near one another, and a quick-acting clamp for clamping said band to said cylindrical member, said clamp comprising a first mounting bracket mounted near an end of said band, an engageable pin carried by said bracket, a hook member having an end engageable with said pin, a second mounting bracket mounted near the other end of said band, a lever, a lever pivot pin pivotally connecting said lever to said second mounting bracket, a hook pivot pin connecting said hook member to said lever, one of said pins comprising an eccentric roller having a passage extending longitudinally therethrough, said eccentric roller capable

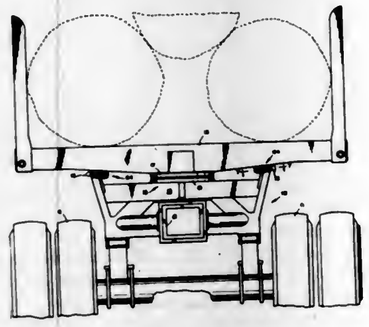
of being rotated about an axis through said passage to urge end portions of said band toward one another or away from one another when said clamp is in clamping engagement.

3,370,865
TRAILER STEPS
Howard J. Baldwin, 439 M St., Sparks, Nev. 69220
Filed May 10, 1966, Ser. No. 549,067
8 Claims. (Cl. 280—166)



Stair means to provide for the convenient ingress and egress of trailer occupants, the stair means including a pair of laterally spaced substantially parallel rails pivotally connected on the trailer below a door opening, the pivotal connection enabling the rails to be swung from a first position depending from the trailer to a second, concealed, stored position below the bottom wall, and wherein the steps are pivotally connected to and extend between the rails in such a manner as to enable the rails to move into close juxtaposition relative to one another when the stair means is moved into the storage area, and means for releasably securing the stair means in the storage area.

3,370,866
SUPPORTING MEANS FOR A LOG BUNK
Roger C. Mitchell, 336 Carolyn Drive, Eugene, Oreg. 97402, and John W. Shuster, 2133 Otto St., Springfield, Oreg. 97477
Filed Feb. 1, 1966, Ser. No. 524,078
10 Claims. (Cl. 280—404)



1. Log bunk supporting means for a truck allowing pivotal movement of the truck relative to a load carried by the log bunk, said supporting means comprising;
a turntable including opposed, top and bottom plates secured respectively to the log bunk and the truck, one of said plates characterized by a relieved area formed therein and a plurality of recesses in communication with said relieved area,
an annular wear plate intermediate said top and bottom plates for supporting axially directed loads imparted to the turntable removably attached to one of said plates within the relieved area therein,
a hub removably attached to one of said plates including a bearing surface in contact with the other of said plates,
first fastening means removably attaching said hub to one of said plates,
a center pin extending through said turntable and said hub,
pairs of rub iron laterally disposed from said turntable including opposed top and bottom, horizontally disposed replaceable wear surfaces removaly attached respectively to bracket members carried by the log bunk and the truck, said bracket members having a plurality of recesses formed therein,
said wear plate and said wear surfaces each provided with a plurality of bosses, the latter being received respectively within the recesses of one of said plates and the recesses formed within said brackets, and
second fastening means extending through said bosses attaching said wear plate to one of said turntable plates and said wear surfaces to their respective brackets.

3,370,867
STRESSED SUPPORT STRUCTURES FOR TRAILER HITCHES
Richard J. Berlincourt, Jonesville, Mich., and James E. Berlincourt, 624 Chatham Circle, Jonesville, Mich. 49250; said Richard J. Berlincourt assignor to said James E. Berlincourt
Filed June 2, 1966, Ser. No. 554,741
2 Claims. (Cl. 280—406)

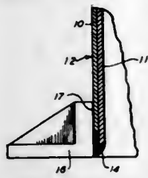


A stress support structure for trailers and the like comprising a base element adjustably attachable to a prime mover such as an automobile and including an upstanding ball mount, the axis of the mount paralleling an offset lower and rearwardly provided vertical pivot. The pivot carries a tubular yoke element between rearward projections of the base element and stress bars are socketed in the yoke projecting rearwardly and the bars are secured at their outboard ends to elements of the trailer frame in selected strain relation, the strains being absorbed by the base element at the pivot and in which the offset accomplishes stabilization of the load and assures accurate tracking of the trailer in relation to the prime mover or automobile and in elimination of sag at the hitch.

3,370,868
COMBINATION BASE MEMBER AND COMPOSITE POLE
Henry C. Pfaff, Jr., Summit, N.J., assignor to Pfaff and Kendall, Newark, N.J., a corporation of New Jersey
Filed Jan. 13, 1966, Ser. No. 520,447
4 Claims. (Cl. 285—55)

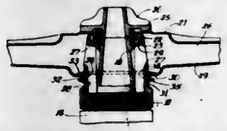
A combination base member and composite pole for bridge rails, lighting poles, etc., having a base portion which includes a shouldered receptacle for receiving the end portion of a composite pole which consists of an inner and an outer tube of different materials disposed

in concentric nested relationship, said inner tube extending beyond the terminal end of the outer tube and securing



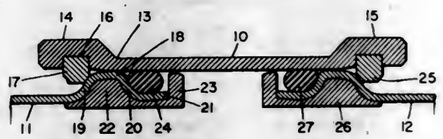
means, e.g., epoxy resin, for affixing the end portion of said outer tube within the base, the end portion of said inner tube being fused to said base portion.

3,370,869
SUPPORT FOR ROTATABLE SPRAY MEMBER
Ival G. Dutcher, White Bear Lake, Minn., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Jan. 6, 1964, Ser. No. 335,855
8 Claims. (Cl. 285—110)



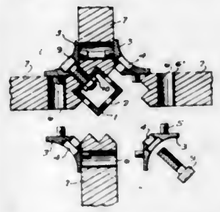
1. In a spray device having a hub, a flow passage through the hub having an outlet for discharging fluid laterally therefrom, and a hollow spray arm, means for supporting the spray arm rotatably on the hub, comprising:
annular retaining means on the hub;
means on the spray arm cooperating with the supporting means for retaining the spray arm rotatably on the hub;
an annular flange on the spray arm extending circumjacent the hub;
an annular seal formed of a flexible material and having an inner portion slidably rotatably engaging the hub and extending between the hub and said annular flange, and an outer portion within said spray arm arranged to be held in sealing engagement with said annular flange on the spray arm directly by fluid pressure within said arm; and
means on the seal outwardly of said spray arm for retaining the seal in association with the spray arm.

3,370,870
FLEXIBLE TUBULAR COUPLING
George A. Mahoff, Denver, Colo., assignor to Gamah Corporation, a corporation of California
Continuation of application Ser. No. 443,611, Mar. 29, 1965, which is a continuation-in-part of application Ser. No. 68,725, Nov. 14, 1960. This application Aug. 15, 1966, Ser. No. 572,623
5 Claims. (Cl. 285—233)



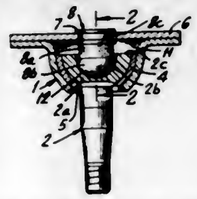
A flexible tube coupling for sealably joining tubular members or a tubular member and another structure having a communicating fluid passage therein to allow for relative axial, rotary and angular misalignment between the members being connected. A tubular end portion is provided with a beaded section, which is sealed over an inner liner having a flanged end portion. A sleeve is coupled to the beaded end portion preferably by a lock ring and sealed thereto by an O-ring.

3,370,871
DEVICE FOR JOINING PANELS, IN PARTICULAR WOODEN PANELS IN THE MANUFACTURE OF COMPOUND FURNITURE
Ampelio Piarotto, Campocroche Mirano, Venice, Italy
Filed Aug. 20, 1965, Ser. No. 481,381
10 Claims. (Cl. 287—20.92)



A panel joint having an elongated support on regular cross section, for joining the edges of two or more panels having angularly related surfaces by means of a prismatic one-piece clamping element having two planar surfaces which would intersect to form a dihedral with pins extending therefrom for engagement in apertures in the panels and a fastener for securing the clamping element to the elongated support is disclosed.

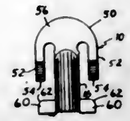
3,370,872
BALL JOINT
Georg Meyer, Kreis Diepholz, Germany, assignor to Lemforder Metallwaren A.G., Lemforde, Hannover, Germany
Filed Nov. 30, 1965, Ser. No. 510,622
Claims priority, application Germany, Dec. 23, 1964, L 49,595
8 Claims. (Cl. 287—90)



A universal joint includes a hinge pin having a hemispherical outer form which rides in a hemispherical cavity of a housing and includes a hemispherical recess which receives a ball-shaped end of a ball member which is made of a resilient material and which is releasably engaged in an opening of a flat cover plate for the housing. The ball member is pretensioned so that it is axially biased in a direction to force its head into engagement with the semi-spherical recess of the hinge pin.

3,370,873
FASTENER MEANS
Robert J. Holton, Rocky River, Ohio, assignor to Tinnerman Products, Inc., Cleveland, Ohio, a corporation of Ohio
Original application June 13, 1961, Ser. No. 116,786, now Patent No. 3,190,167, dated June 22, 1965. Divided and this application Nov. 12, 1964, Ser. No. 410,354
11 Claims. (Cl. 287—189.36)

1. A rotary fastener formed of a single piece of sheet metal and adapted for assembly with an apertured support panel comprising, a head, a split shank depending downwardly from said head and defining a pair of leg portions, wing portions projecting laterally outwardly from the distal ends of said leg portions, said wing portions being adapted for holding coaction with one side of the support panel, said head comprising a pair of oppositely disposed tab portions spaced laterally from one



another, and elongated resilient fingers projecting obliquely downwardly and outwardly from each end of the respective tab portions, said fingers being laterally spaced from said shank and adapted for tensioned engagement with the other side of the support panel for urging said wing portions into holding coaction with said one side of the support panel.

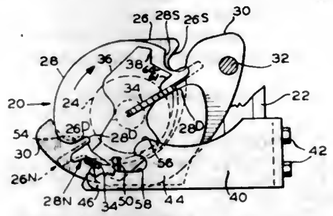
3,370,874
HERMETIC METAL-TO-GLASS SEAL AND APPLICATION THEREOF
Jeremy D. Scherer, South Dartmouth, and William F. Rudolph, New Bedford, Mass., assignors to Isotronics, Inc., New Bedford, Mass., a corporation of New Jersey
Filed July 21, 1966, Ser. No. 566,901
8 Claims. (Cl. 287—189.365)



A hermetic seal component comprising at least one tantalum or niobium metal terminal extending through a mass of glass thermally fused to the metal terminal to form a positive meniscus with respect to the metal terminal. The surface of the terminal is substantially free of oxide so that it is capable of having an electrolytic oxide subsequently formed on its surface and the glass has a coefficient of thermal expansion greater than that of the metal of the terminal. The components are prepared by forming an assembly of at least one terminal, the surface of which is substantially free of oxide, and a mass of glass disposed around the circumference of the terminal, and firing the thus prepared assembly in an inert atmosphere, under conditions such that the glass forms a positive meniscus with respect to the terminal.

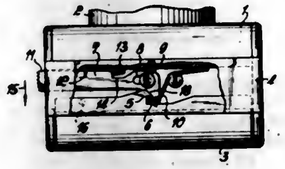
3,370,875
TWINE KNOTTER
Homer N. Grillot, Naperville, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed July 28, 1966, Ser. No. 568,649
7 Claims. (Cl. 289—14)

1. In a twine knotter having a pair of notched disks affixed to a cyclic rotatable shaft carried by a frame, the improvement comprising:
a rotating blade having a first knife edge affixed to said shaft for rotation therewith,
a stationary blade having a second knife edge affixed to said frame,
means biasing said stationary blade into sliding engagement with said rotating blade,



and means for positioning and retaining said twine between said edges to effect shearing of the twine as the rotating blade moves past said stationary blade.

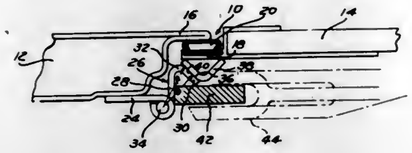
3,370,876
PHOTOGRAPHIC CAMERA WITH A REAR WALL LOCKING ASSEMBLY
Gerhard Beutnagel, Wendhausen, and Herbert Weidner, Volkmarode, Germany, assignors to Voigtlander A.G.
Filed Aug. 20, 1965, Ser. No. 481,160
Claims priority, application Germany, Sept. 12, 1964, V 26,768
5 Claims. (Cl. 292—67)



A device, such as a photographic device, which must be opened and closed from time to time. The device includes a housing member and a door member which has a closed position engaging and closing the housing member to prevent access to the interior thereof. This door member also has with respect to the housing member an open position where the door member is at least partly spaced from the housing member to give access to the interior thereof. A stationary lock element is fixedly carried by one of these members and a movable lock element is carried by the other of the above members and has a locking position engaging the stationary lock element so as to lock the door in its closed position. A spring engages the movable lock element to yieldably maintain the latter in its locking position engaging the stationary lock element so as to maintain the door member closed. A guide means is carried by the member which carries the movable lock element to guide the latter for movement in opposition to the spring away from the stationary element so as to release the door member for movement to its open position, and this guide means compels the movable element to carry out, in sequence, two distinctly different angular and linear movements placing the movable element in a position spaced from the stationary element to release the door only when the movable element has almost reached the end of the second of the above movements. A pair of stops are provided with one of these stops engaging the movable lock element when it is in its locking position, and when it carried out the first of its different movements the movable

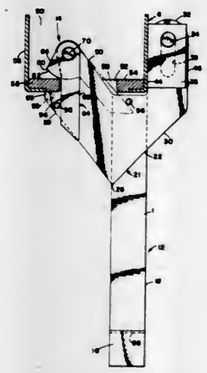
lock elements is moved away from this latter stop toward the other stop. This other stop limits the movement of the movable lock element while it carries out the first of the pair of different movements, and while the movable lock element engages the other of the stops it is still in its locking relationship with respect to the stationary lock element and must be moved along the latter stop while carrying out the second of the movements to release the door.

3,370,877
DOOR FASTENING MEANS
John E. Hallberg, Hammond, Ind., assignor to W. H. Miner, Inc., Chicago, Ill., a corporation of Delaware
Filed Apr. 14, 1966, Ser. No. 542,585
5 Claims. (Cl. 292—285)



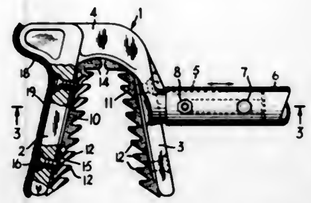
A door fastening means having one or more locking clips mouned on the closing edge of the door and one or more locking leafs hingedly mounted on the door frame for pivotal movement into cam locking engagement with the locking clips to provide a low profile door fastening means which resists outward pressure applied against the door.

3,370,878
SHIFTABLE BUMPER WITH LOCKING MEANS
George W. Carr, Cincinnati, Ohio, assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed May 31, 1966, Ser. No. 554,138
12 Claims. (Cl. 293—64)



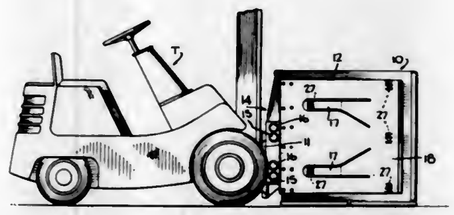
A trailer container bumper construction having a bumper bracket pivotally attached to the end of the trailer container with a forward extending bracket portion coupling with the underside of the trailer container, the forward bracket part having lock means in the form of a movable cam to release the forward end of the bracket from the trailer container whereby a bumper attached to the bracket may be swung from a down to an up position and held against the end of the trailer container.

3,370,879
CONNECTING MEANS FOR FRUIT HARVESTER
Richard F. Green, Stamford, Albert E. Anderson, North Greenwich, Randolph H. Dinter, Cos Cob, and Peter F. Romot, Byram, Conn., assignors to Textron, Inc., Providence, R.I., a corporation of Rhode Island
Filed May 25, 1967, Ser. No. 641,241
10 Claims. (Cl. 294—86)



A device for connecting a longitudinally oscillating shaft or boom of tree shaking apparatus to the limb of a tree comprises a unitary member having two side portions which are spaced apart to provide a recess between them and a connecting portion closing one end of the recess. The member is attached to the boom of tree shaking apparatus with the side portions disposed transversely of the axis of the boom. Pads of elastomeric material are provided on the inner faces of the side portions and at least one of the pads has ribs or fingers which project into the recess and are inclined toward the closed end of the recess so as to tend to move a limb received in the recess toward the closed end and thereby retain it in the recess during the shaking operation. Preferably the side portions of the member are offset relative to one another in a direction transverse to the axis of the boom to facilitate disengaging the device from a limb by swinging the lower end of the boom sideways. The side portion farthest from the boom preferably has an outer face which is concave and is covered with cushioning material so that it can be used to bump the limb of a tree, e.g., to remove only a portion of the fruit.

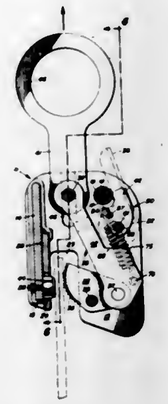
3,370,880
CARTON CLAMPS
Oswald S. Carliss, Rydal, and Earl A. Horton, Philadelphia, Pa., assignors to Eaton Yale & Towne, Inc., a corporation of Ohio
Filed Sept. 29, 1965, Ser. No. 491,324
10 Claims. (Cl. 294—87)



A lift truck is equipped with a pair of arms mounted for load clamping movement, each arm comprising a yielding plate that supports a single clamping pad plate for engaging one side of a load such as a stack of cartons. The pad plate is substantially flat but can flex somewhat, and is mounted at points that are arranged in two vertical lines each at a distance that is approximately 22½% of the length of the pad plate from a vertical

edge of that plate. The supporting arm plate is slotted to form an integral forward yielding portion on which is one of the vertical lines of mounting points for the clamping pad plate. Extending from that forward portion of the arm plate in a rearward direction are fingers on which is the outer line of mounting point, the clamping pad plate is supported through a rubber pad, with vertically and horizontally arranged pairs of bolts engaging one pair the pad plate and another pair the supporting plate, permitting universal yielding of the pad plate as it flexes due to the clamping pressures.

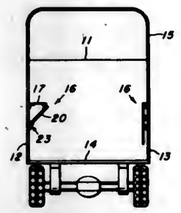
3,370,881
LIFTING CLAMP
Josh L. Renfroe, Jacksonville, Fla., assignor to J. C. Renfroe & Sons, Inc., Jacksonville, Fla., a corporation of Florida
Filed Apr. 11, 1966, Ser. No. 541,596
11 Claims. (Cl. 294—101)



There is disclosed a lifting clamp having a movable gripping jaw, a shackle, a linkage connecting the shackle to the movable jaw and a locking mechanism engageable with the linkage to lock the jaw in either open or closed positions. The locking mechanism has a unitary construction with a handle located outside of the clamp body, an integral connection between the handle and an interior portion of the locking mechanism, and an arcuate slot in the body to receive such connection. Opposed to the movable jaw is a conventional swivel jaw mounted in a support which comprises a pair of plates welded together and constructed to provide advantageous reinforcement for the clamp body.

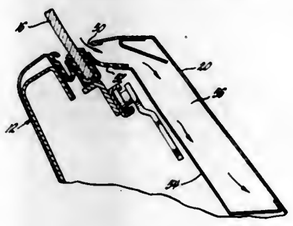
3,370,882
COLLAPSIBLE WALKWAY
Gerald E. Morgan, 2425 8th Ave., Beaver Falls, Pa. 15010
Filed July 23, 1965, Ser. No. 474,309
3 Claims. (Cl. 296—1)

This invention relates to a collapsible walkway and particularly to such a walkway for mounting on the side walls of a cargo-carrying vehicle. The walkway comprises a first generally rectangular plate member forming the tread portion of the walkway, the plate being hinged along its upper edge to the sidewall of the vehicle. A second generally rectangular plate member forming a support member, is hingably connected at its upper edge to the lower edge of the tread member. There are a series of support cleats mounted on the sidewall and adapted to supportably engage the lower edge of the support member. In this manner the two plates may hang in a rest position parallel to and substantially flush against the vehicle sidewall, and may be raised to a position whereat the tread plate extends at right angles to the sidewall where it is supported by the support plate resting on the cleats. The support plate further has a series of openings



therein intermediate its upper and lower edges so that the cleats are disposed within these openings when the plates are in a rest position. Latch means cooperating with the sidewall and the plates are provided to hold the plates in the rest position. With the described arrangement the plates will lie substantially flush against the sidewalls when in the rest position and will not interfere with cargo or take up any substantial amount of valuable cargo space.

3,370,883
AUTOMOTIVE VEHICLE BODY
Theodore R. Gondert, Romeo, and Johann G. Kuhn, Madison Heights, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 29, 1965, Ser. No. 517,302
2 Claims. (Cl. 296—1)

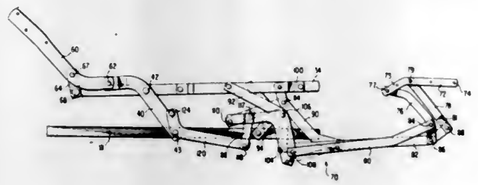


In a station wagon style automotive vehicle body including a rearward portion provided with a tailgate and a tailgate window, a suction slot is provided in the tailgate adjacent the lower edge portion of the tailgate window and is operative to such exterior air adjacent the rear end of the vehicle body into the tailgate to improve the air flow pattern over the tailgate window and other rear body portions when the vehicle is in motion. The exterior air is drawn into the tailgate by aspirator orifices located at the sides of the vehicle adjacent streamline flow thereover and connecting with the suction slot through duct work in the tailgate and rear body portion.

3,370,884
CHAIR WITH FOOTREST
Walter C. Rogers, Jr., High Point, N.C., assignor to Royal Development Company, Inc., High Point, N.C., a corporation of North Carolina
Filed Mar. 23, 1966, Ser. No. 536,882
19 Claims. (Cl. 297—68)

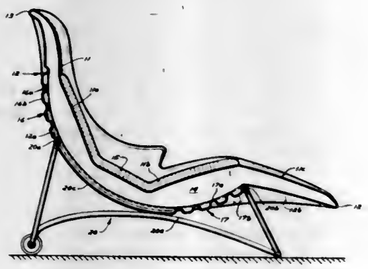
An extendible and retractable footrest particularly suitable in a position chair of the type having a base, a chair frame including a seat swingably mounted by a linkage

to the base for movement between a lower rear position and an upper forward position, and a backrest swingably connected to the chair frame linkage to move the chair frame to its upper and forward position upon movement of the backrest into an inclined position for reclining. The footrest linkage includes a pair of elongated and generally parallel extension links swingably connected to the chair frame linkage for movement between a retracted position below the chair and an extended position projecting forwardly from the chair in response to movement of the chair frame into the upper and forward position. The connection of the extension links to the chair frame linkage includes a crank which causes the extension links



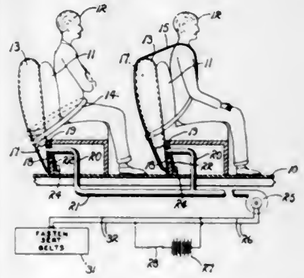
to move relative to each other during their movement into the extended position. This relative movement unfolds the footrest proper from a retracted position generally adjacent the extension links to a use position spaced above the latter. The linkage connecting the extension links to the chair frame linkage further provides a rigid trussed support for the extension links and footrest proper when in their extended position so that the extension links may not be inadvertently retracted from the extended position but rather require that the footrest proper be folded relative to the extension links before the latter may be retracted under the chair. To bias the extension links in both their extended and retracted positions, an over-center spring arrangement is provided.

3,370,885
CONTOUR LOUNGE CHAIR
John A. Gale, Wayzata, Minn., assignor to John Gale Company, Minneapolis, Minn., a corporation of Minnesota
Filed Mar. 14, 1966, Ser. No. 534,235
3 Claims. (Cl. 297—328)



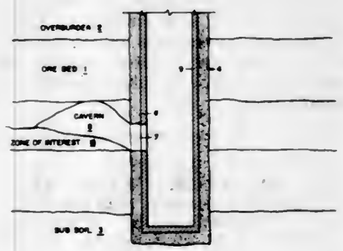
A seating structure particularly defining a contoured lounge chair and embodying an occupant receiving lamina providing a back rest portion, a seating portion and a depending leg supporting portion, all formed in a continuous panel and a supporting back lamina joined at its peripheral edge to the occupant receiving lamina and spaced therefrom to provide a clear span cavity therebetween which back lamina further includes defined areas therein to afford frame receiving and locating means whereby the seating structure may be supported in desired positions and again having all such areas formed in a continuous panel. The structure is formed of a normal non-loading bearing, resilient material which when molded as a spaced lamina construction affords load bearing and occupant supporting characteristics.

3,370,886
ENERGY ABSORBING CUSHION
James Dahle Frost, P.O. Box 775, Porterville, Calif. 93257
Continuation-in-part of application Ser. No. 406,656, Oct. 19, 1964, now Patent No. 3,250,065. This application Mar. 4, 1966, Ser. No. 531,663
10 Claims. (Cl. 297—384)



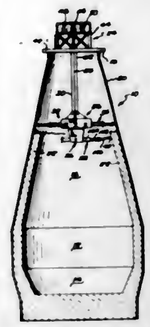
An energy absorbing cushion for use in vehicles positioned to absorb the kinetic energy of rapidly decelerated passengers and other vehicular contents characterized by the provision of a flexible pneumatic envelope having an outlet and means for supplying air to the envelope at a rate sufficient to maintain a positive pressure therein to distend the envelope while continuously discharging air through the outlet.

3,370,887
HOLE PREPARATION FOR FRACTURING SOLUTION MINING WELLS
Carroll F. Knutson, Bruce G. Bray and Harry A. Wahl, Jr., Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Apr. 5, 1966, Ser. No. 540,234
10 Claims. (Cl. 299—4)



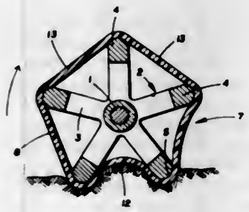
1. In fracturing a salt bed with hydraulic pressure comprising a mixture of salts wherein at least one of the salts is to be recovered and at least one salt is not desired, the improvement comprising contacting said salt bed with a liquid solvent for the desired salts and nonsolvent for the undesired salts to form an initial cavity in the salt bed and thereafter applying sufficient pressure to said cavity to fracture said salt bed.

3,370,888
FURNACE REFRACTORY DELINING APPARATUS
Lawrence Skendrovic, 402 Glencoe Drive, West Mifflin, Pa. 15122
Filed Nov. 8, 1965, Ser. No. 506,708
9 Claims. (Cl. 299—70)



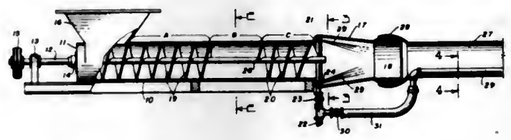
A furnace delining machine suspended from an overhead support. The delining machine has a stabilizer housing with radially extensible outriggers that engage the side walls of the furnace. A boom support member is rotatably secured to the stabilizer and rotates through 360°. An extensible boom is pivotally connected to the boom support and has a percussive tool pivotally connected thereto. The overhead support has a base portion positioned on the furnace lip and includes reels for cables and conduit connected to the delining machine to support the delining machine and to supply power and air thereto. The boom support has an operators compartment with suitable controls for operation of the delining machine.

3,370,889
TRACTION WHEEL COMPRISING A PADDLE UNIT ENCLOSED IN A FLEXIBLE ENVELOPE
Emmitt M. Tucker, P.O. Box 431, Ashland, Oreg. 97520
Filed Aug. 19, 1966, Ser. No. 573,609
4 Claims. (Cl. 301—41)



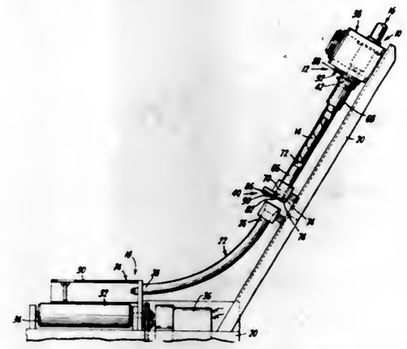
1. A wheel unit for ground engagement adapted to be mounted on a vehicle and comprising, with a rotatable supporting axle, a paddle unit rigid with the axle and including a plurality of separate paddles projecting radially out from the axle in circumferentially spaced relation thereabout, the paddles having transverse outer edges, and a relatively wide, flexible tread band surrounding the paddle unit and engaging the outer edges of the paddles in circumferentially movable relation thereto there being flexible sidewalls on the band engaging against the paddles, the band and sidewalls together forming an envelope in which the paddle unit is enclosed, and said envelope being of waterproof material.

3,370,890
PNEUMATIC CONVEYORS FOR DRY PORTLAND CEMENT
Mason Edward Morgan, 5702 E. Gunnison Place, Denver, Colo. 80222
Filed Oct. 26, 1966, Ser. No. 589,738
5 Claims. (Cl. 302—50)



An elongated cylindrical conveyor housing having a feed hopper and a closed end at its rear extremity and an open forward extremity with an axially positioned rotatable shaft carrying a helical feed screw of uniform pitch adjacent said hopper and a helical discharge screw of less pitch adjacent the open forward extremity, said screws being axially spaced-apart to form an open plug zone therebetween.

3,370,891
CIGAR CONVEYOR
Robert Paul Dellaquila, Queens, and John Lee Ingalls, Green Lawn, N.Y., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed July 15, 1966, Ser. No. 565,431
9 Claims. (Cl. 302—62)

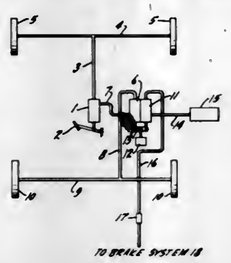


A tubular conveyor for propelling rod-like articles under pneumatic force having a terminal air-lock for discharging the article, the air-lock formed of an elongated tube having a flap at each end normally sealing the tube under influence of the pneumatic force and being operable on passage of the article.

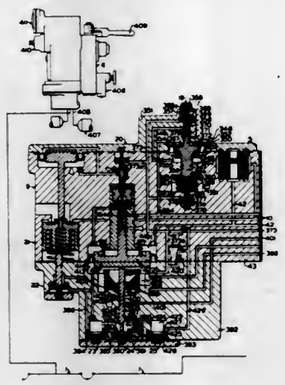
3,370,892
HYDRAULIC BRAKE SYSTEM FOR TRACTOR-TRAILER COMBINATION
Henry E. Branson, Chicago, Ill., assignor to Stromberg Hydraulic Brake & Coupling Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 14, 1966, Ser. No. 542,543
4 Claims. (Cl. 303—7)

This invention discloses the use in connection with a brake controlled tractor-trailer combination, a single operated control element which may apply pressure to

the brakes on the tractor together with a separate operator controlled element which may apply brakes on part of the tractor braking element and also may at the will of the operator apply brakes to the trailer, the arrangement being such that when no trailer is attached to the system, the two operator controls still apply one to apply all the brakes on the trailer, the other to apply part of the brakes on the trailer without reference to the absent tractor.



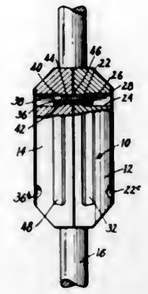
3,370,893
FLUID PRESSURE BRAKE CONTROL APPARATUS
Glenn T. McClure, McKeesport, and William K. Mong, Irwin, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed May 25, 1966, Ser. No. 552,966
19 Claims. (Cl. 303—36)



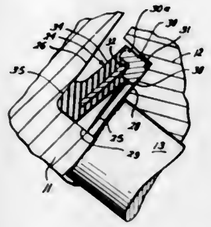
A fluid pressure operated railway car brake control apparatus having a brake-pipe-pressure controlled valve mechanism for supplying fluid under pressure from a control reservoir to one side of one of a pair of identical and coaxial movable abutments of a diaphragm stack of a service valve device to provide a constant force on the diaphragm stack notwithstanding a reduction in control reservoir pressure, as the result of leakage, effective on the corresponding side of the other abutment of the diaphragm stack.

3,370,894
ROD GUIDE
Melvin Everett Pourchot, Shawnee, Okla., assignor to Central Research, Inc., Shawnee, Okla., a corporation of Oklahoma
Filed July 6, 1965, Ser. No. 469,372
9 Claims. (Cl. 308—4)

A rod guide for a sucker rod and comprising a pair of substantially identical half-sections adapted to be secured in abutting relationship around the outer periphery of the rod, threaded members extending transversely between the half-sections for securing the half-sections around the rod, keeper members provided in the first half section for retaining the threaded members therein against accidental loss prior to threaded engagement with the threaded members of the other half-section, the threaded members in the second half-section being wedged securely therein against rotation and for precluding loss thereof from the second half-section prior to securing the half-sections around the rod.



3,370,895
BEARING SEAL FOR DRILLING BITS
George A. Cason, Jr., Dallas, Tex., assignor to Dresser Industries, Inc., a corporation of Delaware
Filed Sept. 28, 1965, Ser. No. 490,936
1 Claim. (Cl. 308—8.2)

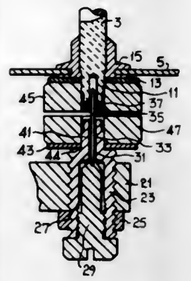


A seal for use in a drilling bit having a rolling cutter rotatably mounted on bearings supported by an arm. The seal includes an annular body of resilient material encircling the arm and in sealing engagement therewith; a ring, preferably constructed from a rigid metallic alloy, bonded to the outer periphery of the body and having a surface thereon in sliding and sealing engagement with the cutter; and, a frusto-conical spring embedded in the body that is arranged to bias the inner peripheral portion of the body into sealing engagement with the arm and to bias the ring into sealing engagement with the cutter.

3,370,896
SUSPENSION OF VERTICAL SHAFTS
Peter James Frederick Atkins, Manchester, England, assignor to Associated Electrical Industries Limited, London England, a British company
Filed Sept. 10, 1965, Ser. No. 486,316
Claims priority, application Great Britain, Sept. 18, 1964, 38,192/64
17 Claims. (Cl. 308—10)

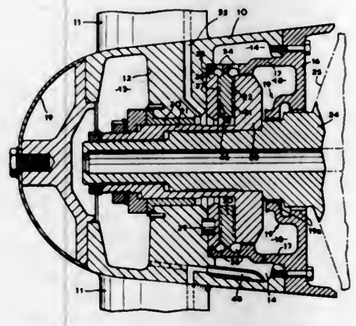
1. Suspension means for a vertical shaft comprising:
(a) a first spigot provided on the shaft;
(b) a first magnetic body fixedly provided on the shaft adjacent the first spigot;

(c) a first ring-like permanent magnet mounted on, and a close fit about, the first spigot, and held in place axially of the first spigot by magnetic attraction to the first magnetic body;
(d) a housing for the shaft;
(e) a second spigot provided in the housing;
(f) a second magnetic body fixedly provided in the housing adjacent the second spigot; and



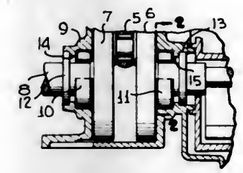
(g) a second ring-like permanent magnet mounted on, and a close fit about, the second spigot, and held in place axially of the second spigot by magnetic attraction to the second magnetic body;
the shaft being supported in a freely rotatable manner by magnetic repulsion between the first and second magnets.

3,370,897
THRUST BEARING
John Anthony Rylatt, Acton, Ontario, Canada, assignor, by mesne assignments, to Orenda Limited, Toronto, Ontario, Canada, a company of Canada
Filed May 26, 1965, Ser. No. 458,881
Claims priority, application Great Britain, May 28, 1964, 22,190/64
15 Claims. (Cl. 308—168)



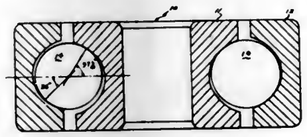
In an annular fluid thrust bearing one or both of the annular faces are formed with raised areas which are separated by intermediate recessed areas, each raised area being defined by two parallel, non-radial edges which are parallel to a radius centrally disposed between them and one of which is a low edge while the other is a high edge. Each of the raised areas has a planar portion which is upwardly inclined from the low edge to a position parallel and adjacent to the high edge. Between each inclined portion and the adjacent high edge is a narrow flat area located in a plane which is perpendicular to the axis of the bearing. A supply groove introduces lubricating fluid along the low edge of each raised area and a scavenge groove formed in the appropriate recessed area adjacent to the high edge of the raised area, scavenges lubricating fluid from along the high side of the raised area. Each supply and scavenge groove communicates at its inner end with the centre of the bearing but terminates at its outer end in a blind end a short distance from the outer edge of the bearing.

3,370,898
ROLLER RADIAL THRUST BEARING
Willard L. Bowen III, Harwinton, Conn., assignor to The Torrington Company, Torrington, Conn., a corporation of Maine
Filed Oct. 22, 1965, Ser. No. 501,374
5 Claims. (Cl. 308—179)



A bearing is provided, comprising an outer race disposed about a complement of rolling elements, with radially inwardly directed lips disposed adjacent ends of the rolling elements, the lips and outer race comprising a one-piece sheet metal construction, with the race and one of the lips being hardened, and the other lip being unhardened to facilitate bending thereof against the rolling elements. The bearing is generally disposed on a shaft for rotation thereabout, with a shaft abutment in axial engagement with the rolling elements, for transmitting axial thrust through the rolling elements and one of the lips, to a housing which is in axial abutment with a lip.

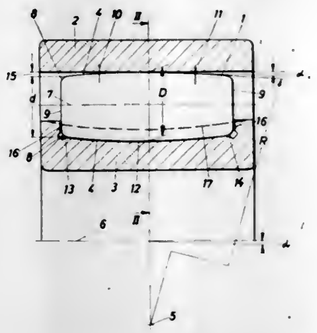
3,370,899
COMBINATION THRUST AND RADIAL BALL BEARING
Phillip R. Eklund, R.R. 4, Agerter Road, Lima, Ohio 45806
Filed June 15, 1966, Ser. No. 559,042
2 Claims. (Cl. 308—193)



1. A combination thrust and radial ball bearing, comprising: an inner race; an outer race; a plurality of rolling ball members between said inner and outer races; said outer race having a noncircular groove with a central portion having a first predetermined radius of curvature and two side portions having a radius of curvature greater than the radius of curvature of said central portion; said side portions being positioned to contact said rolling ball members at a first predetermined contact angle; said inner race having a noncircular groove with a central portion having a first predetermined radius of curvature and two side portions having a radius of curvature greater than the radius of curvature of said central portion; said side portions being positioned to contact said rolling ball members at a second predetermined contact angle; said contact angle of said inner race being

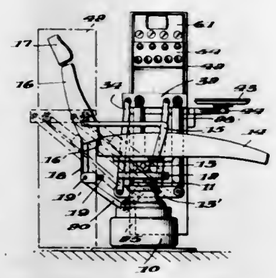
from 1° to 5° greater than the contact angle of said outer race.

3,370,900
ROLLER BEARINGS
Sebastian Messerschmidt, Schonungen, Germany
Filed Mar. 11, 1966, Ser. No. 533,466
Claims priority, application Germany, Mar. 13, 1965, M 64,523
4 Claims. (Cl. 308—212)



A roller bearing in which two race rings are relatively rotatable about a common axis, each of the rings having a working surface in contact with rollers which, in turn, are free to rotate about their common axis. Each of the rollers has a curved surface line in the direction of the rotational axis which conforms to the arc of a radius. The length of the radius is at least twice the distance between the common axis and the roller axis. Each of the roller contacts is engaging substantially equal areas of the working surfaces.

3,370,901
DENTAL APPARATUS
Robert S. L. Andrews, 3433, Tyrone Blvd. N., St. Petersburg, Fla. 33710
Filed June 7, 1966, Ser. No. 555,774
14 Claims. (Cl. 312—209)



A dental chair is provided with a cabinet supported by a pair of parallel arms mounted beside the chair so as to move the cabinet lengthwise of the chair as the chair back is moved backward and forward with respect to the seat. The cabinet contains a primary quadrant in which one or more dental instruments are mounted for swinging movement into and out of the cabinet so as to be accessible with respect thereto within convenient reach of the dentist.

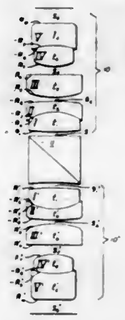
3,370,902
SELF-ATTENUATING VARIABLE DENSITY LIGHT FILTER LENS AND COMPOUNDS FOR MAKING
Sidney Allinikov, 202 N. Walnut St., Yellow Springs, Ohio 45387
Filed July 16, 1963, Ser. No. 295,569
6 Claims. (Cl. 350—160)

A self-attenuating variable density light filtering compound for use with the lenses of flash protection goggles consisting essentially of a triphenylmethane dye and a



bisulfite activated proteolytic enzyme in a carrier solution.

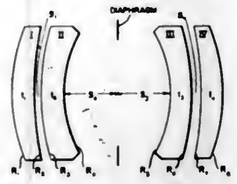
3,370,903
UNIT MAGNIFICATION OPTICAL SYSTEM FOR ANGULAR MEASURING INSTRUMENTS
John M. Schwartz, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed July 2, 1964, Ser. No. 379,992
2 Claims. (Cl. 350—202)



A substantially symmetrical lens system composed of two similar mutually spaced objectives which are positioned back-to-back in operative position between measuring scale and a reticle so that an unaberrated image of the scale is superimposed on said scale or vice versa, and between said objectives is optically aligned a beam splitting glass cube having an optical refractive surface formed thereon normal to the axis of said objectives whereby lateral movement of said cube results in relative motion of said scale and reticle.

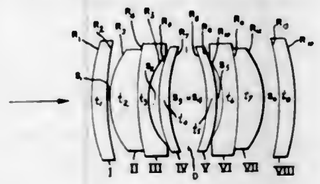
3,370,904
SYMMETRICAL TYPE COPYING PHOTOGRAPHIC OBJECTIVE OF WIDE FIELD ANGLE
Lena M. Hudson, Brighton, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed July 1, 1964, Ser. No. 379,655
2 Claims. (Cl. 350—209)

A symmetrical type of projection objective for photographic copying and kindred uses, said objective having a relatively wide field angle and excellent image aberration



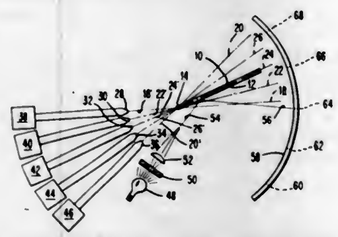
correction as well as low distortion when working in the region of unity magnification.

3,370,905
SYMMETRICAL PHOTOGRAPHIC OBJECTIVE HAVING EIGHT ELEMENTS
Lena M. Hudson, Brighton, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Aug. 26, 1964, Ser. No. 392,256
1 Claim. (Cl. 350—210)



A symmetrical photographic objective which is composed of eight lens elements, four of which are disposed on each side of an intervening diaphragm, and the second and third elements counting from the diaphragm outwardly are constructed in the form of a doublet. This photographic objective has all of its refractive surfaces curved concave toward the aforesaid included diaphragm and the image produced by the objective is free of any substantial spherical, chromatic and astigmatic image aberrations through a relatively wide field angle of at least 65°.

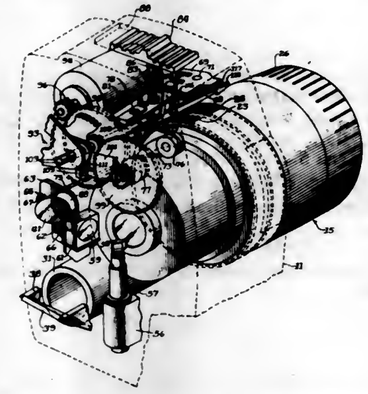
3,370,906
VISUAL READOUT DEVICE FOR A FLUID DATA PROCESSING SYSTEM
Peter Bauer, Germantown, Md., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed July 28, 1964, Ser. No. 385,626
8 Claims. (Cl. 350—285)



A fluid indicator is provided in which a pivoted radiant energy reflecting element of a weather vane type is utilized and wherein the deflection of the element about its pivot axis is determined by fluid pressure applied to the surface of the element. A radiant energy source is projected onto the reflecting surface of the element and the resulting reflection is in turn projected onto a display scale.

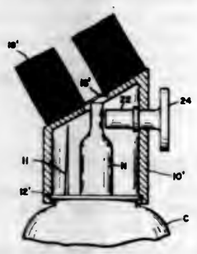
3,370,907
POWER OPERATED ZOOM AND FOCUS CONTROL WITH SELECTIVE OPTICAL PATHS TO VIEWFINDER
Arthur Cox, Park Ridge, Henry J. Koeber, Jr., Deerfield, and Stephen Liszczak, Wood Dale, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 4, 1965, Ser. No. 430,384
25 Claims. (Cl. 352—140)

A power drive means selectively operable to adjust the focus or focal length of a main objective of a camera having in addition to the focusable variable focal length main objective, a focusing auxiliary viewing objective, and a viewfinder. The optical paths of the objectives are optically connectable by a control on the camera which selectively positions a reflecting surface so that when the field of view to be photographed is to be determined, the main objective optical path is optically connected to the viewfinder; and when the main objective is to be focused, the auxiliary objective optical path is optically



connected to the viewfinder. The focusing action of the auxiliary objective simultaneously focuses the main objective. The control simultaneously shifts the drive of the power means to selectively adjust either the focus or zoom optics of the main objective as the reflecting surface is selectively oriented. By circuitry including the camera's governor which may permit the film drive of the camera to operate at dual speeds, the speed of the objective drive motor is similarly coordinated.

3,370,908
APPLICATOR FOR PREPARED LATHER
Jerry F. Cupp, 2365 Dorval Drive, San Jose, Calif. 95130
Filed Oct. 21, 1965, Ser. No. 499,639
5 Claims. (Cl. 401—190)



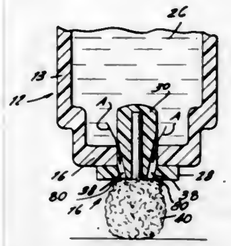
An applicator for attachment releasably to a commercially-available can of prepared shaving lather facilitating application of the lather to a shaver's face.

3,370,909
DAUBER AND CLOSURE ASSEMBLY

Gilbert Schwartzman, 20 Wilmot Circle, Scarsdale, N.Y. 10583

Nov. 29, 1966, Ser. No. 597,613
8 Claims. (Cl. 401—206)

1. A dauber assembly in combination with a fluid container provided with a neck having a open end defined by a lip, said dauber comprising a body of resilient stretchable material having an upper disc and a lower portion of smaller diameter than said disc and integral therewith, said lower portion being force fitted in said neck with said disc engaging said lip, said body having a central recess therein opening at said disc and extending through said disc and terminating near the end of said lower portion remote from said disc, a plurality of bores through said disc and opening into the side wall of said lower portion at a location normally spaced above the lower edge of said lip, a dauber head of fluid absorbent material, a rigid stem attached to said head and disposed in said recess so that upon depression of said head said body will be



stretched until said bores extend below said lip to permit fluid to pass from said container onto said head.

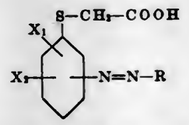
CHEMICAL

3,370,910
PROCESS FOR DYEING POLYPROPYLENE MATERIALS AND MONOAZO DYESTUFFS THEREFOR

Argento Crotti, Cogliate, Milan, and Pietro Albanese, Milan, Italy, assignors to Aziende Colori Nazionali Affini Acna S.p.A., Milan, Italy

No Drawing. Filed Oct. 21, 1964, Ser. No. 405,584
Claims priority, application Italy, Oct. 23, 1963, 21,843/63
15 Claims. (Cl. 8—4)

1. A plastosoluble dyestuff characterized by the general formula



wherein X_1 and X_2 are either the same or different from one another and are selected from the group consisting of a hydrogen atom, a halogen, $—NO_2$, —CN, —OH, —CF, alkyl groups containing from 1 to 18 carbon atoms, alkoxy groups containing from 1 to 18 carbon atoms, and a NYZ group wherein Z is an alkyl group having from 1 to 6 carbon atoms and Y is either a hydrogen atom or an alkyl group having 1 to 6 carbon atoms and R is a coupling agent selected from the class consisting of phenols, naphthols, pyrazolones, arylamides of beta-oxynaphthoic acid, dihydroxybenzenes, alkylphenols, alkylnaphthols, and N-alkyl-amino-naphthols in which the alkyl group contains from 1 to 18 carbon atoms.

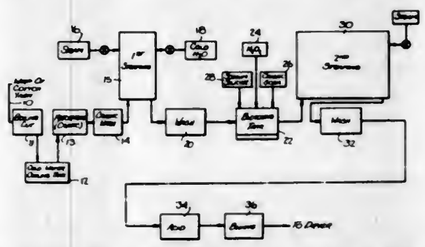
8. A process for dyeing polyolefin materials which comprises adding said materials to an aqueous dyebath at a temperature ranging from about 95–105° C. for a period of time ranging from about 30–90 minutes; said aqueous dyebath containing from about 0.1–5% by weight of the bath of an acidic compound and an effective amount of at least one of the dyestuffs of claim 1.

3,370,911
PROCESS FOR RAPID BLEACHING

Thomas E. Westall, Marion, N.C., assignor to The American Thread Company, New York, N.Y., a corporation of New Jersey

Filed Oct. 21, 1964, Ser. No. 405,430
12 Claims. (Cl. 8—111)

This invention is directed to a combined and continuous mercerizing and bleaching process for yarn, which is carried out in a short period of time. The yarn moves forward continuously through the following major process



steps: boiling out, mercerizing (caustic), caustic washing, steaming, bleaching, steaming, washing and finishing.

3,370,912
PROCESS OF SIMULTANEOUSLY CRIMPING AND REACTING DRAWN NYLON FIBERS WITH HOT ALCOHOLIC FORMALDEHYDE SOLUTION

Conrad Georg Baumann, Zurich, Switzerland, assignor to Heberlein Patent Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 16, 1965, Ser. No. 440,323
7 Claims. (Cl. 8—115.5)

1. A process for crimping polyamide textile materials which comprises treating nylon textile fibers, which have been drawn to at least 250% of their original length and consisting essentially of a polymer of ε-aminocaproic acid, by immersing said fibers in a solution of at least 75% by weight of formaldehyde in a monohydric lower aliphatic alcohol containing an acid catalyst at a temperature of from at least about 50° C. to the temperature at which said alcohol boils at atmospheric pressure for a maximum of about 10 minutes, said time being inversely related to said temperature, until said fibers simultaneously shrink and become crimped.

3,370,913
SHRINKPROOFING WOOL WITH DIISOCYANATES IN THE PRESENCE OF ETHYLENE CARBONATE

Nathan H. Koenig, Berkeley, Calif., assignor to the United States of America as represented by the Secretary of Agriculture

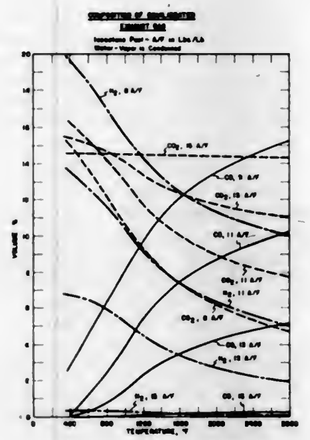
No Drawing. Filed Oct. 21, 1965, Ser. No. 500,434
3 Claims. (Cl. 8—128)

1. A process for shrinkproofing wool which comprises reacting wool with an organic diisocyanate selected from the group consisting of aliphatic, aromatic, and aromatic-aliphatic diisocyanates, in the presence of ethylene carbonate.

3,370,914
METHOD OF TREATING EXHAUST GASES OF INTERNAL COMBUSTION ENGINES

George P. Gross, Westfield, William F. Biller, East Brunswick, David F. Greene, Westfield, and Kenneth K. Kearby, Watchung, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Nov. 20, 1963, Ser. No. 325,024
6 Claims. (Cl. 23—2)



Method of reducing the hydrocarbon, carbon monoxide and nitrogen oxide content of exhaust gases of internal combustion engines which additionally contain carbon dioxide, hydrogen, nitrogen and water and a small amount of oxygen wherein said gases are contacted with a catalyst without the addition of external air or oxygen. The catalyst promotes the reaction of carbon monoxide with the water to form carbon dioxide and hydrogen, the reaction of the hydrocarbons with water to form carbon dioxide and water and the reduction of the nitrogen oxides to nitrogen. Exemplary catalysts are town gas catalysts and water-gas shift reaction catalysts such as chromium oxide-iron oxide and nickel on alumina promoted with an alkali or alkaline earth metal.

3,370,915
METHOD OF PROVIDING AN INERT ATMOSPHERE WITHIN AN ELASTOMERIC AIR CHAMBER

Lawrence R. Sperberg, 6740 Fiesta Drive, El Paso, Tex. 79912

No Drawing. Filed Dec. 16, 1966, Ser. No. 602,123
10 Claims. (Cl. 23—4)

Method of removing oxygen from the air in pneumatic tires comprising adding to the air chamber of the tires an oxygen scavenger comprising hydrazine or a deoxidized metal selected from the group consisting of zinc, iron, aluminum and magnesium. An inert diluent may be mixed with the scavenger to improve its handling characteristics and to enable it to be placed directly into the air chamber of the pneumatic tire.

3,370,916
MAGNETIC MATERIALS AND PROCESS OF PREPARATION

Merrill W. Shafer, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 27, 1963, Ser. No. 291,043
6 Claims. (Cl. 23—21)

A method for forming a group of europium silicate magnetic materials the members of which have unpaired electrons and are transparent in relatively thick layers at wavelengths greater than about 4500 A. in which intimate mixtures of EuO or $EuCO_3$ or $Eu(OH)_2$ and SiO_2 are reacted at elevated temperatures in a non-oxidizing or insert gas environment. Other europium compounds such as $Eu_2(C_2O_4)_3$, $Eu(OH)_3$ or Eu_2O_3 may be mixed with SiO_2 and reacted at elevated temperatures in a reducing atmosphere to provide the same europium silicate group. The compositions resulting from the process are europium silicates having the formula

$$Eu_xSiO_{x+2}$$

where $x=1$–3.

3,370,917
PRODUCTION OF ZEOLITIC ADSORBENTS IN NODULAR FORM

Emil Eichhorn, Timonium, and Larry G. Garrison, Baltimore, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed May 20, 1965, Ser. No. 457,496
8 Claims. (Cl. 23—112)

1. A process for preparing Z–12 zeolitic adsorbents in nodular form which comprises the steps of:

(a) preparing green nodules by mixing a kaolin-type clay calcined at a temperature within the range of 550° C. to 850° C. to an alkaline hydroxide reactive form and sodium hydroxide solution to prepare a product with Na_2O to SiO_2 ratio of about 0.13,

(b) aging the green nodules at ambient temperature for a minimum of 24 hours,

(c) digesting the nodules with a circulating sodium hydroxide solution maintained at a substantially constant concentration of about 9.3 weight percent at a temperature of about 50–60° C. for a period of 12 to 24 hours,

(d) crystallizing the nodules to the Z–12 zeolite by heating at a temperature of 210° F. to 220° F. for 12 to 18 hours,

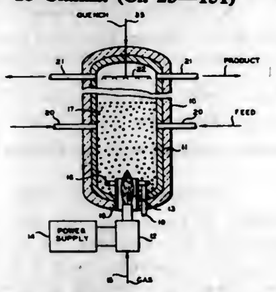
(e) washing the product to remove excess alkali,

(f) drying, calcining at about 800 to 950° F. and recovering the nodular product.

3,370,918
FLUIDIZED PROCESS AND APPARATUS THEREFOR

John W. Begley, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 26, 1963, Ser. No. 333,420
13 Claims. (Cl. 23—151)



Endothermic chemical reactions are promoted and controlled by heating a lower portion of a bed of refractive

particles within a reactor to the desired reaction temperature by a plasma flame, passing the hot particles to a vaporous feed stream in the intermediate part of the reactor wherein thermal energy is transferred from the hot particles to the vaporous feed stream and the desired product or products are formed, and then quenching the reaction with a cooled liquid stream. The product or products are then withdrawn from the reaction zone and the cooled particles gravitate to the bottom of the zone near the plasma flame wherein they are again heated to the desired reaction temperature.

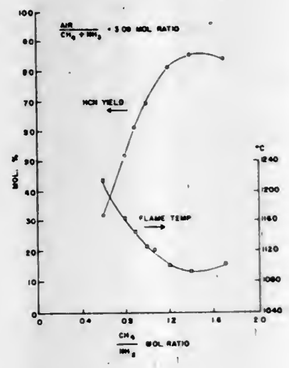
3,370,919

PRODUCTION OF HYDROGEN CYANIDE

Bingham Y. K. Pan, Texas City, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Feb. 23, 1965, Ser. No. 434,191

6 Claims. (Cl. 23—151)



The method of controlling the yield of hydrogen cyanide produced by the reaction of a hydrocarbon, a nitrogen-containing gas, and an oxygen-containing gas in the presence of a Group VIII metal catalyst by measurement of the reaction or flame temperature for any given ratio of the oxygen-containing gas to the sum of the hydrocarbon and nitrogen-containing gas and adjustment of the ratio of the hydrocarbon to the nitrogen-containing gas to obtain a minimum reaction or flame temperature.

3,370,920

STABILIZATION OF SULPHUR TRIOXIDE WITH A CARBONYL DIHALIDE

Ralph Victor Riley, Thomas Frederick Eden, and William Derek Hopkinson, near Chesterfield, England, assignors to The Staveley Iron & Chemical Company Limited, Chesterfield, Derbyshire, England, a British company

No Drawing. Filed Feb. 12, 1963, Ser. No. 257,827

Claims priority, application Great Britain, Feb. 12, 1962, 5,375/62

8 Claims. (Cl. 23—174)

1. A method of preventing polymerization of liquid sulfur trioxide by the distillation of oleum comprising mixing the liquid to be distilled with a carbonyl dihalide, selected from the group consisting of carbonyl dichloride and carbonyl dibromide, in a sufficient amount to prevent the formation of solid polymers.

3,370,921

CRYSTALLIZATION RESISTANT VITREOUS SILICA FORMED BY THE ADDITION OF SILICON TO SILICA

Frank E. Wagstaff, Schenectady, N.Y. (23 Kile Drive, Scotia, N.Y. 12302)

Filed Nov. 22, 1965, Ser. No. 519,806

1 Claim. (Cl. 23—182)

The process for increasing the resistance to crystallization at 1400° C. and for bubble-free oxygen deficient vitreous silica glass comprising the steps of pulverizing a very pure silica; removing the chemically combined water; adding to the pure silica powder about 0.01 weight percent of silicon and mixing the combined pure silica and silicon; packing the purified silica powder and silicon in a fused quartz container connected to a source of inert gas; heating the purified silica powder and silicon to a temperature of about 1350° C. in one-half hour and maintaining the temperature at 1350° C. for about two hours; raising the temperature of the glass to about 1900° C. in one hour and maintaining the 1900° C. temperature for about 15 minutes; and then cooling the glass within the container.

3,370,922

PURIFICATION OF CYANAMIDE

Gerald Myer Jaffe, Verona, and William Richard Rehl, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 23, 1965, Ser. No. 442,162

5 Claims (Cl. 23—190)

A purification process whereby technical grade cyanamide solution containing sulfur contaminants is upgraded by treatment with halogen or an organic positive halogen compound to render the cyanamide suitable for catalytic hydrogenation in the conversion to formamidine.

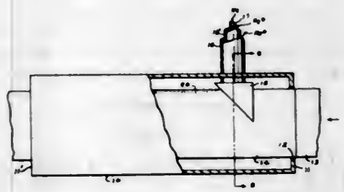
3,370,923

METHOD OF MAKING REFRACTORY METAL NITRIDE FIBERS, FLAKES AND FOIL

Ralph L. Hough, Springfield, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed Sept. 15, 1964, Ser. No. 396,780

5 Claims. (Cl. 23—191)



Method for making thin section nitride fibers, flakes or foil of a clean refractory metal selected from Nb, Ta, Ti, Hf and Zr by rolling the metal to a thinness of from 10^{-3} to 10^{-4} inch, positioning the metal on a conveyor belt chemically inert to the metal prior to the passage of the belt between an upper and a lower baffle of gas entering an oxygen-free nitriding chamber of a furnace with an atmosphere of nitrogen or ammonia wherein the baffles direct the gas flow against both the top and the bottom of the metal on the conveyor belt, and maintaining the temperature of the metal within the range of the nitriding temperature of the meal on the conveyor belt.

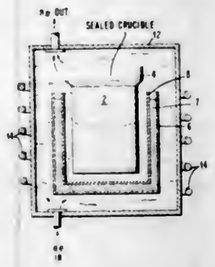
3,370,924

METHOD OF MAKING CRYSTALS OF RARE EARTH CHALCOGENIDES

Carl F. Guerci, Mount Kisco, and Merrill W. Shafer, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Aug. 30, 1965, Ser. No. 483,712

10 Claims. (Cl. 23—301)



A rare earth chalcogenide selected from the group consisting of europium, ytterbium and samarium is placed together with the elemental metal of the chalcogenide compound in a crucible selected from the group consisting of tantalum, tungsten, molybdenum and rhenium, sealed and heated to solution temperature and subsequently cooled.

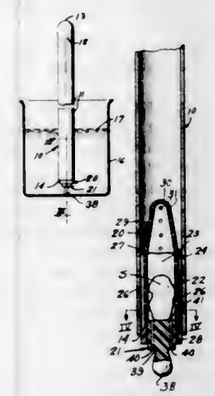
3,370,925

METHOD OF CONDUCTING CHEMICAL GAS EXPERIMENTS AND LABORATORY APPARATUS FOR GENERATING GAS

Gerald E. Trueblood, 410 Grant St., Geneva, Ill. 60134

Filed Feb. 9, 1965, Ser. No. 431,408

8 Claims. (Cl. 23—211)



1. The method of conducting chemical gas experiments in the laboratory which includes the steps of

charging a supply of acid into a gas-measuring tube through the mouth of the tube,

confining a piece of metal in a foraminous specimen holder sized complementally to the mouth of the tube,

inserting the specimen holder into the mouth of the tube in press-fit relationship therewith to retain the specimen in sealed assembly with the tube at the mouth thereof,

inverting the tube with the mouth of the tube into a beaker of water,

and diffusing the acid through the specimen holder in reactive relation with the metal to release gas for measurement in the inverted tube.

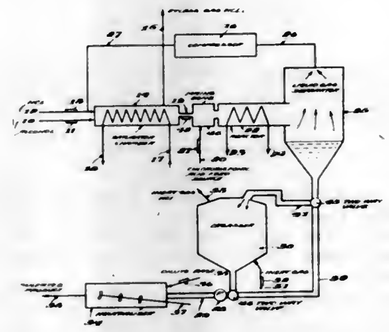
3,370,926

INTEGRATED SYSTEM FOR THE CONTINUOUS PRODUCTION OF ALCOHOL SULFATES

Nelson Whitman, Lincoln, Mass., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Original application Mar. 3, 1964, Ser. No. 349,010, now Patent No. 3,337,601, dated Aug. 22, 1967. Divided and this application Feb. 14, 1967, Ser. No. 616,010

2 Claims. (Cl. 23—260)



An integrated system for reacting hydrogen chloride-saturated fatty alcohols with chlorosulfonic acid which combines a saturator chamber, reactor, liquid-gas separator, a recycle line for carrying the hydrogen chloride from the separator vessel back to the saturator, and a neutralizing vessel. All are communicating so that the entire system is operated at a minimum temperature permitting a short retention time with high agitation in the neutralizer. As a result of conducting the reaction at a minimum temperature and providing for a short retention time in the neutralizer, a substantially colorless product is obtained.

3,370,927

METHOD OF ANGULARLY PULLING CONTINUOUS DENDRITIC CRYSTALS

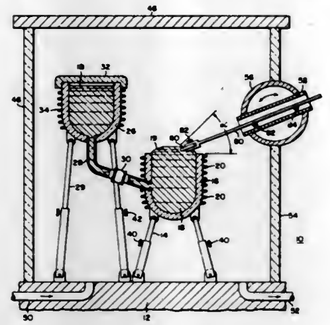
John W. Faust, Jr., Forest Hills, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 28, 1966, Ser. No. 530,489

4 Claims. (Cl. 23—301)

1. In the process of producing thin crystals of a solid material crystallizing in a diamond cubic lattice structure selected from the group consisting of silicon, germanium, and stoichiometric compounds having an average of 4 valence electrons per atom, the steps comprising melting a quantity of the material, bringing the melt to a temperature slightly above the melting point of the material, contacting a surface of a melted material with a seed crystal of the material for a period of time to wet the seed crystal with the melt material, the seed crystal having a plural odd number of parallel interior twin planes, the seed crystal contacting the melt surface at an angle of from substantially 0 to 45° of the horizontal, the twin planes being parallel to the <211> direction, the dendritic crystal when etched exhibiting triangular etch pits on both faces with the vertices of the triangular pits being directed upwardly with respect to the melt and the faces of the etch pits being parallel to the melt surface, supercooling the melted material to a selected temperature, and pulling the seed crys-

tal at the rate of the order of at least 1 inch per minute with respect to the melt surface while maintaining the



selected temperature whereby the material from the melt solidifies on the seed crystal and produces an elongated flat dendritic crystal.

3,370,928
TUNGSTEN CARBIDE BASE CERMET

Michael Fassler, Middletown, Conn., and Mervyn H. Horner, Del Mar, Calif., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
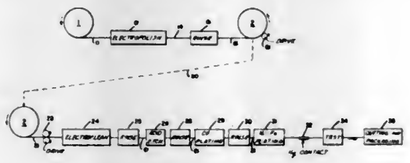
No Drawing. Filed Nov. 13, 1964, Ser. No. 411,155
5 Claims. (Cl. 29—182.7)

1. A hard, corrosion-resistant cermet composition consisting of essentially 50–90 weight percent of tungsten carbide with the balance consisting of essentially molybdenum and columbium carbide, the ratio of molybdenum to columbium carbide being 50–90 percent by weight.

3,370,929
MAGNETIC WIRE OF IRON AND NICKEL ON A COPPER BASE

Joseph S. Mathias, Riverton, N.J., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 29, 1965, Ser. No. 443,399
5 Claims. (Cl. 29—183.5)

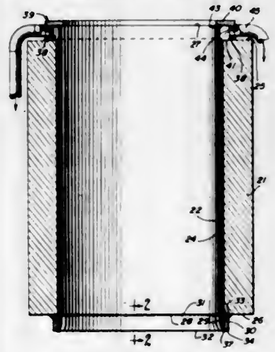


Magnetic wire suitable for computer use and having improved, reproducible physical and magnetic properties is prepared by subjecting copper wire containing about 3% by weight beryllium and having a diameter in the range 2–50 mils to an electropolishing operation to smooth the wire surface. After the electropolishing operation the wire is subjected to electrocleaning, followed by a rinse, acid etching for the removal of oxides from the surface thereof, followed by another rinse and the electrodeposition of copper onto the cleaned and etched beryllium copper wire surface. Desirably, the copper is electrodeposited onto the beryllium copper wire surfaces to a thickness of about 10,000 A. Following the electrodeposition of copper the resulting plated beryllium copper wire has electrodeposited thereon a magnetic coating comprising iron and nickel and a very minor amount of cobalt, such as a magnetic coating analyzing 81% by weight nickel, 19% by weight iron and about 0.1% by weight cobalt. Desirably, the magnetic coating has a thickness of about 10,000 A. During the electrocleaning, acid etching, copper plating and the nickel-iron-cobalt magnetic coating plating operation there flows through the beryllium copper wire a bias current of about 800 ma. This bias current serves to set up around the wire a magnetic field which circumferentially orients the easy direction of the electrodeposited magnetic nickel-iron-cobalt coating. During the electrodeposition of the nickel-iron-cobalt magnetic coating a skew coil current of about 80–100 ma. is passed through the coil encompassing the plating cell. The skew coil current serves to set up a field which cancels the earth's field at the plating location and any stray fields.

3,370,930
RING-CLADDING ASSEMBLY

William R. Fickett, Hinsdale, Ill., and William F. Ricketts, Birmingham, Ala., assignors to Chicago Bridge & Iron Company, Oak Brook, Ill., a corporation of Illinois

Filed Feb. 12, 1965, Ser. No. 432,202
15 Claims. (Cl. 29—191)



1. A ring cladding assembly comprising:
a vertically disposed outer shell ring having an upper end and a lower end;
a vertically disposed inner liner ring, concentric within said shell ring, and having an upper end and a lower end;
said liner ring having a coefficient of thermal expansion different than that of the shell ring;
said rings being spaced apart and defining an annular space therebetween;
brazing material, between said rings, for brazing the liner ring to the interior of the shell ring;
means for sealing said annular space from the atmosphere outside said shell ring;
means at the upper end of said assembly for accommodating longitudinal vertical expansion of the liner ring relative to the shell ring;
and means at both upper and lower ends of the assembly for permitting unrestrained radial expansion of the liner ring along a vertical dimension defined by the opposite ends of said shell ring.

3,370,931
ALLOY STEEL WELDING WIRES

Willem Pieter van den Blink, Utrecht, Netherlands, assignor to North American Philips Company, Inc.

No Drawing. Filed Apr. 22, 1965, Ser. No. 450,212
Claims priority, application Netherlands, May 22, 1964, 64—5,699
2 Claims. (Cl. 29—191.6)

Welding wire having mild steel casing and a filling of about 80% of a non-magnetic metal or alloy of iron, the remainder, preferably about 5%, of a ferromagnetic material.

3,370,932
FLAME COLORING PRODUCT AND METHOD OF MANUFACTURING SAME

Paul E. Kelly, Farmington, and Orval J. Nutt, Livonia, Mich., assignors to Johnson Coal Cubing Co., Detroit, Mich., a corporation of Michigan

No Drawing. Filed Nov. 27, 1963, Ser. No. 326,367
1 Claim. (Cl. 44—15)

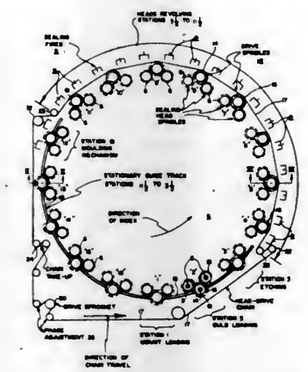
1. A method of manufacturing flame coloring briquets comprising the steps of providing a mixture of granular carbonaceous materials comprising approximately 55 to 81 percent by weight of the mixture and consisting of a coke component and a coal component, said coke component comprising at least about 40 percent by weight of said vehicle and containing primarily fluid petroleum coke plus another coke selected from the group consisting of coke and delayed petroleum coke, said coal component comprising the remainder of said vehicle and being selected from the group consisting of low volatile bituminous coal, high volatile bituminous coal, anthracite and charcoal having a moisture content less than about 1 percent by weight and at a temperature between about 120° F. to 140° F., heating a binder to a liquid state between about 270° F. to 290° F., mixing the heated liquid binder in an amount comprising approximately 4 to 10 percent by weight of the mixture with the carbonaceous materials to obtain a completely homogeneous coating of said materials with said binder, simultaneously with said mixing step increasing the temperature and moisture content of the mixture by passing live steam thereinto until the moisture content ranges between about 2½ percent to 3½ percent of the mixture and the temperature thereof ranges from about 200° F. to 212° F., cooling said mixture until the temperature ranges between about 130° F. to 140° F., then mixing a flame-coloring chemical in an amount comprising approximately 15 to 35 percent by weight of the mixture in dry granular form into the carbonaceous and binder material mixture until thorough intermixture results and the temperature is reduced to between about 80° F. to 100° F., pulverizing the mixture to eliminate any balling effect resulting from the immediately preceding step and thereby reduce the mixture to a granular form and then pressing the mixture into individual briquets.

3,370,933
LAMP SEALING APPARATUS WITH DOUBLE REVOLVING AND ORIENTING SEALING HEADS

Gordon E. Childs, Pompton Plains, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 28, 1965, Ser. No. 451,382
7 Claims. (Cl. 65—155)

1. A lamp sealing apparatus for sealing electric lamps comprising the combination of:
(a) an indexible turret provided with pairs of rotatable sealing head spindles spaced about the periphery thereof for supporting an electric lamp mount and envelope and intermittently movable by said turret to a plurality of work stations;
(b) a drive spindle disposed adjacent each pair of sealing head spindles and connected thereto for causing rotation of said sealing head spindles in synchronism with each other upon operation of said drive spindle;
(c) sealing fires disposed adjacent a predetermined successive number of said work stations and operable to progressively heat said lamp mount and envelope to a fusion temperature as the latter is presented by said sealing heads to said work stations;
(d) orientating means connected to said drive spindle for stopping rotation thereof along with the synchronous rotation of said sealing head spindles at a preselected period of time after said sealing head spindles have passed completely through the last of said successive sealing fire stations;
(e) guide means disposed adjacent a molding work station and several cooling work stations through which said turret indexes and engageable by said orientating means to cause the latter to restrain said drive spindle and sealing head spindles against rotation while said fused lamp mount and envelope are in said molding work station and subsequently pass through said cooling work stations; and



(f) drive means connected to said drive spindles for causing operation thereof with attendant synchronous rotation of said sealing head spindles during their entire indexed passage through all of said sealing fires and for causing alignment of said orientating means with said guide means after said sealing heads have completely passed through the last successive sealing fire station and before entering said molding work station.

3,370,934
IRON ALLOY

Bud R. Smith, Muncie, Ind., assignor to Ball Brothers Company Incorporated, Muncie, Ind., a corporation of Indiana

No Drawing. Continuation of application Ser. No. 373,090, June 5, 1964. This application June 5, 1967, Ser. No. 643,736
5 Claims. (Cl. 65—374)

Glass molding equipment formed of a ductile iron alloy including, by weight, 2.5% to 3.5% carbon, 1% to 3.5% silicon, 1% to 1.25% nickel, 0.35% to 0.5% chromium, 0.3% to 0.6% molybdenum and iron, said alloy combining machineability with impact resistance at high temperatures.

3,370,935
SOIL ADDITIVE COMPOSITION CONTAINING HYDROLYZED GRAFT POLYMER

James W. Adams, Schofield, and Henry W. Hoftiezer, Rothschild, Wis., assignors to Tee-Pak, Inc., Chicago, Ill., a corporation of Illinois

No Drawing. Original application Sept. 24, 1962, Ser. No. 225,881, now Patent No. 3,194,727, dated July 13, 1965. Divided and this application Dec. 3, 1964, Ser. No. 415,805
The portion of the term of the patent subsequent to July 13, 1982, has been disclaimed.
5 Claims. (Cl. 71—29)

4. A clay-containing soil mixed with a sufficient amount of a soil additive to prevent puddling when wet and cracking when dry, said soil additive comprising a fibrous cellulosic material having a partially hyrolyzed polymer deposited within the fibers thereof, said polymer-deposited cellulosic material being prepared by

(a) chemically fixing a material adapted to provide at least part of a catalyst for effecting polymerization of an olefinically unsaturated monomer within a cellulosic material by ion-exchange reaction with at least part of the ion-exchange groups therein,

(b) treating said cellulosic material and chemically fixed material, in any order, with an acrylic monomer and with anything additional required to render said chemically fixed material catalytically active to polymerize said monomer and deposit an acrylic polymer as a guest polymer within the cellulosic material, and

(c) hydrolyzing at least a part of the hydrolyzable functional groups in the deposited acrylic polymer by treatment with an aqueous solution of a base selected from the group consisting of alkali metal hydroxides and quaternary ammonium hydroxides.

3,370,936

METHOD OF CARBONATE-BONDING SPECULAR HEMATITE AND RESULTING PRODUCT

Roger T. Johnson, Monroeville, and Allan Sass, Penn Hills Township, Allegheny County, Pa., assignors to United States Steel Corporation, a corporation of Delaware

No Drawing. Filed Jan. 20, 1966, Ser. No. 521,826
8 Claims. (Cl. 75—3)

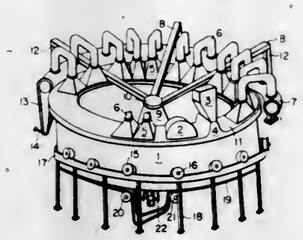
1. A method of making carbonate-bonded agg'omerates of specular hematite comprising regrinding relatively-coarse "as-received" specular hematite to produce about 60 to 95 percent minus 325 mesh particles, moistening the particles and mixing them with about 5 to 20 percent of a compound selected from the group consisting of alkaline earth metal oxide and hydroxide, forming the mixture into green agglomerates, and exposing the green agglomerates to CO_2 gas.

3,370,937

PROCESS FOR CONTINUOUS BAKING OF POWDERED OR GRANULAR RAW MATERIALS FOR PRODUCING IRON

Keiji Tsujihata, Tokyo, and Yasuhiro Sawada, Kawasaki, Japan, assignors to Yawata Iron & Steel Co., Ltd., Tokyo, Japan

Filed Sept. 20, 1965, Ser. No. 488,342
Claims priority, application Japan, Sept. 22, 1964, 39/54,264
5 Claims. (Cl. 75—5)



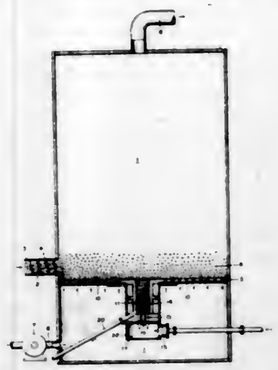
1. A process for the continuous baking of powdered granular raw materials for producing iron comprising steps of continuously charging a powdered granular raw material into an annular rotary furnace, continuously forming a plurality of spiral layers of said powdered granular material with said charging, keeping a nearly middle part of said plurality of charged layers as burning layers by means of a draft directed upward from the bottom of the furnace while said plurality of charged layers are made to descend in accordance with the revolution of the furnace, and continuously cutting out the baked material from the layer which has reached the bottom of the rotary furnace after being subjected to burning and then cooled while descending to said bottom in accordance with the rotation of the furnace.

3,370,938

METHOD AND APPARATUS FOR CONTROLLING PARTICLE SIZE OF FLUIDIZED BEDS

Robert I. Newman, Allendale, and William E. Watson, Mount Tabor, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed July 30, 1965, Ser. No. 476,110
12 Claims. (Cl. 75—9)



There are disclosed a method and apparatus for controlling particle size in fluidized beds and more particularly for removing relatively coarse or agglomerated solid particles from a fluidized bed containing the same. This may be accomplished by feeding finely divided solid charge to and across a fluidized bed from a laterally localized inlet; flowing relatively coarse or agglomerated feed particles downwardly from the bottom of the bed, at a point laterally remote from the laterally localized inlet, through a restricted column openly communicating at its top with the bed bottom and passing a second fluidizing gas upwardly through the column and the bed at a sufficient velocity to maintain the portion of the bed in the column in a fluidized state, which velocity is higher than the velocity of the first fluidizing gas and which velocity is further controlled so as to cause particles of undesired coarseness to settle to the bottom of the column and to cause particles of desired fineness to be carried above the column and back into the portion of the bed above the column and withdrawing from the bottom of the column the particles of undesired coarseness. The method is particularly applicable for establishing and maintaining optimum size patterns of particles of roasted or partially roasted metal sulfide ores in fluidized processes for the conversion of such ores to SO_2 and the corresponding metal oxides.

3,370,939

METHOD FOR HOMOGENEOUS GERMINATION INOCULATION OF CAST IRON AND STEEL AND PRODUCT

Theophile François Louis Cambon and Jean Bovics, Toulouse, France, assignors to Office National Industriel de l'Azote, Toulouse, France, a corporation of France

No Drawing. Filed Jan. 5, 1966, Ser. No. 518,784
Claims priority, application France, Jan. 18, 1965, 2,307; July 8, 1965, 23,977
10 Claims. (Cl. 75—53)

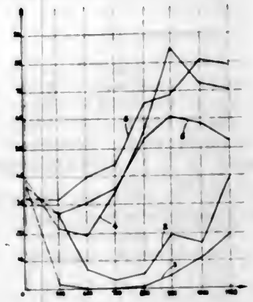
1. A process for the homogeneous germination inoculation of liquid cast iron and steel which comprises adding thereto up to approximately .5% by weight of non-pyrophoric powdered sponge iron prepared by the reduction of iron ore and containing from 77.0% to 99.0% of free and oxidized iron, the oxygen in the form of FeO being present from 0–22% by weight.

3,370,940

IRON-NICKEL ALLOYS

Emile Josso, Sauvigny-les-Bois, France, assignor to Societe Metallurgique d'Imphy, Paris, France, a company of France

Filed Nov. 15, 1966, Ser. No. 594,474
Claims priority, application France, Nov. 30, 1965, 40,297
3 Claims. (Cl. 75—122.5)



Iron-nickel alloys having improved magnetic properties and improved forgeability are obtained by replacing manganese in the alloy by uranium. The nickel content is greater than or equal to 30% and the amount of uranium is from 0.02 to 0.5% by weight.

3,370,941

TUNGSTEN-CONTAINING ALLOY CAST IRON USEFUL FOR INTERNAL COMBUSTION ENGINE PARTS

Kenneth E. Kueny, Muskegon, Mich., assignor to Johnson Products, Inc., Muskegon, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of application Ser. No. 496,150, Oct. 14, 1965. This application Sept. 22, 1966, Ser. No. 581,144
10 Claims. (Cl. 75—128)

1. An internal combustion engine valve train component comprising a body having at least a bearing surface consisting essentially of the following composition:

Element:	Percent by weight
Carbon	3.00–3.55
Silicon	2.00–2.90
Manganese	0.70–1.10
Nickel	0.15–0.70
Chromium	0.40–1.25
Molybdenum	0.15–0.70
Tungsten	0.50–10.00
Iron (plus minor sulfur and phosphorous impurities)	Balance

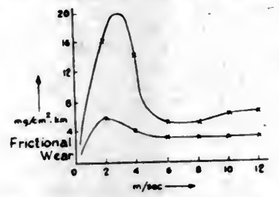
3,370,942

LOW-FRICTION MATERIALS AND BODIES INCORPORATING SAME

Kiyoshi Inoue, 100 Sakato, Kawasaki, Kanagawa, Tokyo, Japan

Continuation-in-part of application Ser. No. 327,450, Dec. 2, 1963. This application July 15, 1964, Ser. No. 382,761
Claims priority, application Japan, Aug. 26, 1963, 38/45,612; Feb. 3, 1964, 39/5,500; Feb. 10, 1964, 39/6,774
10 Claims. (Cl. 75—134)

1. A composition of matter having low frictional wear, consisting essentially of at least one base material selected from the group consisting of copper, iron, nickel, silver, lead, tin, cadmium, aluminum, indium, chromium, iron carbide, tungsten carbide and carbon, and between substantially 1% and 20% by weight of an oxide component substantially entirely in solid solution in said base material and consisting of at least one oxide selected from the group consisting of osmium tetroxide, aluminum oxide, antimony oxide, tellurium oxide, bismuth oxide, molyb-



denum trioxide, germanium oxide, magnesium oxide, lead oxide, boron trioxide, tungsten oxides, ytterbium oxide, barium oxide, copper oxides, iron oxide, zirconium oxide, vanadium oxides, titanium oxide, manganese oxides, cobald oxide and nickel oxide, said oxide component including at least 1% by weight vanadium pentoxide and a plurality of others of the enumerated oxides each present in an amount in excess of substantially 0.2% by weight of said composition.

3,370,943

ALUMINUM ALLOY

Earl C. Beatty and Frank L. Howard, Spokane, Wash., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

No Drawing. Filed Nov. 4, 1965, Ser. No. 506,396
4 Claims. (Cl. 75—142)

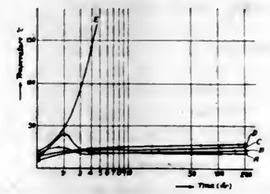
This specification discloses an alloy suitable for extrusion and for color anodizing and the process for forming a colored coating on such extrusion. The alloy has a composition of 6063 alloy to which from 0.15 to 0.5% copper and a preferred range of from 0.1 to 0.2% manganese is added.

3,370,944

POROUS BRONZE CASTINGS FOR BEARING AND THE LIKE USES

Keimin Kawasaki, Tokyo, Japan, assignor to Nippon Oilless Kogyo Kabushiki Kaisha, Tokyo, Japan

Filed Aug. 10, 1965, Ser. No. 478,626
5 Claims. (Cl. 75—156.5)



A porous bronze casting formed of a bronze composition consisting essentially of 7–16%, Sn, 1–4% Fe, 0.01–6% Al, less than 20% Pb, less than 8% Zn, 0.03–0.75% P and the balance Cu.

3,370,945

MAGNESIUM-BASE ALLOY

George S. Foerster, Midland, and John B. Clark, Detroit, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 28, 1965, Ser. No. 467,771
6 Claims. (Cl. 75—168)

The invention is a magnesium base alloy free of zinc, apart from zinc as an impurity up to 0.03 percent, and

consisting essentially of, by weight, 0.1 to 1.75 percent of aluminum, 0.1 to 1.0 percent manganese, 0.05 to 0.6 percent calcium and the balance magnesium. The alloy exhibits substantial strength properties, is readily workable and is weldable without stress relief.

3,370,946
TITANIUM ALLOY
Octavian Bertea and Stanley R. Seagle, Warren, and Ronald R. Seeley, Youngstown, Ohio, assignors to Reactive Metals, Inc., a corporation of Delaware
No Drawing. Filed Sept. 21, 1965, Ser. No. 489,045
8 Claims. (Cl. 75—175.5)

A titanium base alloy having 5 to 9% Al, 0.33 to 3.33% Cb and 0.3 to 2.5% Mo, and which may optionally contain 0.33 to 1.5% Ta. The alloy is characterized by a minimum yield strength in the annealed condition of 100,000 p.s.i. and resistance to crack propagation as measured by the ratio of the failure stress in sea water to the failure stress in air of at least 0.9.

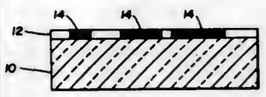
3,370,947
METHOD OF SECURING A SINTERED METAL BRAKE TRACK IN A BRAKE DRUM SHELL BY EXPANDING A GREEN COMPACT DURING SINTERING
Charles Robert Talmage, Bowery Road, New Canaan, Conn. 06840
Filed Feb. 3, 1964, Ser. No. 342,160
1 Claim. (Cl. 75—208)

For purposes of summarizing the disclosure and not by way of limiting the invention, a brake drum is fabricated with a sintered metal brake track using a growth-type powder mixture in the green compact which is to form the track. The powder mixture is primarily iron powders together with a small percentage of copper and a very slight amount of graphite. The mixture and the compacting pressure are selected so that the compact will expand radially during sintering under predetermined atmosphere, time and temperature conditions. The outside diameter of the green compact is slightly smaller than the diameter of a steel brake drum shell into which the compact is inserted prior to sintering. The powder mixture together with the compacting pressure and the sintering conditions are also selected so that the compact, if unrestrained, would expand radially to a diameter greater than the diameter of the shell. The compact assembled within the shell is then sintered under the predetermined atmosphere, time, and temperature conditions, causing the compact to expand radially against the shell. Expansion of the compact during sintering maintains the compact in intimate contact with the shell to facilitate an improved bond therebetween and provide a frictional fit therebetween wherein the brake track in the finished brake drum is held in radial compression by the shell.

3,370,948
METHOD FOR SELECTIVE ETCHING OF ALKALI GLASS
Charles H. Rosenbauer, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Continuation-in-part of abandoned application Ser. No. 310,935, Sept. 23, 1963. This application Apr. 13, 1966, Ser. No. 542,372
13 Claims. (Cl. 96—36.2)

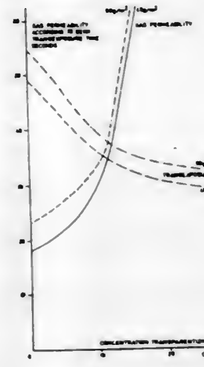
10. A method for selectively etching an alkali glass surface comprising

(a) migrating silver into selected surface portions of an alkali glass substrate to a sufficient degree so that said selected surface portions exhibit a substantially higher resistance to fluoride ions than the other surface portions of said glass substrate and



(b) contacting the glass surface with fluoride ions to selectively etch said other surface portions of the glass surface.

3,370,949
PROCESS OF PREPARING TRANSPARENTIZED DOUBLE FACE PHOTOPRINTING MATERIAL FOR THE SO-CALLED DRY PROCESS
Adrianus Johannes Petrus van Groenland, Delft, Netherlands, assignor to N.V. Lichtdrukpapierfabriek "De Atlas," Delft, Netherlands
Filed Nov. 13, 1963, Ser. No. 323,477
Claims priority, application Netherlands, Nov. 15, 1962, 285,544
4 Claims. (Cl. 96—75)



Transparentized photoprint paper provided on each side with a photosensitive coating and having a gas permeability (measured with the Bekk apparatus) of below 50 seconds is provided. There is provided the process for preparing such photoprint paper involving the improvement according to which the material is incompletely transparentized by means of a transparentizing agent which keeps the gas permeability of the resultant transparentized product, measured with the Bekk apparatus, at below 50 seconds. The invention also provides a paper-transparentizing composition for use in the preparation of such photoprint paper.

3,370,950
PHOTOGRAPHIC STRIPPING FILM
Johan Lodewijk Verelst, Kontich, and Andre Jan Conix, Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a company of Belgium
No Drawing. Filed Mar. 9, 1964, Ser. No. 350,569
Claims priority, application Netherlands, Mar. 7, 1963, 289,927
11 Claims. (Cl. 96—83)

1. A photographic stripping film comprising successively a polyester support, a stripping layer containing as a binding agent a polycondensate which is soluble in volatile organic solvents and is selected from the group consisting of a polyamide, a polyesteramide and an isocyanate rubber of a polyesteramide, a hydrophobic, flexible self-supporting membrane of a cellulosic ester, and a light-sensitive layer strongly adhering to said membrane.

3,370,951
MATTE-SURFACED POLYESTER SHEETING
Charles R. Hasenauer and Walter R. White, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Continuation-in-part of application Ser. No. 218,650, Aug. 22, 1962. This application Nov. 21, 1966, Ser. No. 611,494
17 Claims. (Cl. 96—87)

1. An aqueous composition of matter for use in providing a matte surface on polyester sheeting, the solids comprising, by weight,

(A) from about 5 to 30 parts of a copolymer comprised of from about 35% to about 96%, by weight, of vinylidene chloride, from about 3.5 to about 64.5% of an ethylenically unsaturated ester, and from about 0.5 to about 25% of an acidic material selected from the group consisting of acrylic acid, methacrylic acid, itaconic acid, and the half lower alkyl ester of itaconic acid;

(B) from about 1 part to 25 parts of a finely divided abrasive material having an average particle diameter of from about 2.5 to about 10 microns, and

(C) from about 0.1 to 0.5 part of a thickening agent selected from the group consisting of a colloidally water-soluble polymer of acrylic acid crosslinked with from about 0.75% to 2.0% of an unsaturated ether of a polyhydroxy compound having at least 3 ethylenically unsaturated double bonds available for crosslinking purposes and an interpolymer of methyl vinyl ether and maleic anhydride.

6. An article of manufacture comprised of

(1) a polyester sheet,

(2) a sub layer disposed on one surface of the polyester sheet, and

(3) a matte layer on the sub layer comprised of, by weight,

(A) from about 5 to 30 parts of a copolymer comprised of from about 35% to about 96%, by weight, of vinylidene chloride, from about 3.5 to about 64.5% of an ethylenically unsaturated ester, and from about 0.5 to about 25% of an acidic material selected from the group consisting of acrylic acid, methacrylic acid, itaconic acid, and the half methyl ester of itaconic acid;

(B) from about 1 part to 25 parts of a finely divided abrasive material having an average particle diameter of from about 2.5 to about 10 microns, and

(C) from about 0.1 to 0.5 part of a thickening agent selected from the group consisting of a colloidally water-soluble polymer of acrylic acid crosslinked with from about 0.75% to 2.0% of an unsaturated ether of a polyhydroxy compound having at least 3 ethylenically unsaturated double bonds available for crosslinking purposes and an interpolymer of methyl vinyl ether and maleic anhydride.

12. A photographic film product comprised of

(1) a sheet of polyethylene terephthalate

(2) a sub layer on one surface of sheet (1)

(3) a matte layer on the sub layer comprised of, by weight,

(A) from about 5 to 30 parts of a copolymer comprised of from about 35% to about 96%, by weight, of vinylidene chloride, from about 3.5 to about 64.5% of an ethylenically unsaturated ester, and from about 0.5 to about 25% of an acidic material selected from the group consisting of acrylic acid, methacrylic acid, itaconic acid, and the half methyl ester of itaconic acid;

(B) from about 1 part to 25 parts of a finely divided abrasive material having an average particle diameter of from about 2.5 to about 10 microns;

(C) from about 0.1 to 0.5 part of a thickening agent selected from the group consisting of a colloidally water-soluble polymer of acrylic acid crosslinked with from about 0.75% to 2.0% of an unsaturated ether of a polyhydroxy compound having at least 3 ethylenically unsaturated double bonds available for crosslinking purposes and an interpolymer of methyl vinyl ether and maleic anhydride, and

(4) an unhardened light-sensitive layer disposed over the matte layer (3).

3,370,952
COLOR FORMERS
George Alexander Dawson, Cranbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 23, 1964, Ser. No. 398,738
2 Claims. (Cl. 96—100)

Photographic silver halide emulsions containing a polymeric color former made by polymerizing at 25° C.–90° C. a mixture of (1) aqueous gelatin, (2) an addition polymerizable monomeric color former containing an active color former nucleus capable of forming a quinoneimine or azomethine dye, and (3) an addition polymerizable vinyl compound that is liquid at 50° C.

3,370,953
METHOD OF PRODUCING A DEODORIZING FEED
Noashi Nakano, 165 1-chome, Saginomiya, Nakano-ku, Tokyo, Japan
No Drawing. Filed Aug. 30, 1963, Ser. No. 305,847
Claims priority, application Japan, Sept. 1, 1962, 37/37,210
2 Claims. (Cl. 99—2)

1. A method of feeding livestock and poultry comprising the steps

selecting a livestock and poultry feed,

adding thereto at least 0.1% of a compound selected from the group consisting of humic-acid and humic acid salt, to form a mixture, and

feeding said mixture to said livestock and poultry.

3,370,954
LOW ASH CONTENT FOOD SUPPLEMENT METHOD
William Kuster, Hillsborough, Calif., assignor, by mesne assignments, to Eagle-Ottawa Leather Company, Grand Haven, Mich., a corporation of Illinois
No Drawing. Filed Mar. 4, 1963, Ser. No. 262,385
6 Claims. (Cl. 99—7)

1. A method for preparing a low ash content food supplement rich in protein comprising hydrolyzing animal by-products which contain a member of the group consisting of calcium hydroxide, calcium carbonate, tri-calcium phosphate and mixtures thereof consisting at least about 15–20% by weight of the protein content thereof with phosphoric acid at a pH of about 1–3 in aqueous solution and at an elevated temperature until the protein reaches about the polypeptide state of hydrolysis, recovering an aqueous phase containing polypeptide protein, adding to said recovered aqueous phase, in an amount sufficient to raise the pH of said phase to about 5–7,

of a compound selected from the group consisting of calcium oxide, calcium hydroxide, and calcium carbonate, removing the insoluble phosphate salt formed when said compound is added to said aqueous phase protein solution, and then reducing the water content of said aqueous phase protein solution to a preselected amount.

3,370,955
PROCESS FOR MAKING ACIDIFIED DAIRY PRODUCTS

Lawrence L. Little, Creve Coeur, Mo., assignor to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 347,034, Feb. 24, 1964. This application Apr. 13, 1966, Ser. No. 542,216
1 Claim. (Cl. 99—54)

A direct-acid process for coagulating cream in the production of noncultured sour cream which comprises adding from 0.05 to 1.00 percent, by weight, of a colloid former as an acid stabilizer and from .25 to 2.00 percent, by weight, of at least one material selected from the group of caseinates, lecithin, and monodiglycerides of unsaturated fatty acids as homogeneity stabilizers to cream, pasteurizing and homogenizing, and thereafter adding an edible acid to said cream sufficient to bring about coagulation.

3,370,956
FUMARIC ACID COMPOSITIONS

Paul D. Reitman, Brooklyn, and Edgar K. Hamilton, Merrick, N.Y., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 20, 1963, Ser. No. 303,422
14 Claims. (Cl. 99—78)

1. Fumaric acid crystals of enhanced rate of water-solubility, consisting essentially of particles in acicular or rod-like form having a dimension below about 20 microns and surrounded by a dried deposit of a water-soluble, edible substance selected from the group consisting of hydroxycarboxylic acids of about 2 to 12 carbon atoms and their metal salts.

3,370,957
ANTIFUNGAL COMPOSITIONS AND METHODS FOR THEIR USE

Joseph R. Wagner, Moraga, Calif., Thomas W. Humphreys, London, Ontario, Canada, and Herbert H. Royse, Oakdale, Calif., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 282,551, May 23, 1963. This application May 12, 1964, Ser. No. 366,883
19 Claims. (Cl. 99—90)

1. A method of controlling fungus growth which comprises contacting the area upon which fungus growth is to be controlled with an effective amount of antifungal ingredient containing a compound selected from the group consisting of a 2-R-benzimidazole wherein R is a member of the group consisting of thiazolyl, isothiazolyl and thiadiazolyl, and acid addition salts thereof.

3,370,958
COMPOSITIONS COMPRISING SUCCINYL HALF ESTERS

Ernest H. Freund, Evanston, Ill., assignor to National Dairy Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Original application Sept. 8, 1964, Ser. No. 395,013, now Patent No. 3,293,272, dated Dec. 20, 1966. Divided and this application Oct. 11, 1965, Ser. No. 494,912
10 Claims. (Cl. 99—91)

1. A shortening comprising a half ester of succinic acid and of a mono-acylated polyhydric alcohol having the formula:

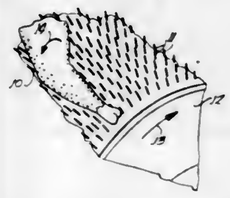
$$A(OH)_n \cdot (F_m) \cdot (SCOOM)$$

in which F is a residue of an even numbered, straight chain saturated fatty acid having from 14 to 24 carbon atoms, SCOO is the residue of succinic acid and A is a residue of a polyhydric alcohol having a straight chain length of from 2 to 6 carbon atoms, *m* is equal to 1, *n* is a number from 0 to 4, and M is hydrogen or an edible alkali metal or alkaline earth.

3,370,959
METHOD OF FLAVORING POULTRY MEAT

Francis C. Moore, Wilbur E. Fernandes, and Marvin W. Nicely, Indianapolis, Ind., assignors to Poly-Tech Inc., Indianapolis, Ind., a corporation of Indiana

Filed Apr. 30, 1964, Ser. No. 363,891
4 Claims. (Cl. 99—107)

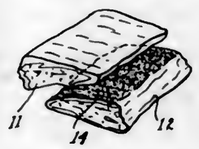


1. A method of flavoring poultry meat which is substantially non-porous and incapable of absorbing liquid treating agents in normal steeping or soaking operations comprising the steps of piercing a poultry carcass section to form a multiplicity of small and substantially uniformly-spaced air pockets extending inwardly from the surface toward the skeletal components thereof in directions substantially transverse to the grain of the meat and terminating within the carcass section, the density of pockets formed in said meat falling within the range of between about 4 to 25 pockets per square inch of meat surface, then immersing the pierced carcass section in a liquid flavoring agent within a closed container, then withdrawing air from the pockets pierced in said carcass section while the same is immersed in said flavoring agent by withdrawing air from said container to achieve a negative pressure in excess of 20 inches of mercury, and thereafter forcing said liquid flavoring agent into said pockets and into the meat surrounding said pockets by restoring air pressure within said container to a normal atmospheric level.

3,370,960
PROCESS FOR PREPARING TENDERIZED ELEMENTARY MEAT PRODUCTS

André R. Jaccard, 67 Greenfield St., Buffalo, N.Y. 14214

Continuation of application Ser. No. 508,623, Oct. 18, 1965. This application Oct. 31, 1966, Ser. No. 591,022
6 Claims. (Cl. 99—107)



Tenderized composite meat cuts are produced by producing a multitude of incisions in a plurality of stacked elementary meat cuts without destroying the meat structure and while maintaining the natural meat juices, said incisions extending through a substantial portion of each of said elementary cuts thereby aiding adherence of the contacting surfaces of said cuts, and molding the resultant composite cut to a desired shape. The composite cuts may be chilled or frozen and may be divided into portions each of which comprises a part of each of said elementary cuts and said parts being adherent one to another. If desired granular gelatin may be placed between the contacting surfaces only of said elementary cuts before tenderizing.

3,370,961
FUDGE-MAKING PROCESS

Thedosius N. Peterson, Wilmington, Del., assignor, by mesne assignments, to Thomas B. Baker

No Drawing. Filed Apr. 21, 1965, Ser. No. 449,859
9 Claims. (Cl. 99—134)

A method of making a fudge confectionary by the steps of:

(1) Heating 40% to 70% of the sugar required to a temperature of 230° F. to 240° F.;
(2) Cooling the resulting mix without agitation to a temperature of 130° F. to 180° F. at a rate of at least about 5° F. per minute;
(3) Adding a fondant containing the remaining 60% to 30% of the sugar;
(4) Creaming the mixture at a temperature of about 100° F. to 140° F., and;
(5) Spreading the product to allow it to cool and harden.

The method is adaptable to conventional fudge recipes. Flavoring ingredients and the like may be added to either the initial mix or the fondant.

3,370,962
MATURATION INHIBITORS FOR HARVESTED PRODUCE

Carol Farhi, New York, N.Y., and Norman E. Harris, Waltham, Mass., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Original application Sept. 21, 1964, Ser. No. 398,030. Divided and this application June 27, 1967, Ser. No. 649,096
6 Claims. (Cl. 99—154)

Ascorbo adenylates, such as the alkali metal ascorbo adenylates, procaine ascorbo adenylate or nicotinamide ascorbo adenylate are novel compositions which are useful for inhibiting the maturation cycle in pre- and post-harvested produce.

3,370,963
GROWTH OF DIVALENT METAL ALUMINATES

William A. Bonner, Scotch Plains, and Le Grand G. Van Uitert, Morris Township, Morris County, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 24, 1965, Ser. No. 442,510
8 Claims. (Cl. 106—42)

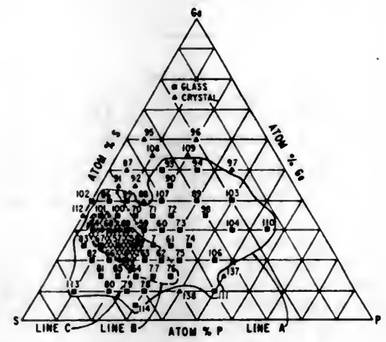
Single crystal divalent metal aluminates may be grown from a flux initially comprising a mixture of lead oxide, lead fluoride, and silicon dioxide, or mixtures thereof with boron oxide.

3,370,964
GLASSES AND METHOD OF MAKING SAME

Albert Ray Hilton, Jr., and Charlie Earl Jones, Jr., Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Mar. 2, 1964, Ser. No. 348,644
8 Claims. (Cl. 106—47)

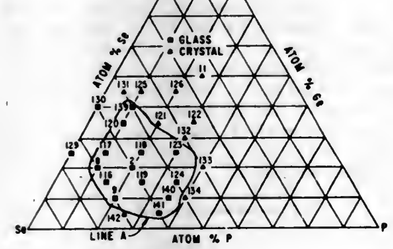
Disclosed are compositions of matter comprising germanium, phosphorus and sulfur, many samples of which have been found to be amorphous glasses transmitting in the infrared region of the electromagnetic spectrum, and some samples of which have been found to be crystalline. Also disclosed are methods of compounding said compositions, and apparatus for measuring the softening point of said glasses.



3,370,965
GLASSES AND METHOD OF MAKING SAME

Albert Ray Hilton, Jr., and Charlie Earl Jones, Jr., Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Mar. 2, 1964, Ser. No. 349,439
2 Claims. (Cl. 106—47)



Disclosed are compositions of matter comprising germanium, phosphorus, and selenium, many samples of which have been found to be amorphous glasses transmitting in the infrared region of the electromagnetic spectrum, and some samples of which have been found to be crystalline. Also disclosed are methods for compounding these compositions and an illustration of the use of the glass compositions of this invention as a transmitting element within an infrared detection system.

3,370,966
GLASS CEMENTS

James W. Schwartz, Western Springs, and Charles J. Prazak, Elmhurst, Ill., assignors to National Video Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Jan. 31, 1964, Ser. No. 341,757
3 Claims. (Cl. 106—49)

Solder glass for forming a joint between two glass parts in which the solder glass is applied as a pasty mix and the

assembly raised to fusion temperature. The solder glass includes a minor fraction by weight of an oxidizing agent which is so characterized that oxygen is released at a temperature in the fusion range to combine with metallic elements in the region of the joint and to oxidize organic matter occluded in the joint.

3,370,967

REFRACTORY GRAPHITE AND METHOD OF PRODUCING THE SAME

Robert T. Ellis, Kenmore, and Leslie H. Juel, Lewiston, N.Y., assignors to Great Lakes Carbon Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 5, 1964, Ser. No. 401,649
9 Claims. (Cl. 106—56)

1. A graphite article of improved resistance to oxidation having deposited at least in the surface pores of a previously formed, massive, graphite article at least about 0.1% by weight of an inorganic ammonium boron compound having the empirical formula

$$x(NH_4)_2O \cdot y(B_2O_3) \cdot zH_2O$$

wherein x is an integer from 1 to 3, y is an integer from 1 to 6, and z is an integer from 0 to 10.

3,370,968

REFRACTORY SHAPES AND METHOD OF PRODUCING THE SAME

Ernest P. Weaver, Pittsburgh, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 16, 1966, Ser. No. 534,647
The portion of the term of the patent subsequent to June 14, 1983, has been disclaimed
9 Claims. (Cl. 106—56)

The fabrication of unburned refractory shapes which are bonded together by the in situ reaction product of from on the order of 3 to 10 parts, by weight, of a bonding additive per 100 parts, by weight, of refractory. The additive is comprised of 2½ to 4 parts, by weight, of a saturated fluid pitch and from ½ to 6 parts, by weight, of particulate carbon black. The shapes are cold-formed and, thereafter, baked for a sufficient time to produce the desired reaction product.

3,370,969

WATER-DISPERSIBLE COATING COMPOSITIONS CONVERTIBLE TO WATER RESISTANT FILMS

Berry O. Powell, Detroit, Mich., and Thomas W. Findley, La Grange, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed June 4, 1964, Ser. No. 372,710
12 Claims. (Cl. 106—131)

1. A film-forming composition which is dispersible in water and can be applied as a film from a water carrier and subsequently converted to the water-insensitive form comprising: a water-dispersible film-forming composition and about 10–75% based on the weight of said water-dispersible composition of a compatible, water-soluble polyester of a non-terminal epoxidized fatty acid ester containing aliphatic hydrocarbon radicals having 9–29 carbons and at least one unreacted oxirane group and substituted at least once and not more than four times along said radicals on adjacent carbons with ester groups and hydroxy groups, and having attached to each ester group at least one carboxyl group in free or neutralized form.

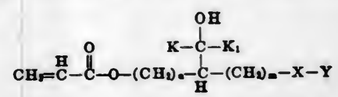
3,370,970

COATING COMPOSITIONS CONTAINING AIR-DRYING FLUORINE CONTAINING COMPOUNDS

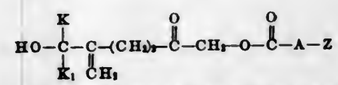
Robert A. Braun, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Original application July 25, 1963, Ser. No. 297,677, now Patent No. 3,340,275, dated Sept. 5, 1967. Divided and this application May 26, 1967, Ser. No. 641,505
6 Claims. (Cl. 106—287)

Coating compositions containing compounds of the formulae



and



where X, Y, A and Z are various aliphatic and aromatic radicals and
K and K_1 are perchloroalkyl, perfluoroalkyl or perchloro-fluoroalkyl radicals.

3,370,971

SILICA-COATED LEAD CHROMATE PIGMENT

Howard R. Linton, Scotch Plains, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 493,259, Oct. 5, 1965. This application June 8, 1966, Ser. No. 555,954
2 Claims. (Cl. 106—298)

Lead chromate pigments which have greatly improved resistance to discoloration upon contact of such compositions with acids, alkalies, and soap solutions, and upon exposure to light and heat, and which consist essentially of lead chromate pigment particles having deposited on their surfaces, as a substantially continuous coating, about from 2% to 40% by weight of dense, amorphous silica, optionally also, such silica-coated lead chromate pigment particles with alumina deposited on the silica. Also, processes for effecting such deposition comprising (1) slurrying the lead chromate pigment particles in an aqueous medium and depositing amorphous silica on them from an aqueous sodium silicate solution at a pH above 6 and a temperature above 60° C., and (2) adding an aqueous solution of an aluminum-containing compound to the resulting suspension of silica-coated lead chromate particles with continued heating above 60° C., whereby alumina is deposited on the silica coating.

3,370,972

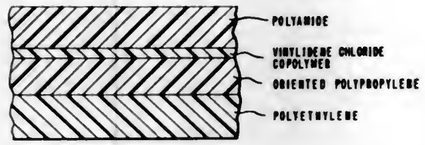
COATED BIAXIALLY ORIENTED POLYPROPYLENE FILM

Herbert Nagel, Wilmington, Del., and James M. Quinn, Tonawanda, N.Y., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Sept. 11, 1964, Ser. No. 395,699
5 Claims. (Cl. 117—7)

1. A film structure comprising a biaxially oriented polypropylene film about 0.75–2 mils thick having on one surface a layer about 0.07–0.2 mil thick of a copolymer of 60–95 parts by weight of vinylidene chloride and 5–40 parts by weight of an alkyl acrylate wherein the alkyl group has 1 through 3 carbons and, based on the weight of the copolymer, 1–10% of acrylic acid; having on said copolymer layer a coating 0.5–3.0 mils thick of a polyamide having a relative viscosity of at least 100

and selected from the group consisting of polyhexamethylene adipamide, polyhexamethylene sebacamide and copolymers thereof; and having on the other surface of the



polypropylene film a layer about 0.5–3.0 mils thick of polyethylene having a density of less than about 0.935 gram/cc. at 25° C.

3,370,973

ACTIVATION OF GLASS FOR ELECTROLESS METAL DEPOSITION OF UNIFORM THICK METAL FILMS

Lubomyr T. Romankiw, Lake Mohegan, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 28, 1964, Ser. No. 421,712
4 Claims. (Cl. 117—124)

1. A method for activating glass, vitrified material, or high-melting insulating materials for the electroless metal deposition of uniform thick metal films characterized in that the glass does not have to be precleaned or pretreated comprising coating said glass with a solution of nickel-chloro-palladate in an organic solvent and reducing said nickel-chloro-palladate at a high temperature, whereby a nickel-palladium film is deposited on said glass.

3,370,974

ELECTROLESS PLATING ON NON-CONDUCTIVE MATERIALS

Ivan C. Hepfer, 4587 W. Shore Drive, Rte. 1, Caledonia, Mich.

No Drawing. Continuation-in-part of application Ser. No. 375,359, June 15, 1964. This application Oct. 20, 1965, Ser. No. 499,095
5 Claims. (Cl. 117—47)

A process for pre-treating and electroless plating plastic articles on vinyl coated racks without re-racking the articles during the entire process, with the steps of racking on vinyl coated racks, etching the racked articles under special conditions, activating the articles, while still on the same racks, under special conditions in an activating bath while maintaining the articles free from sensitizing reducing agents, and immersing the articles, while still on the same rack, in a designated electroless plating bath.

3,370,975

METHOD OF COATING METAL SURFACE WITH AN ALKYD RESIN-AMINOPLAST COMPOSITION

Charles V. Semroc, North Olmstead, Ohio, assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Original application Mar. 30, 1964, Ser. No. 355,925, now Patent No. 3,329,739, dated July 4, 1967. Divided and this application Dec. 28, 1966, Ser. No. 611,522
7 Claims. (Cl. 117—75)

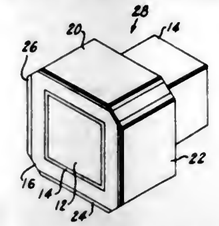
Coating compositions based upon combinations of alkyd resins and aminoplast resins, modified to improve their adhesion to metal substrates by the addition of an ungelled adduct of a polymer containing free hydroxyl groups and an anhydride of a dicarboxylic acid. The addition can be made to the coating composition itself or by applying the adduct to the metal surface and subsequently applying the alkyd resin-aminoplast resin composition.

3,370,976

METHOD OF MAKING A DISPLAY DEVICE

Thaddeus V. Rychlewski, Seneca Falls, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed May 27, 1964, Ser. No. 370,655
6 Claims. (Cl. 117—212)



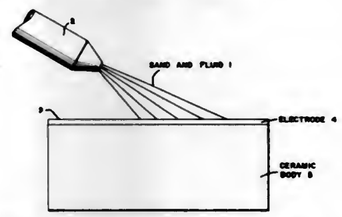
A numeric readout device and a process of making the same which utilizes the edge illumination of excited electroluminescent material. The device is fabricated by applying the electrodes and EL material to the periphery of a substrate rather than to the planar surface thereof. This procedure allows the use of thin line figures while maintaining large electrical contact areas for ease of electrical connection.

3,370,977

METHOD OF PREPARING ELECTRODED CERAMICS FOR BONDING

James W. Anderson and Bobby L. Joyner, State College, Pa., assignors to Linden Laboratories, Inc., State College, Pa., a corporation of Pennsylvania

Filed Aug. 25, 1965, Ser. No. 482,419
2 Claims. (Cl. 117—215)



The present invention concerns a method of preparing electroded ceramics for bonding, comprising directing against the free surface of an electrode on a ceramic body a stream of particles having sharp corners thereon and of a hard material which is nonconductive and flowing said stream against the electrode surface at a rate such that the momentum of the particles causes at least some of them to be embedded in the electrode surface, whereby when a bonding agent is placed on the electrode surface, the projecting particles provide projections to which the bonding agent can attach to form a good bond between the bonding agent and the electrode.

3,370,978

METHOD OF STABILIZING TUNNELING INSULATOR FILMS

Solomon Robert Pollack, Philadelphia, and Clarence Edward Morris, Audubon, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 26, 1964, Ser. No. 347,379
4 Claims. (Cl. 117—217)

It has been found that thin-film structures, particularly thin-film structures containing a thin-film tunneling insulator film, have improved electrical properties imparted thereto if the thin insulator film is subjected to a vacuum annealing operation substantially immediately after the

insulator film has been laid down, such as a vacuum annealing operation carried out at a temperature at a range 5–40° C. and at an absolute pressure not greater than about 1×10^{-4} torr. Following the vacuum annealing operation, the resulting thin-film structure can be completed. The resulting completed structure can then be subjected to a heat treatment operation, preferably in a vacuum, for a period of time of at least about 15 minutes and preferably at a temperature upwards of 100° C., such as a temperature in the range of about 150–170° C.

3,370,979

MAGNETIC FILMS

Arnold F. Schmeckenbecher, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 5, 1964, Ser. No. 372,979
4 Claims. (Cl. 117—217)

A method for producing a magnetic storage device consisting of two layers of magnetic material. Each layer has its easy access of remanent magnetization aligned substantially perpendicular to the other to enhance switching speed.

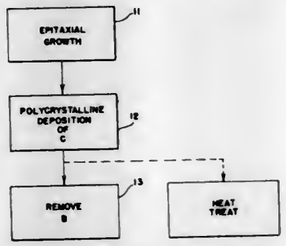
Alloys of nickel-iron-cobalt and nickel-iron-cobalt-phosphorous are electrolessly deposited upon a catalytic substrate from plating baths, as described herein, and under the influence of a magnetic field.

3,370,980

METHOD FOR ORIENTING SINGLE CRYSTAL FILMS ON POLYCRYSTALLINE SUBSTRATES

Gerald S. Anderson, St. Paul, Minn., assignor, by mesne assignments, to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland

Filed Aug. 19, 1963, Ser. No. 302,800
15 Claims. (Cl. 117—227)



1. A method for producing a single crystal film of a desired material on a polycrystalline substrate, which comprises the steps of:

providing a single crystal substrate,

epitaxially depositing said desired material on said single crystal substrate to form said single crystal film,

depositing a polycrystalline film on said single crystal film to form said polycrystalline substrate, and

removing said single crystal substrate from said single crystal film.

3,370,981

ELECTRON BEAM RECORDING MEDIUM WITH AMINO-AZO INDICATOR AND HALOGENATED POLYMER COATING

William O. Ney, Jr., Mahtomedi, and Joseph A. Wiese, Jr., St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Sept. 23, 1963, Ser. No. 310,923
5 Claims. (Cl. 117—230)

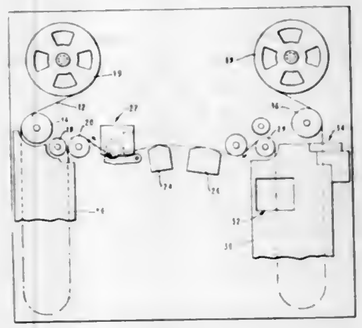
1. A recording medium which comprises an electrically conductive metallic substrate and, superimposed thereon, a layer which is essentially insensitive to visible light, which is stable under vacuum conditions used in electron beam recording and which comprises an acid-sensitive oil soluble amino azo indicator in basic form and capable of changing color at a pH below about 7 and, as the sole remaining constituent capable of liberating hydrogen halide under exposure to an electron beam, a normally solid, highly halogenated polymer having a molecular weight of at least about 1000 and having at least 25 weight percent of labile halogen selected from the group consisting of chlorine and bromine.

3,370,982

WEB CLEANING APPARATUS AND METHOD

Carl P. Hayunga, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Oct. 18, 1963, Ser. No. 317,251
14 Claims. (Cl. 134—9)



A web cleaning apparatus having a pre-cleaner section for removing firmly adhered particles from all surfaces of the web, and a final cleaner for removing particles held to the web by static electricity. The pre-cleaner section includes a pair of scraper blades, a pair of guide discs, and conduits for directing an air stream across the web, whereas the final cleaner employs spaced air channels to establish vibrations in the web. Additionally, unique methods for cleaning webs are disclosed.

3,370,983

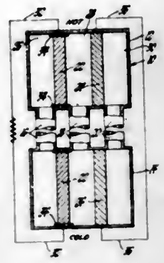
ELECTROTHERMAL TRANSDUCER AND METHOD OF OPERATING SAME

John J. Lander, Anderson, Stanley W. Smith, Chesterfield, and Robert D. Weaver, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 18, 1961, Ser. No. 159,919
8 Claims. (Cl. 136—86)

1. An electrothermal transducer comprising at least two interconnected molten salt electrochemical cells, each of said cells having a negative electrode chamber with an inert porous negative electrode, a positive electrode chamber with an inert porous positive electrode, and an electrolyte chamber for a molten salt therebetween, an alkali metal halide salt in said electrolyte chamber for providing ion communication between said negative and positive electrodes, one of said cells adapted for operation at a higher temperature than the other, said other cell adapted for operation at a lower temperature than said one cell, means for drawing electrical power from the lower temperature cell, means for applying part of the electrical power generated by the lower temperature cell to the higher temperature cell so as to electrolyze the alkali metal halide salt in the latter to produce free alkali metal at its negative electrode and free halogen at its positive

electrode, means for conveying the free halogen from the positive electrode of the higher temperature cell to the positive electrode of the lower temperature cell for reaction thereat, means for conveying the free alkali metal from the negative electrode of the higher temperature



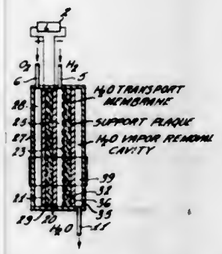
cell to the negative electrode of the lower temperature cell for reaction thereat, and means for conveying said alkali metal halide salt from the electrolyte chamber of the lower temperature cell to the electrolyte chamber of the higher temperature cell for electrolysis.

3,370,984

STATIC VAPOR CONTROL FOR FUEL CELLS

John L. Platner, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Aug. 9, 1963, Ser. No. 301,077
9 Claims. (Cl. 136—86)



1. A fuel cell comprising: a housing enclosing a first and second electrode spaced by an electrolyte containing member, said electrolyte defining a reaction boundary interface wtih said first electrode, a capillary membrane in said housing adjacent said first electrode to define therebetween a gas chamber; means for supplying gaseous reactant to said gas chamber; said capillary membrane saturated with a solution of a nonvolatile solute before operation of said cell so that gases will not pass through said capillary membrane; said solution of a nonvolatile solute having a concentration such that the vapor partial pressure at said reaction boundary interface exceeds the vapor partial pressure at the capillary membrane surface facing said first electrode; housing member spaced from said capillary membrane to define therebetween a vapor collecting cavity in direct communication with said membrane; means for limiting the pressure in said vapor collecting cavity to a pressure less than the vapor partial pressure at the capillary membrane surface facing said cavity so that vapor produced during operation of said cell condenses on one side of said membrane and the condensate is revaporized on the other side thereof to produce vapor which passes from said capillary membrane into said cavity; and means to exhaust said vapor from said cavity.

3,370,985

AIR DEPOLARISED CELL WHEREIN A POROUS CATHODE ELEMENT COMPRISES ACTIVATED VEGETABLE CHARCOAL

Abdul Khader Abdul Waheed, Konkanchi Venkata Narayan Rao, and Kadarundalige Sitaramdoss Gururaja Doss, Karaikudi, India, assignors to Council of Scientific and Industrial Research, New Delhi 1, India, an Indian registered body incorporated

Filed Sept. 29, 1965, Ser. No. 491,160
6 Claims. (Cl. 136—86)

1. A porous carbon electrode for use in an air depolarised cell comprising activated vegetable charcoal having a particle size between −100 and +140 mesh and 1.5–3 percent by weight of said electrode of polymethyl methacrylate binder.

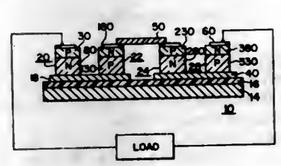
6. An air depolarised cell wherein a porous cathode element comprises activated vegetable charcoal having a particle size between −100 and +140 mesh and 1.5–3 percent by weight of said electrode of polymethyl methacrylate binder, said cathode element being capable of transmitting air into the cell.

3,370,986

PHOTOVOLTAIC SERIES ARRAY COMPRISING P/N AND N/P CELLS

Michael F. Amsterdam, Greensburg, Pa., Mohammed S. Shaikh, Mountain View, Calif., and Krishan S. Tarneja, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

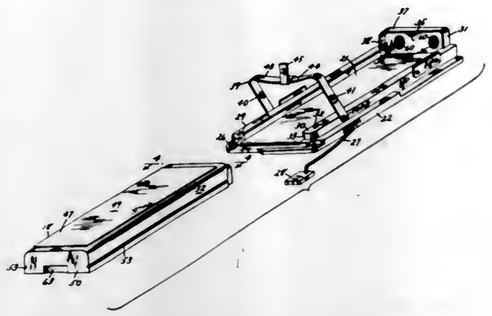
Filed Dec. 10, 1963, Ser. No. 329,423
3 Claims. (Cl. 136—89)



1. A photovoltaic array comprising: an insulating base member having a first regular surface; first and second spaced apart conductive portions integral with said insulating surface; first and third photovoltaic cells comprising a bulk material of a semiconductive substrate of a first type semiconductivity having a top surface and a bottom surface and a thin surface layer of a second type semiconductivity extending over the top surface of said bulk material to form a p-n junction therewith; said p-n junction being generally parallel to said insulating surface; said bottom surface of said substrate of said first and third cells being integral with said first and second conductive portions, respectively; second and fourth photovoltaic cells comprising a bulk material of a semiconductive substrate of the second type semiconductivity having a top surface and a bottom surface and a thin surface layer of the first type semiconductivity extending over the top surface of said bulk material to form an n-p junction therewith; said p-n junction being generally parallel to said insulating base surface; said substrate bottom surface of said second and fourth cells being integral with said first and second conductive portions, respectively; said p-n junction and n-p junctions being generally parallel to one another; and an electrically conductive strip; said strip being affixed to the said surface layers of said sec-

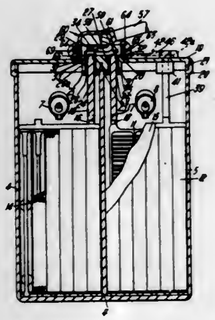
ond and third photovoltaic cells thereby forming series electrical connections between the surface layers of said second and third photovoltaic cells.

3,370,987
COMBINATION APPARATUS COVER AND BATTERY PACK
David H. Rush, New York, N.Y., assignor to ACR Electronics Corp., New York, N.Y.
Filed Apr. 4, 1966, Ser. No. 540,042
2 Claims. (Cl. 136—135)



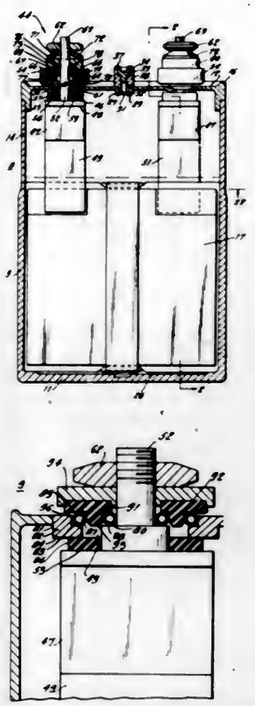
A combination apparatus cover and battery pack therefor, said cover and pack being mutually slidably engageable, said cover having electrical terminals thereon, and having a penetrable material covering the same, said electrical terminals on said cover having means penetrating said penetrable material upon engagement of said battery pack with said cover.

3,370,988
BATTERIES FOR MINER'S CAP LAMPS
Harold Morton, Audenshaw, Manchester, England, assignor to Oldham & Son Limited, Manchester, England, a corporation of Great Britain
Filed May 10, 1965, Ser. No. 454,251
Claims priority, application Great Britain, May 22, 1964, 21,316/64
7 Claims. (Cl. 136—134)



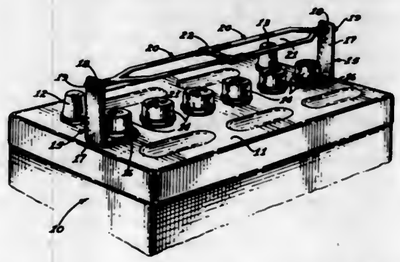
A miner's cap lamp battery containing two secondary cells whose connection posts are connected to terminals in a central region of the sealed lid closing the cell, a removable cover being locked over the central region of the lid and the cable connecting the battery to a cap lamp being secured within the cover.

3,370,989
HARD SEAL FOR CELL TERMINALS
Walter R. Vignini, Peekskill, N.Y., assignor to Sonotone Corporation, Elmsford, N.Y., a corporation of New York
Filed Oct. 8, 1965, Ser. No. 494,039
9 Claims. (Cl. 136—168)



A terminal seal for a battery cell is described, which utilizes a pair of metallic rings clamped between the metallic surfaces of the terminal shank and casing aperture with an intermediate insulative member between the metallic sealing rings.

3,370,990
BATTERY CORROSION ELIMINATOR
Alfred V. Cahal, 2210 W. Cheery Lynn, Phoenix, Ariz. 85015, and Benjamin F. Bourne, 2233 W. Sunnyside Ave., Phoenix, Ariz. 85021
Filed Dec. 10, 1965, Ser. No. 512,939
3 Claims. (Cl. 136—181)



A battery corrosion eliminator attached under the battery filler caps and extending over the vent holes of the caps to neutralize the effects of gases and fumes discharging from the filler cap vents so as to keep the battery terminals free of corrosion.

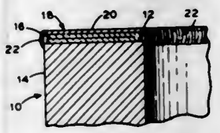
3,370,991
METHOD OF PREOXIDATION OF STAINLESS STEEL
Joseph J. Domicone, Elmira, and Percy L. Orr, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
No Drawing. Filed May 31, 1963, Ser. No. 284,743
3 Claims. (Cl. 148—6.2)

1. The method of treating the surface of chrome-nickel steel parts in preparation for sealing such parts into glass, said method comprising a first step of bathing the parts in an acid bath comprising 5 to 20% nitric acid by weight in water for a period of from 2 to 10 minutes and at a temperature between 160 to 210° F., a second step of bathing the parts in a first passivator comprising an equal volume of approximately 20% nitric acid by weight in water and approximately 2% sodium dichromate by weight in water at a temperature between 100° and 130° F. for a period of approximately 30 minutes, a third step of bathing the parts in a second passivator comprising approximately 2% sodium dichromate by weight in water at a temperature between 130° and 150° F. and for a period of approximately 60 minutes, and a fourth step of air oxidizing the parts at a temperature between 1650 and 1750° F. for a period of approximately 30 seconds.

3,370,992
PRETREATMENT OF A METAL SURFACE FOR CONVERSION COATING
Frank P. Ilenda, Mentor, and Bert E. Palm, Mentor-on-the-Lake, Ohio, assignors to Diamond Shamrock Corporation, a corporation of Delaware
No Drawing. Filed Oct. 14, 1963, Ser. No. 316,182
17 Claims. (Cl. 148—6.16)

A metal surface is treated in a bath containing phosphoric acid and a chlorate maintained at a pH of less than 2.7. Surfaces treated in this manner are more receptive to a subsequently applied corrosion-resistant and siccative paint bonding coat. Finally, to this bonding coat there is applied an organic finish.

3,370,993
HEAT TREATMENT OF METALS
Otis R. Carpenter, Barberton, and George N. Emmanuel, Kent, Ohio, assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 18, 1965, Ser. No. 440,706
6 Claims. (Cl. 148—13.1)

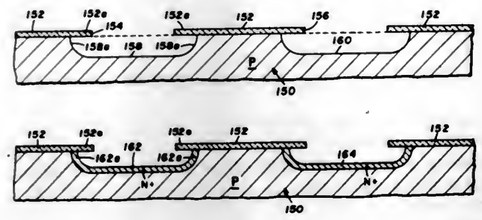


A heat treatment method whereby a more nearly uniform heat transfer is achieved during the heat treating process by insulating the end surfaces of the article and enclosing these insulated end surfaces with metal covers. The inclusion of this step in the heat treatment procedure ensures more uniform cooling of the article and thus achieves more uniform heat treatment of a finished article, thereby affecting economies by reducing scrap losses.

3,370,994
METHOD OF SOFTENING STEELS
Paul J. Konkol, Plum Borough, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
No Drawing. Filed Nov. 29, 1965, Ser. No. 510,356
5 Claims. (Cl. 148—142)

1. A method of softening high alloy steels having at least 0.06% carbon, at least 4% nickel, and other alloying elements from the group consisting of chromium, molybdenum, vanadium and cobalt comprising subjecting said steel to at least two heating and cooling cycles wherein the steel is heated to the intercritical temperature range of from about 1150° F. to about 1400° F. and then cooled to the martensite transformation range, annealing said steel in the subcritical temperature range of from about 1050° F. to about 1175° F. and cooling to permit handling.

3,370,995
METHOD FOR FABRICATING ELECTRICALLY ISOLATED SEMICONDUCTOR DEVICES IN INTEGRATED CIRCUITS
Carl J. Lowery, Plano, and Billy B. Williams, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Aug. 2, 1965, Ser. No. 476,538
6 Claims. (Cl. 148—175)



1. The process for fabricating semiconductor components in integrated circuit form which comprises:
forming a masking layer over one surface of a semiconductor substrate having an aperture exposing the substrate,
subjecting the substrate to a fluid etchant for etching only the substrate and not the masking layer to form a cavity in the substrate, the pocket extending under the masking layer to leave an overhanging portion of the masking layer around the periphery of the cavity, and
reforming the substrate in the cavity by two successive vapor deposition steps to form first and second semiconductor layers, the first layer underlying the second and extending to the surface of the substrate around at least a portion of the periphery of the second layer such that the edge of the first layer will be exposed upon removal of the masking layer.

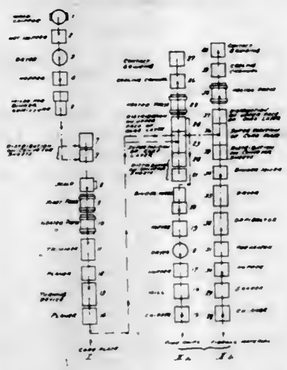
3,370,996
POLYURETHANE ELASTOMER
Hyman R. Lubowitz, Redondo Beach, Charles J. Rogers, Placerville, and Raymond A. Lynch, Rancho Cordova, Calif., assignors to the United States of America as represented by the Secretary of the Air Force
No Drawing. Original application May 28, 1964, Ser. No. 371,156. Divided and this application Apr. 25, 1966, Ser. No. 545,807
4 Claims. (Cl. 149—20)

A polyurethane elastomer constituent reaction product within a 10^{-5} mm. Hg vacuum at 300–385° F. from 3 to 5 hours, 6 to 7 equivalents of polyoxytetramethylene sebacate with 3 to 4 equivalents of a polyoxytetramethylene glycol such as polyoxypropylene glycol adduct of 1,2,6-hexanetriol with 10.7 equivalents of toluene diisocyanate with 0.02 weight percent of ferricacetylacetonate and with or without 10 weight percent of ZnO_2 and the product is cured at 110° F.

3,370,997
METHOD OF PRODUCING COMPOSITE PLATES

Walter Hoppeler, Hans Lampitschen,
Klosters, Graubunden, Switzerland

Continuation-in-part of application Ser. No. 194,449, May 14, 1962. This application Oct. 23, 1965, Ser. No. 503,985
The portion of the term of the patent subsequent to Mar. 29, 1983, has been disclaimed
10 Claims. (Cl. 156—62.8)

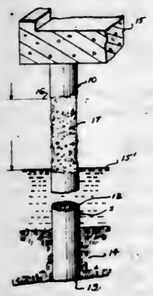


1. A method of producing a composite plate of substantially uniform thickness, comprising the steps of transforming a layer consisting of a deformable, hardenable mass into a solid plate so that the opposite surfaces of said plate are substantially parallel but uneven; removing surface portions from at least one of said opposite surfaces of said solid plate so as to convert the same into an even surface; contacting the thus formed even surface with a layer of substantially uniform thickness and consisting essentially of a mixture of particulate solid material adapted to form at least part of the surface layer of a composite plate, and of a binder material adapted to become actively adhesive when heated to a predetermined elevated temperature; and compressing said layer of substantially uniform thickness in contact with said even surface of said solid plate at at least said predetermined elevated temperature, so as to form on said even surface of said solid plate, firmly adhering thereto, a solid layer of uniform thickness having an outer surface, thereby forming a composite plate having an even, planar face constituted by said outer surface.

3,370,998
COATING

George C. Wiswell, Jr., 1014 Pequot Ave.,
Southport, Conn. 06490

Filed Dec. 16, 1963, Ser. No. 330,981
2 Claims. (Cl. 156—71)

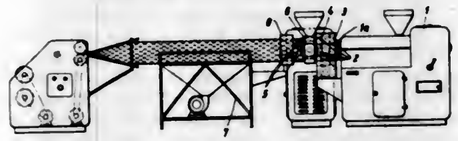


A method for coating submerged pile structures to prevent corrosion by first sandblasting the corroded exterior thereof, preparing an epoxy resin sheet forming tray, and thereafter removing the resin sheet from the tray and securing it to a plate so that the sheet and plate may be applied to the pile structure, allowing the resin material to bond to the surface and harden thereon, after which the plate is removed therefrom.

3,370,999
METHOD AND APPARATUS FOR MANUFACTURING REINFORCED MULTILAYER FILMS

Karl Schwarzrock, Lohmar, near Cologne, Germany, assignor to Willy Muller

Filed Nov. 13, 1963, Ser. No. 323,532
6 Claims. (Cl. 156—172)

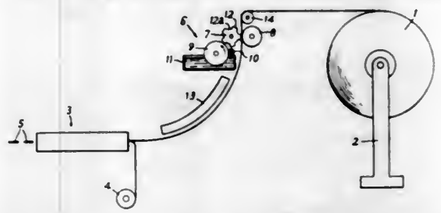


1. Apparatus which comprises concentric tubular extrusion means; rotatable fiber delivery means between said extrusion means and substantially adjacent thereto; rotatable fiber supply means operatively associated with said delivery means positioned outside the largest diameter extrusion means; means for introducing fluid pressure inside the smallest diameter extrusion means; and means for rotating said fiber supply and delivery means.

3,371,000
METHOD AND APPARATUS FOR MAKING INTEGRAL MULTIPLE TOBACCO SMOKE FILTERS

Francis Robert Davenport, Ashtead, Sydney Ruback, London, and Brian Smith, Aspley Heath, England, assignors to Cigarette Components Limited, London, England, a British company

Filed June 24, 1964, Ser. No. 377,570
Claims priority, application Great Britain, June 27, 1963, 25,661/63; Oct. 8, 1963, 39,681/63; Dec. 4, 1963, 47,963/63; Feb. 1, 1964, 5,356/64
11 Claims. (Cl. 156—180)

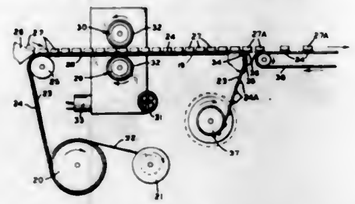


1. A method of manufacturing integral multiple tobacco smoke filters comprising the steps of:
(a) providing a web of filter material selected from the group consisting of paper, bulked yarn and filamentary tow, said web having an elongated axis and being continuous in the direction of said axis;
(b) continuously feeding said web in the direction of said axis;
(c) applying an additional material capable of modifying smoke, to separated zones of said web during the feeding of said web to define spaced first sections having said additional material applied thereto and second sections extending between successive first sections devoid of said additional material;
(d) gathering said web bearing said additional material into an axially elongated rod with said first sections being spaced along the axis of said rod and during said gathering disposing portions of said web throughout all transverse cross-sections of said rod and along the full length of said rod and defining a tortuous path axially of said rod by said web and said additional material; and
(e) transversely cutting said rod in lengths each having at least a portion of one first section and at least a portion of one second section.

3,371,001
METHOD OF APPLYING UNIFORM THICKNESS OF FRIT ON SEMI-CONDUCTOR WAFERS

Kitty S. Ettre, Norwalk, Conn., assignor to Vitta Corporation, Wilton, Conn.

Continuation-in-part of application Ser. No. 377,998, June 25, 1964. This application Sept. 27, 1965, Ser. No. 495,016
12 Claims. (Cl. 156—234)

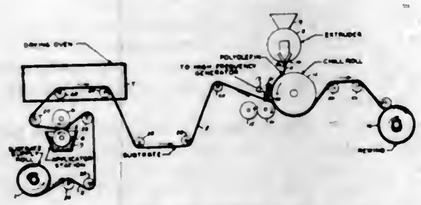


1. A method of coating a plurality of semiconductor wafers with a friable frit in the form of a layer about one mil or less thick, which comprises: pressing a transfer tape comprising a carrier base and the coating of said layer onto the surface of the semiconductor wafers between a pair of rollers and thereafter stripping the carrier and its unused coating away from said wafers, resulting in a frit coating of uniformly applied thickness.

3,371,002
LOW TEMPERATURE POLYOLEFIN EXTRUSION COATING PROCESS

Neal G. Reddeman, Milwaukee, Wis., assignor to Milprint, Inc., Milwaukee, Wis., a corporation of Delaware

Filed July 11, 1962, Ser. No. 209,076
4 Claims. (Cl. 156—244)

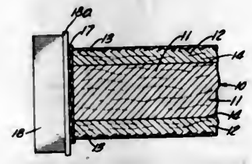


1. In the process for the production of polyolefin extrusion coated packaging materials wherein polyolefin material is heated in an extruder and forced through a die for coating directly onto a substrate, the improvement comprising the steps of:
(1) advancing a web of substrate material to be extrusion coated with polyolefin through an applicator station wherein a polyolefin adhesion-promoting coating is applied to at least one surface of the advancing web of substrate:
(2) advancing said web of substrate through a drying station to dry the aforesaid coating;
(3) advancing said web of substrate through the nip of a rotating polyolefin extrusion chill roll and a backup roll;
(4) extruding a web of polyolefin material through a die onto the periphery of the aforesaid chill roll, said polyolefin being extruded at a non-oxidizing temperature above its softening temperature;
(5) cooling said extruded polyolefin to a film-forming temperature on the periphery of said chill roll;
(6) oxidizing a surface only of said extruded web of polyolefin by subjecting the surface to corona discharge treatment; and
(7) advancing said extruded web of polyolefin through said nip of the rotating chill roll and the backup roll so that its oxidized surface contacts the coated surface of the advancing web of substrate and the extruded polyolefin is firmly joined to said surface of a substrate upon movement of the two webs through the nip of said rolls.

3,371,003
PROCESS FOR MAKING SELF-EDGED LAMINATED PANEL

Abe Paul Goldman, 641 S. Saltair Ave.,
Los Angeles, Calif. 90049

Filed June 8, 1964, Ser. No. 373,248
4 Claims. (Cl. 156—267)



This patent describes a process of forming a self-edged laminated panel comprising: bonding a decorative sheet impregnated with a thermosetting resin to the surface of a substrate by means of heat and pressure, securing the substrate and bonded sheet to a core by means of adhesive material to form a laminated panel, and subsequently bonding a decorative strip impregnated with a thermosetting resin to an edge of the laminated panel by means of heat and pressure, the strip overlapping an exposed edge of the sheet, the resin penetrating into the core substrate during the latter said bonding step to provide a continuous sealed joint after curing.

3,371,004
METHOD OF ADHERING SUBSTRATES WITH POLYVINYL ALCOHOL BASED ADHESIVE

Richard J. Kennedy, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 6, 1965, Ser. No. 477,970
2 Claims. (Cl. 156—321)

An aqueous polyvinyl alcohol adhesive composition having a viscosity of 600 cps. to 5000 cps. is provided. The polyvinyl alcohol is gelled by the application of heat, and the adhesive is particularly useful in the production of corrugated board. In addition to polyvinyl alcohol, the composition contains a dissolved titanium oxalate tackifier, ammonium bicarbonate tackifying catalyst, and clay.

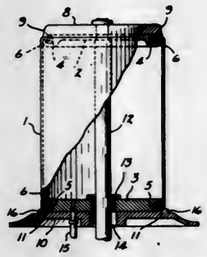
3,371,005
TIRE EXPANDERS AND METHOD OF MAKING SAME

Charles R. Dailey, Jr., Cuyahoga Falls, Ohio, assignor to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Sept. 27, 1963, Ser. No. 312,189
4 Claims. (Cl. 156—416)

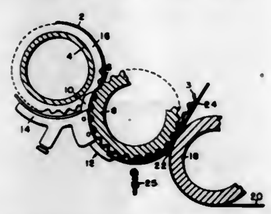
2. In a vulcanizing mold having a lower mold section to support an uncured drum-built rubber tire and a tire expander mounted on said mold section, said expander

having a pair of aligned circular end closure disks, means for moving said disks axially toward and away from each other comprising a central piston rod extending through said mold section and the lower end closure disk and connected to the upper end closure disk, and means for inflating and expanding said tire to a toric shape in the mold and for maintaining pressure in the tire to maintain said shape as the tire is heated and vulcanized in the mold, the combination therewith of a tubular diaphgram in the form of a length of vulcanized elastic rubber tubing that is normally of uniform perimeter and uniform wall thickness throughout its length, said tubing having a perimeter less than that of said end closure disks and having its opposite end portions stretched over said disks, and means clamping said last-named end portions against the axially outer faces of said disks to provide fluid-tight connections between the disks and the diaphragm, where-



by said expander may be inflated, the lower end closure disk being rigidly mounted on said lower mold section to provide the means for clamping the lower end portion of said diaphragm, the upper end closure disk having a clamping plate rigidly mounted thereon to provide the means for clamping the upper end portion of said diaphragm, said upper disk having a rounded annular shoulder at its margin, a rounded axially projecting annular shoulder on its outer face spaced inwardly from said margin, and an annular recess between said shoulders, the upper end portion of said diaphragm engaging said shoulders and said recess and terminating at the radially inner side of said axially projecting shoulder, said clamping plate having an axially projecting marginal flange overlying the marginal portion of said upper disk and conforming generally to the shape of said shoulders and said recess.

3,371,006
APPARATUS FOR PRODUCING CORRUGATED BOARD
Thomas J. Shanley, Milford, N.J., assignor of fifty percent to Diamond Shamrock Corporation, a corporation of Delaware
Filed Aug. 31, 1964, Ser. No. 393,076
11 Claims. (Cl. 156—473)



1. A guide finger comprising an elongated body portion having an arcuate concave surface extending along one side of said body portion and defining an uninterrupted concavity, said uninterrupted concavity maintaining a given distance from the circumference of the roll the entire length of said finger, said body portion also having a cross-section altered subjacent said concavity, said interrupted cross-section providing more direct access to material carried on said guide finger from beneath said material.

11. In a machine for making corrugated boxboard, in combination, cooperating corrugating rolls and means for continuously stripping from the surface of one roll and directing onto the other roll the freshly corrugated strip issuing from the roll passage, said means comprising a guide finger as in claim 1.

3,371,007
ENVELOPE TEAR-STRIP APPLYING-MACHINE
George A. Stilphen and George H. Stilphen, both of 36 Nevins St., Portland, Maine 04103
Filed Dec. 23, 1964, Ser. No. 420,678
1 Claim. (Cl. 156—498)



1. A machine, for the automatic application of heated strips of thermoseal material adjacently along the flap creases of a conveyed succession of open-flap envelopes, comprising,

(a) supporting frame,

(b) a conveyor mounted on the frame to receive at one end a controlled succession of envelopes with their sealing flaps retracted,

(c) a magazine adjacent the opposite end of the conveyor for stacking the stripped envelopes,

(d) a heated strip-applicator juxtaposed to the conveyor to soften the strip and to adhere the strips along the flap-creases of the envelopes,

a said applicator comprising a disc wheel positioned to apply the strip material adjacently along the flap crease and mounts a thermostatic-controlled heating element,

(e) means for the controlled feeding of the thermoseal strip material to the heated applicator,

(f) a series of spaced rollers associated with said conveyor to space the envelopes during movement along the conveyor,

(g) a perforator disk to apply a series of spaced perforations along the envelope flap immediately adjacent the area where the strips are applied,

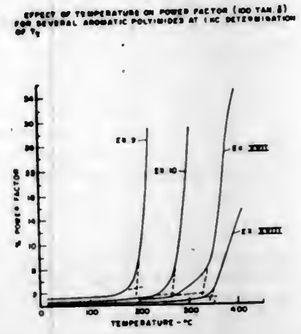
(h) air cooling means for cooling said strip after application to the envelop flap, and

(i) means for severing said strip between the envelopes subsequent to the application by the applicator.

3,371,008
METAL ADHESIVES CONTAINING EPOXY RESIN, POLYAMIDE RESIN AND PHENOLIC FLUX
Eugene F. Lopez, McSpadden Drive, Havre de Grace, Md. 21078
No Drawing. Continuation-in-part of application Ser. No. 127,516, July 28, 1961. This application Dec. 17, 1965, Ser. No. 514,680
10 Claims. (Cl. 161—186)

This invention relates to an adhesive having high metal-to-metal bond strength. It is formulated from a polyamide blended with an epoxy resin in which the polyamide is insoluble and with a flux or solvent comprising at least one di- or tri-hydroxy phenol.

3,371,009
AROMATIC POLYIMIDE LAMINATES AND METHODS OF PRODUCING SUCH LAMINATES
Edward J. Traynor, Jr., Monroeville, and Russell M. Luck, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 28, 1963, Ser. No. 305,106
14 Claims. (Cl. 161—227)



Aromatic polymide and amide modified aromatic polymides are theoretically essentially linear high molecular weight molecules. No melting point has been found for these polymers below the temperature range in which decomposition occurs. The polymers do, however, have a determinable glass transition point. Laminated articles may be prepared from fibrous reinforcing sheets impregnated with these polymers, after the impregnant is fully cured, by heating and pressing multiple plies of such sheet material at a temperature above the glass transition point of the polymer. Polymers having a relatively low glass transition point can be employed as a thin film over sheets impregnated with polymers having a higher glass transition point.

3,371,010
THIURONIUM COMPOUNDS AS BIOCIDAL AGENTS
Pat B. Hamilton, Chapel Hill, N.C., and Donald R. Napier, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Sept. 29, 1965, Ser. No. 491,432
10 Claims. (Cl. 167—30)

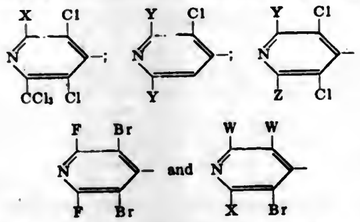
Improved biocidal agents comprising bis(isothiureidomethyl) alkylaromatic dihydrohalides which have a long chain alkyl group containing at least 10 carbon atoms.

3,371,011
SULFINYL- AND SULFONYLPYRIDINE PESTICIDAL COMPOSITIONS AND METHOD OF USE
Howard Johnston, Walnut Creek, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 444,861, Apr. 1, 1965. This application Oct. 21, 1966, Ser. No. 588,321
12 Claims. (Cl. 167—33)

1. The method which comprises contacting plants and plant parts and their habitats with a pesticidal amount of the active compound having the formula

L—M—R

wherein R represents a member of the group consisting of alkyl, monohalolower-alkyl, dihalolower-alkyl, trihalolower-alkyl, phenyl, monohalo-phenyl, benzyl and monohao-benzyl; M represents a member of the group consisting of sulfinyl (—SO—) and sulfonyl (—SO_2—) and L represents a member of the group having the formulae



in which X represents a member of the group consisting of chlorine and hydrogen, each Y represents a member of the group consisting of chlorine, bromine and fluorine, Z represents a member of the group consisting of Y and hydrogen, W represents a member of the group consisting of bromine and hydrogen and at least one W is bromine.

3,371,012
PRESERVATIVE FOR EYE GRAFT MATERIAL
Tamotsu Furuhashi, Yokosuka-shi, Japan, assignor to Seikagaku Kogyo Company, Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed July 20, 1965, Ser. No. 473,526
Claims priority, application Japan, Aug. 7, 1964, 39/45,051
3 Claims. (Cl. 167—59)

This invention relates to a galacto-acid-mucopolysaccharide which consists of galactose, N-acetylglucosamine and a sulfate in the ratio of 1:1:1 to 2 mols. The principal use of this polysaccharide being for an eye lotion and for preserving corneal graft materials. This galacto-acid-mucopolysaccharide is derived from the intervertebral cartilage of the shark belonging to the elasmobranchii family.

3,371,013
METHODS OF EFFECTING ANTIDEPRESSANT THERAPY
David Jack and Norman James Harper, London, England, assignors to Allen & Hanburys Limited, London, England
No Drawing. Filed Nov. 19, 1964, Ser. No. 412,299
Claims priority, application Great Britain, Nov. 20, 1963, 47,113/63
3 Claims. (Cl. 167—65)

1. A method of effecting antidepressant therapy in an animal having a depressed central nervous system which comprises administering orally or parenterally to such animal an antidepressant amount of a compound selected from the group consisting of 1-methyl-4-phenyl-4-piperidinol and its non-toxic acid addition salts in a pharmaceutically acceptable carrier.

3,371,014
METHOD OF COMBATING ANGINA PECTORIS AND A PHARMACEUTICAL PREPARATION SUITABLE FOR THIS PURPOSE
Sven Carlsson, Stockholm, Sweden, assignor to AB Recip, Stockholm, Sweden, a corporation of Sweden
No Drawing. Continuation-in-part of application Ser. No. 150,094, Nov. 3, 1961. This application Mar. 5, 1965, Ser. No. 437,545
Claims priority, application Great Britain, Nov. 8, 1960, 38,324/60
2 Claims. (Cl. 167—65)

The invention discloses a new pharmaceutical composition for combating angina pectoris. The composition contains in dosage unit form 10 mg. of a neutral acid addition salt of 4,4-diphenyl-2-tert. butylamino butane. The acid component of the salt is hydrochloric acid, hydro-

bromic acid or sulphuric acid. The composition also contains a pharmaceutically acceptable diluent or carrier. The drug is administered to a human host, preferably per os.

3,371,015

PHARMACEUTICAL CORE COMPOSITIONS WITH THIN RAPIDLY DISINTEGRATING COATINGS

John Albert Sjogren, Molnlycke, and Rolf Gustav Harry Persson, Molndal, Sweden, assignors to Aktiebolaget Hässle, Apotekare Paul Nordströms Fabriker, Goteborg, Sweden, a Swedish body corporate

No Drawing. Filed June 27, 1963, Ser. No. 290,936
Claims priority, application Sweden, June 28, 1962, 7,189/62
12 Claims. (Cl. 167—82)

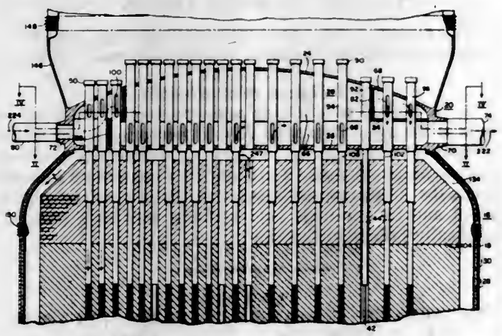
1. A pharmaceutical composition consisting essentially of a core containing therapeutically effective quantities of active substance and a medicament-free coating on said core, said coating disintegrating rapidly in water and gastric juice and comprising an inner layer not more than 0.005 to 1.0 mm. thick of polyethylene glycol of molecular weight 4000–40000 and an outer layer not more than 0.003 to 0.05 mm. thick of a non-toxic, water-insoluble, film-forming thermoplastic substance soluble in a volatile organic solvent selected from the class consisting of cellulose acetate phthalate, cellulose acetate succinate, cellulose acetate, cellulose propionate, cellulose butyrate, polyalkylmethacrylates, polyvinylacetate, silicone resins, shellac, zein, acrylic/methacrylic acid copolymers, vinyl acetate/maleic acid copolymers, and vinyl acetate/vinylpyrrolidone copolymers.

3,371,016

INTEGRAL BOILING AND SUPERHEATING NEUTRONIC REACTOR

Stephen N. Tower, Murrysville, and William H. Arnold, Jr., Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Original application Apr. 28, 1961, Ser. No. 106,247, now Patent No. 3,249,506, dated May 3, 1966. Divided and this application Mar. 1, 1966, Ser. No. 530,930
3 Claims. (Cl. 176—53)



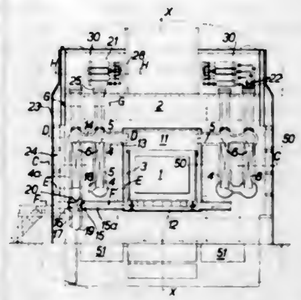
1. A neutronic reactor comprising a pressure vessel, a lattice of fixedly positioned solid moderating material disposed within said vessel, said moderator lattice forming a plurality of flow passageways extending therethrough, a plurality of pressure tubes extending through said vessel and positioned respectively in at least some of said passageways and being mounted in spaced relation with the peripheral wall of said passageways to form a first flow path means therebetween, fissile material disposed within yet spaced with the walls of said pressure tubes with the space between said fissile material and said pressure tube walls forming at least a portion of a second flow path means therebetween, a primary coolant flowing through said pressure tubes along said second flow path means whereby said primary coolant is heated by said fissile material, a secondary fluid flowing exteriorly of said pressure tubes through said first flow path means and in heat exchange relationship with said moderator lattice and said primary coolant, said pressure tubes being grouped to form a first group for boiling the primary coolant flowing therethrough and second group superheating the coolant flowing therethrough, one of said groups being disposed through the central region of said pressure vessel, the other of said groups being arranged parallelly and outwardly of said one group so that said primary coolant enters said first group of pressure tubes in a liquid form and is heated by the fissile material in said first group of pressure tubes to produce a vapor, means for conducting said vapor from said first group of tubes to said second group of tubes so that the vapor is superheated by the fissile material in said second tube group, and means for removing said superheated vapor from said second tube group.

3,371,017

NUCLEAR REACTOR HAVING A PRESTRESSED CONCRETE PRESSURE VESSEL

Geoffrey Coast and George Edward Lockett, Dorchester, Dorset, and Robert Faulds McIver, Sandford, Wareham, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Dec. 23, 1965, Ser. No. 515,997
Claims priority, application Great Britain, Jan. 12, 1965, 1,318/65; Sept. 29, 1965, 41,428/65
3 Claims. (Cl. 176—87)



A nuclear reactor has a prestressed concrete pressure vessel and has at least one reactor heat exchanger contained within the wall thickness of the prestressed concrete. In the case of multiple heat exchangers, they are disposed around the periphery of the vessel within the wall thickness of the prestressed concrete and separated circumferentially by ligaments of the concrete. The ligaments transmit compressive hoop stresses throughout the entire wall thickness, and the heat exchangers are staggered, with reinforcing members passing through the ligaments between staggered heat exchangers.

3,371,018

STARCH CONVERSION

Foster G. Ewing, John L. Bidrawn, Benjamin H. Landis, and Harold R. Wheeler, Jr., Clinton, Iowa, and Marcus V. Dennis, Fort Devens, Mass., assignors to Standard Brands Incorporated, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 4, 1965, Ser. No. 423,374
7 Claims. (Cl. 195—31)

A mixture of starch, water, and bacterial alpha amylase is charged into the bottom of a vertical reactor column in order to provide an advancing column of the mixture. The mixture is heated to the conversion temperature under superatmospheric backpressure until the desired reduction in the viscosity is achieved while keeping the column in motion in order to maintain the mixture in a fluid state throughout the column. The mixture is then heated to a temperature of 225–350° F. by introducing steam into the mixture in order to inactivate the alpha amylase.

3,371,019

DIAGNOSTIC INDICATOR

Frank E. Hammer, Chicago, and Don Scott, Skokie, Ill., assignors, by mesne assignments, to G. D. Searle & Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Jan. 8, 1965, Ser. No. 424,193
17 Claims. (Cl. 195—103.5)

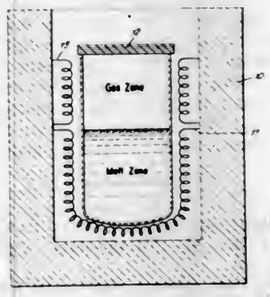
1. A method of preparing an article of commerce which upon reconstitution with water may be used for detection of materials that can be reacted with atmospheric oxygen in the presence of oxidase enzymes to produce hydrogen peroxide comprising preparing a water-polyglycol solution of a chromogen which undergoes a color reaction in the presence of reaction products of the enzyme reaction, said polyglycol being one which is normally solid at 40° C. and substantially soluble in water above about 20° C., lyophilizing the solution of chromogen whereby a substantially water-free solid composition constituted by a minor amount of said chromogen and a major amount of said polyglycol acting as supporting medium, is obtained, preparing oxidase enzyme and buffer salt capable of producing a pH in the range between about 4 and about 7.5 as a separate composition and bringing the compositions together into a single article under conditions maintaining each as distinct entities.

3,371,020

PROCESS FOR THE ELECTRODEPOSITION OF METALS

John E. Perry, Bay Village, Ohio, assignor to Union Carbide Corporation, a corporation of New York

Filed Dec. 14, 1964, Ser. No. 418,118
5 Claims. (Cl. 204—39)



2. In an electrodeposition process wherein metals, alloys and compounds thereof, are deposited in an electrolytic system on an electrically conductive cathode base material, said electrolytic system comprising (1) an inert gas zone and (2) an electrolytic melt zone heated by heating means and having temperature differentials within said melt sufficient to cause circulation of said melt, the improvement which comprises heating said gas zone using heating means separate from the heating means of said electrolytic melt at least to a temperature at which said inert gas zone and said electrolytic melt are substantially isothermal, whereby said circulation is minimized.

3,371,021

PROCESS FOR ELECTROLYTIC ETCHING OF ZIRCONIUM AND ZIRCONIUM-BASE ALLOYS

Jacques Delafosse, Gif-sur-Yvette, Jean Herenguel, Versailles, Pierre Lelong, Fontenay-aux-Roses, and Simon Silberman, Cachan, France, assignors to Commissariat à l'Energie Atomique, Paris, France

No Drawing. Filed Sept. 22, 1964, Ser. No. 398,423
Claims priority, application France, Oct. 1, 1963, 949,147
9 Claims. (Cl. 204—140)

1. A process for the electrolytic etching of a workpiece composed of zirconium or zirconium alloys which comprises:

(a) positioning said workpiece as the anode in an electrolytic system comprising a cathode, an anode and an aqueous electrolytic bath consisting of a mixture of nitric acid and hydrofluoric acid;

(b) impressing a potential across said electrodes sufficient to cause an electric current having a density of from 0.7 to 4 amps/dm.^{2} to flow between said electrodes for a time sufficient to form an oxide film having a thickness of more than 6 microns on said workpiece, and then

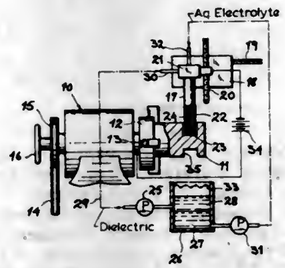
(c) impressing across said electrodes a potential of form 0.1 to 3 volts for a time sufficient to remove said oxide film.

3,371,022

LOW-ELECTROLYTE-PRESSURE ELECTRO-CHEMICAL MACHINING

Kiyoshi Inoue, 182 3-chome Tamagawagoga-machi, Setagaya-ku, Tokyo, Japan

Filed Mar. 18, 1964, Ser. No. 352,907
Claims priority, application Japan, Mar. 19, 1963, 38/14,740; Mar. 27, 1963, 38/15,626; Apr. 23, 1963, 38/21,272; May 20, 1963, 38/26,690
5 Claims. (Cl. 204—143)



1. An apparatus for electrochemically machining a conductive workpiece constituting a first electrode, said apparatus comprising a second electrode spacedly juxtaposed with said first electrode; a source of substantially unidirectional electric current connectable with said electrodes to render said first electrode positive relative to said second electrode; nozzle means for passing a continuous stream of a liquid electrolyte tangential to one of said electrodes and through the gap between said electrodes; and means for introducing a sheath of a liquid dielectric medium surrounding said stream and impinging on said electrodes at areas surrounding said gap for limiting side erosion.

3,371,023

METHOD AND APPARATUS FOR AUTOMATICALLY REGULATING THE PASSIVATION POTENTIAL OF METALS

William P. Banks, Richard L. Every, and Norman L. Conger, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed May 7, 1964, Ser. No. 365,621
13 Claims. (Cl. 204—147)

1. A method for protecting a metallic specimen against

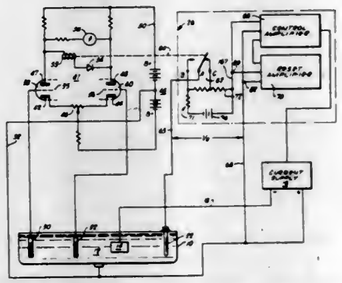
corrosion by a corrosive electrolyte in contact with said specimen which comprises:

anodically polarizing the specimen relative to an inert electrode placed in contact with said electrolyte;

measuring the electrical potential of the metallic specimen relative to a reference electrical potential of constant value;

passing an electrical current between said inert electrode and said metallic specimen;

varying the electrical current passed between said inert electrode and said metallic specimen in response to changes in the measured electrical potential of said metallic specimen so as to maintain said electrical potential at a value at which said metallic specimen is least susceptible to corrosion;



electrolytically sensing changes in the character of said electrolyte of the type causing a change in said electrical potential at which said specimen is least susceptible to corrosion; and

automatically varying the electrical current passed between said inert electrode and metallic specimen in response to said sensed changes to maintain said metallic specimen in a range over which said specimen is least susceptible to corrosion after said sensed change in the character of the electrolyte occurs.

3,371,024

PRODUCTION OF CARBONYL- AND NITRILE-CONTAINING COMPOUNDS UNDER FREE RADICAL FORMING CONDITIONS

Harry Emmet Gunning, Edmonton, Alberta, Canada, assignor to Canadian Chemical Company, Ltd., Edmonton, Alberta, Canada, a corporation of Canada

No Drawing. Filed Sept. 5, 1963, Ser. No. 306,693
14 Claims. (Cl. 204—158)

Processes for the production of carbonyl- and nitrile-containing compounds which involve, in the case of a one stage process, reacting an unsaturated organic compound having at least one pair of carbon atoms with olefinic, acetylenic or aromatic unsaturation, e.g., ethylene, acetylene or benzene, with nitric oxide under free radical forming conditions. In the case of a two stage process, the unsaturated organic compound is first subjected to free radical forming conditions, then contacted with nitric oxide. In either case, temperatures of from about 25° C. to 1400° C. and pressures of about 1 mm. to 10 atmospheres can be employed.

3,371,025

PROCESS FOR THE PRODUCTION OF 1-BROMOHEPTAFLUOROCYCLOPENTENE-1

John Colin Tatlow, Robert Stephens, and Douglas Robert Anthony Perry, Birmingham, England, assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Aug. 6, 1964, Ser. No. 388,002
2 Claims. (Cl. 204—163)

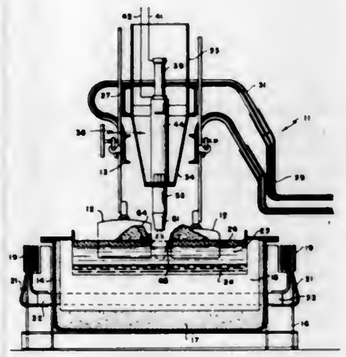
1. A process for the preparation of 1-bromoheptafluorocyclopentene-1 which comprises reacting bromine and 1H-heptafluorocyclopentene-1 at a temperature in the range of −20 to +50 degrees centigrade while irradiating the reaction mixture with light at a wavelength of 300 to 700 millimicrons and subsequently recovering the product from the reaction mixture.

3,371,026

ELECTROLYTIC REDUCTION CELL WITH CRUST-BREAKING AND ORE FEEDING MEANS

Allan Jack Kiley and Harry T. Shiver, Portland, Oreg., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Feb. 4, 1964, Ser. No. 342,388
11 Claims. (Cl. 204—245)



1. An automatic ore feeder comprising a hopper, an orifice plate at the bottom of said hopper, an orifice in said plate, a first pipe within said hopper supported on said orifice plate above the orifice, cutouts in said first pipe at the lower end thereof, a second pipe carried by the underside of said orifice plate, a breaker foot normally closing the lower end of said second pipe thereby defining a calibrated chamber, a lower rod connected to said breaker foot and extending upwardly into said second pipe, a valve member within said first pipe connected to the upper end of said lower rod adapted to just pass through said orifice, an upper rod connected to the upper end of said valve member, and a selectively operable means connected to said upper rod for actuating said upper rod, valve member, lower rod, and breaker foot.

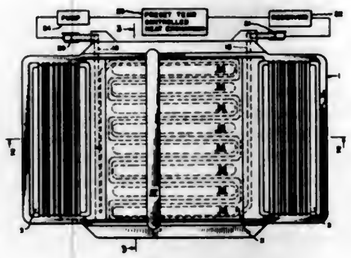
3,371,027

ELECTROPHORESIS MIGRATION TANK HAVING MEANS FOR MAINTAINING CONTROLLED CONDITIONS

Anthony J. LaPaglia, Greece, Royden N. Rand, Pittsford, and Otto H. Sahmel, Rochester, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed Apr. 1, 1965, Ser. No. 444,615
7 Claims. (Cl. 204—299)

1. An electrophoresis migration tank comprising, means defining two buffer solution chambers in spaced relation relative to each other, means defining a substantially horizontal migration table adapted to transmit radiation therethrough and having a migration surface intermediate said two chambers at a level lower than the upper edge of the perimeter of said tank, means for controlling the temperature of the migration medium supported on the table surface, cover means enclosing at least the migration surface forming a compartment to control the humidity above the migration surface, an electrode in each of said chambers, and a plurality of baffles constructed and arranged in a manner to provide a circuitous elec-



trical path between the electrodes in said chambers and said migration table to thereby control the pH factor of the migration medium.

3,371,028

ELECTRODIALYSIS APPARATUS HAVING STRAIGHT ANGLED SOLUTION PATHS

Yoshio Tsunoda and Maomi Seko, Tokyo, Kazuyuki Fuzita, Yokohama-shi, and Tetuya Miyake, Tokyo, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Kita-ku, Osaka, Japan

Continuation-in-part of application Ser. No. 55,379, Sept. 12, 1960. This application Aug. 20, 1965, Ser. No. 481,293
Claims priority, application Japan, Aug. 25, 1960, 35/35,745
2 Claims. (Cl. 204—301)



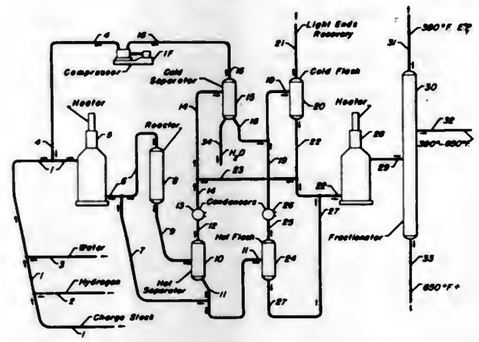
1. A multi-cell electrodialysis apparatus comprising a plurality of stacked alternate anion permeable membranes and cation permeable membranes, frames between each two adjacent membranes defining an electrodialysis chamber within the periphery of the frame and between the membranes, the chambers alternately being diluting and concentrating chambers through the stack, the peripheries of the membranes and frames having aligned holes therein forming supply and exhaust conduits for supplying and carrying away diluting and concentrating solutions from the stack, each frame having continuous solution-paths between the holes and chamber defined within the frame and providing communication only between diluting chambers and supply and exhaust conduits for the diluting solution and only between a concentrating chamber and the supply and exhaust conduits for the concentrating solution, a part of the frame between a hole and the electrodialysis chamber being cut away to form at least one of the solution-paths for the diluting solution and concentrating solution, said path having the same width throughout its length, said width being less than 5 mm., and said path having only straight sections, there being at least two of said straight sections, said sections intersecting each other at a sharp angle, and the path having a dimension in the direction of the thickness of the frame, equal to the thickness of the frame.

3,371,029

MIXED-PHASE CONVERSION PRODUCT SEPARATION PROCESS

Jack N. Welland, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Nov. 30, 1966, Ser. No. 598,067
6 Claims. (Cl. 208—102)



1. A process for separating a mixed phase hydrocarbonaceous reaction product effluent, resulting from the conversion of a hydrocarbon charge stock boiling above a temperature of about 400° F., said product effluent containing hydrogen to be recycled, normally liquid hydrocarbons, and normally gaseous hydrocarbons, which comprises the steps of:

(a) separating said effluent in a first separation zone under substantially the same pressure as said effluent, to provide a first liquid phase and a first vapor phase;

(b) cooling said first vapor phase to a temperature within the range of from about 60° F. to about 140° F., and separating the cooled vapor phase in a second separation zone at substantially the same pressure as said first separation zone, to provide a hydrogen-rich second vapor phase and a second liquid phase;

(c) separating at least a portion of said first liquid phase in a third separation zone at substantially the same temperature as in said first separation zone, under a substantially reduced pressure, to provide a separated third liquid phase, containing normally liquid hydrocarbons, and a third vapor phase;

(d) cooling said third vapor phase and combining it with said second liquid phase, separating the resulting mixture in a fourth separation zone at a temperature of from 60° F. to about 140° F. to provide a fourth vapor phase containing normally gaseous hydrocarbons and a separated fourth liquid phase containing normally liquid hydrocarbons.

3,371,030

BLACK OIL CONVERSION PRODUCT SEPARATION PROCESS

J. Robert Penisten, Palatine, and Bennett L. Atwater, Elk Grove Township, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

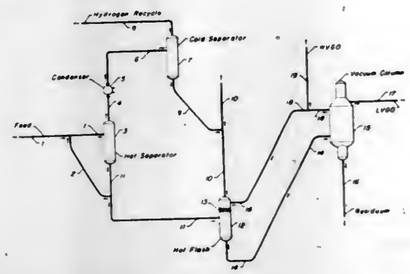
Filed Dec. 30, 1966, Ser. No. 606,107
5 Claims. (Cl. 208—102)

1. A process for separating a mixed-phase hydrocarbonaceous conversion product effluent containing hydrocarbons boiling above about 1050° F., which process comprises the steps of:

(a) separating said product effluent in a first separation zone at a temperature above about 700° F. and a pressure above about 1000 p.s.i.g., to provide a first vapor phase and a first liquid phase;

(b) condensing said first vapor phase and separating the condensed vapors in a second separation zone at a temperature below about 140° F. and a pressure substantially the same as said first separation zone, to provide a hydrogen-rich second vapor phase and a second liquid phase principally comprising propane and heavier normally liquid hydrocarbons;

(c) introducing at least a portion of said first liquid phase into a third separation zone at a point below a mesh blanket disposed within said third separation zone, at a temperature substantially the same as said first separation zone and at a pressure less than about 200 p.s.i.g., to provide a third vaporous phase and a third liquid phase containing hydrocarbons boiling above 1050° F.;



(d) further separating said third liquid phase in a fourth separation zone at a temperature above about 700° F. and at a subatmospheric pressure to provide a residuum fraction containing those hydrocarbons boiling above about 1050° F. and a heavy gas oil fraction boiling below about 1050° F.; and,

(e) introducing at least a portion of said heavy gas oil fraction into said third separation zone at a point above said mesh blanket.

3,371,031
OXIDATION OF MERCAPTO COMPOUNDS
James R. Strong, Evanston, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 422,418, Dec. 30, 1964. This application Mar. 2, 1967, Ser. No. 619,967
10 Claims. (Cl. 208—207)

An alkali-alcohol solution utilized in a process for oxidizing mercapto compounds contained in a sour hydrocarbon distillate is subsequently treated with an adsorbent, such as, activated charcoal, fuller's earth, activated alumina, magnesia, etc. to remove surface-active, catalyst-deactivating impurities from the solution.

The process employs the alkali-alcohol solution in mixture with the sour distillate and an oxidizing agent as the reactants that are brought into contact with a phthalocyanine catalyst in the conversion zone; the effluent from the conversion zone is separated into a hydrocarbon phase which is then treated before recycling it for further use.

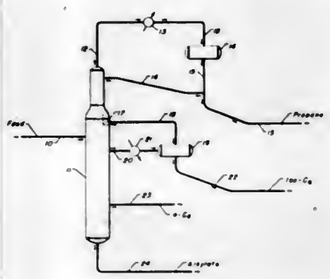
3,371,032
FRACTIONATION OF ALKYLATION EFFLUENT
Paul A. Witt, Oak Park, and James E. Gantt, Elmwood Park, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 594,131
5 Claims. (Cl. 208—351)

1. Method for separating a hydrocarbon feed mixture containing C_3 hydrocarbons, iso-butane, n-butane and alkylate by fractionation means comprising:

(a) introducing said feed mixture into a single distillation column maintained under distillation conditions at an intermediate locus thereof;

(b) withdrawing an overhead stream comprising hydrocarbons having less than 4 carbon atoms per molecule;

(c) withdrawing an upper side-cut liquid stream comprising iso-butane at a locus above said intermediate locus;



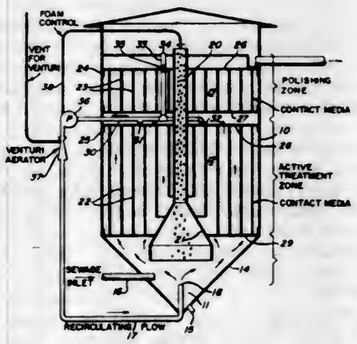
(d) withdrawing a vapor stream comprising iso-butane at a locus below said intermediate locus;

(e) removing a lower side-cut fraction comprising n-butane;

(f) removing a bottoms stream comprising alkylate containing sufficient n-butane to produce a pre-determined vapor pressure alkylate product; and

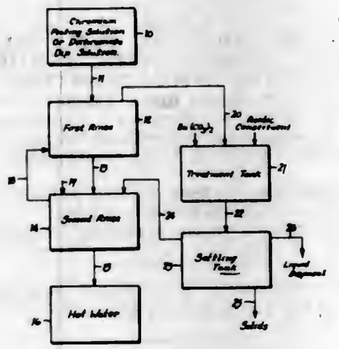
(g) returning a portion of said overhead stream to said column as reflux thereon.

3,371,033
METHOD OF TREATING SEWAGE AND APPARATUS THEREFOR
Edwin D. Simmons and Fumio F. Sako, San Jose, and Daniel F. Seidel, Santa Clara, Calif., and Tom H. Forrest, Evanston, Ill., assignors to FMC Corporation, a corporation of Delaware
Filed Aug. 11, 1965, Ser. No. 478,866
10 Claims. (Cl. 210—3)



5. A method of treating sewage which comprises establishing a treatment zone for an aqueous sewage wherein said treatment zone is divided in the vertical direction into spaced unobstructed areas separated by a contact area consisting of a multiplicity of upwardly directed flow courses of coextensive length, the boundaries of said flow courses being biologically active surfaces, mixing sewage with aerated liquid in the elevationally lower of said spaced unobstructed areas to form a main body of liquid for flow from said elevationally lower unobstructed area upwardly through said contact area, flowing said body of liquid through said flow courses in close proximity with said biologically active surfaces for elimination of B.O.D., commingling treated liquid after passing through said flow courses in the second of said unobstructed areas, discharging to waste a volume of treated liquid approximately equal to the volume of influent sewage, withdrawing additional treated liquid from the second of said unobstructed areas to an aeration zone outside said treatment zone, aerating the withdrawn liquid to form an oxygen carrier with a minimum oxygen content of about 3 p.p.m., introducing the aerated liquid to the elevationally lower of said spaced unobstructed areas for mixing to form the main body of liquid and wasting sludge from said container.

3,371,034
PROCESS FOR REMOVAL OF CHROMIUM IN INDUSTRIAL WASTE WATERS
Raymond Richards, 709 Virginia Park, Detroit, Mich. 48202
Continuation-in-part of application Ser. No. 560,254, June 24, 1966, which is a continuation-in-part of application Ser. No. 524,495, Feb. 2, 1966. This application Jan. 31, 1967, Ser. No. 622,856
9 Claims. (Cl. 210—51)



A process for chemically removing chromium ions from industrial waste solutions by direct precipitation with barium carbonate in such solutions acidified with nitric or hydrochloric acid or their salts.

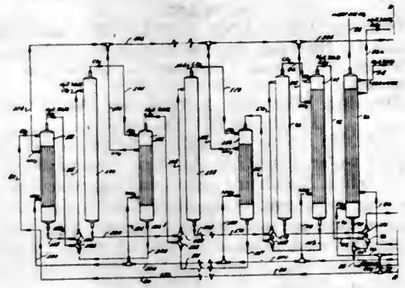
3,371,035
PLANT AND PROCESS FOR SEPARATION OF WATER FROM AQUEOUS SOLUTIONS
Joseph J. Jacobs, Altadena, Stanley L. Krugman, Pasadena, and James K. Brooks, Glendora, Calif., assignors to Jacobs Engineering Co., Pasadena, Calif., a corporation of California
Filed Dec. 22, 1961, Ser. No. 161,577
32 Claims. (Cl. 210—59)

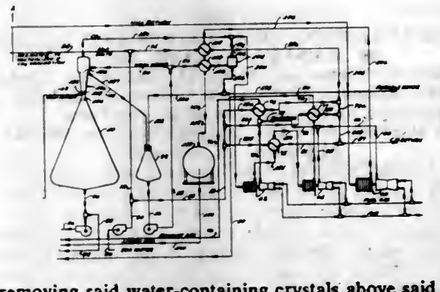
24. A process for removing water from a given aqueous solution, which comprises:

incrementally absorbing a hydrate-forming gas into said given aqueous solution at a series of successively higher pressures to form a hydrate at a given temperature and pressure;

countercurrently, incrementally releasing said hydrate-forming gas at successively lower pressure stages to produce water-containing crystals, said successive releasing of said hydrate-forming gas causing refrigeration and super-saturation of said water-containing crystals;

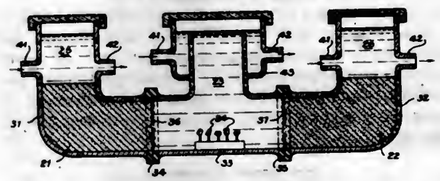
passing said given aqueous solution containing said water-containing crystals into an upper section of a crystallizing zone, said given aqueous solution containing said water-containing crystals moving downwardly therein at an ever-decreasing velocity, and said water-containing crystals growing above a first predetermined mesh size moving upwardly against said downward flowing aqueous solution; and





removing said water-containing crystals above said first predetermined mesh size from said crystallizing zone.

3,371,036
METHOD AND APPARATUS FOR GROWING SINGLE CRYSTALS OF SLIGHTLY SOLUBLE SUBSTANCES
John L. Torgesen and Herbert Steffen Peiser, Rockville, Md., assignors to the United States of America as represented by the Secretary of Commerce
Filed Oct. 20, 1965, Ser. No. 499,117
5 Claims. (Cl. 252—1)



1. The method of growing large single crystals, which comprises

(a) providing solutions of two materials which react to produce a crystallizing substance,

(b) providing a body of solvent from which crystals of said substance grow,

(c) connecting each of said solutions to said body of solvent by respective members having a network of capillary channels,

(d) seeding said body of solvent with small crystals of the desired substance,

(e) diffusing the material solutions through their respective network of capillary channels into the body of solvent where they react to form the crystallizing substance,
(f) crystallizing the substance on the seeds provided in the solvent, and
(g) harvesting said crystals after they have grown the desired amount.

3,371,037

DRILLING FLUIDS AND ADDITIVES THEREFOR

Donald O. Hitzman, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed July 1, 1964, Ser. No. 379,700
17 Claims. (Cl. 252—8.5)

New additive agents for drilling fluids, which agents comprise a water dispersible starch or a water dispersible gum and iodine. Stabilizing agents such as water, a water soluble organic solvent, or an alkali metal iodide can also be incorporated in said additive agents. Said additive agents can be used in aqueous drilling fluids to control water loss therefrom, as when said drilling fluids are used in the drilling of wells.

3,371,038

SOLID LUBRICANT COMPOSITION AND METHOD OF MANUFACTURING SAME

Ladislav E. Wieser and Bobby D. McConnell, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force

No Drawing. Filed Oct. 10, 1966, Ser. No. 586,317
14 Claims. (Cl. 252—28)

1. A metal adherent solid lubricant composition comprising a major proportion by weight of a dry solid lubricant material and a lesser proportion by weight of a binder composed of silicon dioxide, sodium carbonate, aluminum trioxide, cobalt trioxide, calcium oxide, lithium nitrate, $K_2B_4O_7+5H_2O$ and one of that class of materials which consists of nickel oxide and cadmium oxide.

3,371,039

STABILIZATION OF ORGANIC SUBSTANCES BY ADDITION REACTION PRODUCT OF PHOSPHORUS ACID ESTER WITH POLYMER OF POLYCARBOXYLIC ACID AND ALKANOLAMINE

Henryk A. Cyba, Evanston, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Original application Dec. 12, 1963, Ser. No. 330,007. Divided and this application Apr. 7, 1967, Ser. No. 629,093
21 Claims. (Cl. 252—32.7)

Organic substance subject to deterioration during transportation, storage and use stabilized against said deterioration by the addition reaction product of certain phosphorus compounds with the reaction product of polyhalopolyhydropolycyclicdicarboxylic acid, anhydride, diol or ester with alkanolamine containing at least two hydroxyl or amino groups.

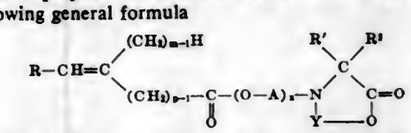
3,371,040

LUBRICANT AND FUEL COMPOSITIONS

William D. Emmons, Huntingdon Valley, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 368,737, May 19, 1964. This application June 7, 1967, Ser. No. 644,769
12 Claims. (Cl. 252—51.5)

This invention relates to novel compositions of matter. It further relates to fuels and lubricants having incorporated therein as an essential ingredient an oil-soluble polymer prepared from at least one monomer having the following general formula



wherein R is selected from the group consisting of H and methyl, m is an integer having a value of 1 to 3, p is an integer having a value of 1 to 4, x is an integer having a value of 1 to 40, A is an alkylene group having 2 to 4 carbon atoms.

R′ and R² are selected from the group consisting of (1) a composite group which forms a cyclic (C_5 to C_7) hydrocarbon group with the adjoined C atom and (2) separate groups in which R′ is selected from the group consisting of H, (C_1–C_8) alkyl, and phenyl and R² is selected from the group consisting of H and (C_1–C_8) alkyl.

Y is an alkylene group having 2 to 3 carbon atoms, A and Y having at least two carbon atoms extending in a chain between the adjoined O and N atoms, with the provisos that, when p is greater than 1, m is 1 and, when m is greater than 1, R is H.

The compositions of the present invention are produced by incorporating from about 0.001% to 10% by weight of at least one of the above-described polymers in the oil and fuel base contemplated.

3,371,041

PROCESS FOR MODIFYING CURIE TEMPERATURE OF FERROMAGNETIC LANTHANIDE CHALCOGEN SOLID SOLUTIONS COMPOUNDS

Frederic Holtzberg, Pound Ridge, Thomas R. McGuire, Yorktown Heights, and Siegfried J. Methfessel, Montrose, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 11, 1964, Ser. No. 374,351
10 Claims. (Cl. 252—62.51)

1. A solid solution system having the formula

$$Eu_{1-x}R_xO$$

(where $0.015<x<1$ and R is selected from the group consisting of Nd, La, Y, Ce and Sc).

3,371,042

FERROMAGNETIC MATERIALS

Thomas R. McGuire and Merrill W. Shafer, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 28, 1965, Ser. No. 428,862
8 Claims. (Cl. 252—62.51)

Ferromagnetic compositions represented by the formula $(EuO)_{1-x}(RS)_x$ in which $0.01<x<0.30$ and R is a rare earth. The compositions are characterized by a Curie temperature which can be controlled between 73° K. and 132° K.

3,371,043

TWO STAGE PROCESS FOR MAKING FERROMAGNETIC MODIFIED CHROMIUM DIOXIDE

Franz Hund, Krefeld-Bockum, and Wilhelm Abeck, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation of application Ser. No. 383,206, July 16, 1964. This application June 27, 1966, Ser. No. 560,892
Claims priority, application Germany, July 24, 1963, F 40,333
11 Claims. (Cl. 252—62.51)

Process of forming ferromagnetic chromium dioxide by a two-step doping process wherein chromium trioxide is heated with a guest component, or a precursor of such guest component, and the resulting product admixed with further guest component and this mixture heated.

3,371,044

FERRITE MAGNETS

Alexander W. Cochardt, Export, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 24, 1964, Ser. No. 339,977
Claims priority, application Germany, Jan. 25, 1963, C 28,989
5 Claims. (Cl. 252—62.54)

1. A ceramic permanent magnet comprising a semi-sintered ferrite body of high porosity and exhibiting an intrinsic coercive force of more than 2500 oersteds, the pores of said ferrite body being filled with a material capable of conferring substantial structural strength to the ferrite body and also being characterized by good machinability whereby the magnet as a whole possesses relatively good strength and machinability.

3,371,045

EUTECTIC MIXTURE OF OCTAHYDROANTHRACENE AND OCTAHYDROPHENANTHRENE

Iri N. Duling, West Chester, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Feb. 23, 1965, Ser. No. 434,541
2 Claims. (Cl. 252—73)

A eutectic mixture of octahydroanthracene and octahydrophenanthrene is obtained by combining about twenty parts of the former with about eighty parts of the latter. The eutectic has a melting point of about 0° C.

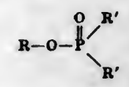
3,371,046

INHIBITION OF CORROSION OF HYDRAULIC FLUIDS

Robert S. McCord, Pacific Palisades, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif., a corporation of Delaware

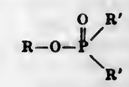
No Drawing. Filed Dec. 30, 1963, Ser. No. 334,615
17 Claims. (Cl. 252—75)

1. A composition consisting essentially of an aryl dialkyl phosphinate having the formula



where R is an aryl group selected from the class consisting of phenyl and naphthyl, and R′ is an alkyl group containing from 4 to 8 carbon atoms, and about 0.01% to about 3% by weight of said composition of a compound selected from the group consisting of triphenyl bismuth, triphenyl antimony, hexaphenyl di tin, tetraphenyl tin, and diphenyl di n-butyl tin.

7. A composition consisting essentially of an aryl dialkyl phosphinate having the formula



where R is an aryl group selected from the class consisting of phenyl and naphthyl, and R′ is an alkyl group containing from 4 to 8 carbon atoms, and from about 0.5% to about 10% by weight of a material selected from the group consisting of polyalkyl methacrylates wherein the alkyl groups contain an average of from about 3 to 10 carbon atoms, and having an average molecular weight in the range of from about 7,000 to about 12,000, polyalkylene glycols, wherein the alkylene groups contain from 2 to 3 carbon atoms, and having a range of viscosity of about 1,400 to about 23,000 centistokes at 100° F., urethane polymer liquids, and liquid methyl phenyl silicone polymers having a viscosity in the range of about 450 to about 575 centistokes at 100° F., said material being compatible with said phosphinate and effective to increase the viscosity index to at least 75, and about 0.01% to about 3% by weight of said composition of a compound selected from the group consisting of triphenyl bismuth, triphenyl antimony, hexaphenyl di tin, and tetraphenyl tin, and diphenyl di n-butyl tin.

3,371,047

METHOD FOR LUBRICATION AND FOR PROTECTION AGAINST CORROSION, AND AQUEOUS COLLOIDAL COMPOSITIONS FOR PERFORMING THIS METHOD

Henri Brunel, 9 Rue de General Niox, Paris 16°, France

No Drawing. Continuation-in-part of application Ser. No. 203,005, June 18, 1962. This application July 29, 1965, Ser. No. 475,888
4 Claims. (Cl. 252—389)

1. A composition for coating metal surfaces and providing protection against corrosion and useful as an agent to aid in the machining, cutting and cooling of such metals comprising in combination as the essential ingredients in an aqueous colloidal solution,

40–50%, based on the total solid content, of a hydrophilic neutral colloid capable of forming films which are resistant to mechanical forces and consisting essentially of a starch ether,

40–60%, based on the total solids content, of a water soluble, corrosion-inhibiting salt selected from the group consisting of chromates of alkali metals and water soluble amines, borates of water soluble amines, salts of mercaptobenzothiazole with alkali metals and water soluble amines, and amine salts of lactic, tartaric, citric, oxalic, malonic, succinic, adipic, suberic and sebacic acids, said amines which provide the cations of said chromates, borates and aliphatic acids being selected from the group consisting of mono- and dicyclohexylamines, mono-, di-, and triethanol and mono-, di-, and triisopropanol amines, ethylene diamine, diethylene triamine, dipropylene triamine and morpholine,

5–15%, based on the total solids content, of a water miscible salt of an amine selected from the group consisting of water-insoluble alicyclic and alkyl amines containing at least 6 carbon atoms and an acid selected from the group consisting of formic, acetic, tartaric, lactic, citric, boric, hydrochloric, and nitric acids.

3,371,048

ALKYLPHENOL-ALKYLENEPOLYAMINE STABILIZING COMPOSITION

Henryk A. Cyba, Evanston, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 329,281, Dec. 9, 1963. This application May 26, 1966, Ser. No. 553,045
8 Claims. (Cl. 252—403)

A stabilizing composition comprising a mixture of an alkylphenol and a dialkylpolyhydroxyalkylalkylenepolyamine, exemplified by a mixture of N,N′-di-sec-octyl-N-hydroxyethylaminoethylethanolamine and from about 1% to about 75% by weight thereof of 2,6-di-tertiarybutyl-4-methylphenol. The composition is useful for stabilizing plastics and rubber, and as an inhibitor for gasoline and lube oil.

2,371,049
REGENERATION OF ZINC HALIDE CATALYST USED IN HYDROCRACKING OF POLYNUCLEAR HYDROCARBONS
Everett Gorin, Pittsburgh, Robert T. Struck, Bridgeville, and Clyde W. Zielke, Pittsburgh, Pa., assignors, by direct and mesne assignments, of one-half to Consolidation Coal Company, Liberty, Pa., a corporation of Delaware, and one-half to the United States of America as represented by the Secretary of the Interior
Filed Nov. 15, 1965, Ser. No. 507,969
7 Claims. (Cl. 252—413)

Regenerating spent molten zinc halide catalyst from a hydrocracking process for polynuclear aromatic feedstocks by contacting the spent catalyst with an aromatic solvent and aqueous HCl, and subsequently driving off hydrogen sulfide, water and ammonia.

3,371,050
PROMOTED CATALYST FOR PRODUCTION OF TOWN GAS AT LOW TEMPERATURES
William F. Taylor, Scotch Plains, and John H. Sinfelt, Berkeley Heights, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Feb. 18, 1964, Ser. No. 345,575
4 Claims. (Cl. 252—459)

The activity of Ni-Al_2O_3 and Ni-SiO_2 catalysts is increased by incorporating about 0.1 to about 6 wt. percent copper, based on the total nickel and copper content, in the catalyst. The catalyst is especially useful for the production of town gas at low temperatures.

3,371,051
INTRINSIC-APPEARING GALLIUM ARSENIDE COMPOUND SEMICONDUCTOR MATERIAL
Rowland E. Johnson, 4323 Middleton 75229, and Edward W. Mehal, 10505 Swallow 75218, both of Dallas, Tex.; Ralph J. Hach, Ann Arbor, Mich.; and Robert W. Haisty, 31 Mohawk, Richardson, Tex. 75080
Continuation-in-part of application Ser. No. 99,259. This application June 22, 1965, Ser. No. 465,915
2 Claims. (Cl. 252—518)

1. In the process of making intrinsic-appearing gallium arsenide crystalline material by heating gallium in the presence of arsenic vapor, the step of doping said gallium arsenide with oxygen derived from As_2O_3.

3,371,052
POLYEPOXIDE COMPOSITIONS FOR RENDERING SYNTHETIC FIBERS FREE AND UNDISCOLORED AND PROCESS OF UTILIZING SAME
Julian J. Hirshfeld, Decatur, Ala., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Mar. 16, 1964, Ser. No. 352,290
16 Claims. (Cl. 260—2)

A composition of matter for rendering a synthetic textile fiber static free and undiscolored being comprised of a polyepoxide, a polyamine, and a reducing agent which is applied to the fiber in the form of an aqueous emulsion.

3,371,053
MULTICELLULAR PLASTIC PARTICLES AND DISPERSIONS THEREOF
Betty Lou Raskin, 6221 Greenspring Ave., Baltimore, Md. 21209
Filed Aug. 9, 1965, Ser. No. 482,986
15 Claims. (Cl. 260—2.5)

Multicellular, solid, substantially spherical polymeric organoplastic particles having a particle size of from one to one thousand microns and aerosols of such particles, are produced by injecting a composition capable of forming a solid polymeric organoplastic foam into a high velocity gas stream. The multicellular particles can be recovered from the aerosol so produced.

3,371,054
FORMALDEHYDE-REACTIVE ACID BARK AND BARK RESINS AND METHOD OF FORMING SAME
Philip S. Blickensderfer, Hamilton, Ohio, Alan E. Weinberg, Verona, N.J., and William F. Oliver, New Cassel, and Rafael J. Perez, Flushing, N.Y., assignors to Champion Papers Inc., Hamilton, Ohio, a corporation of Ohio
No Drawing. Filed Apr. 26, 1965, Ser. No. 451,019
32 Claims. (Cl. 260—17.2)

1. A method of forming a resin which comprises reducing tree bark to fine particle size, separating fibrous particles of the bark from non-fibrous particles, mixing the non-fibrous particles with an aqueous alkali metal hydroxide solution to form a mixture, heating the mixture in a substantially oxygen-free atmosphere to drive off water and until the temperature thereof reaches approximately 200° C. to 260° C. to form a substantially dry alkali bark, forming a slurry of the alkali bark in water, acidifying the slurry to form an acid bark therein, and condensing the acid bark with formaldehyde.

3,371,055
PROCESS FOR PRODUCING SHAPED POLYAMIDE BODIES
Gerhard Illing, Grossumstadt, and Franz Zahradnik, Ludwigshafen, Germany, assignors to Werner & Pfleiderer, Stuttgart-Feuerbach, Germany, a firm of Germany
Filed July 21, 1964, Ser. No. 384,151
Claims priority, application Germany, July 23, 1963, B 72,802
9 Claims. (Cl. 260—18)

An improved process ot continually producing shaped polyamide bodies from polymerizable lactams, such as ε-caprolactam, with a suitable anionic catalyst and an activator in which process the initially produced polymer is partly depolymerized to a predetermined median molecular weight by subjecting the molten initial polymer to the action of shearing forces. The process has the advantage that polymers of controlled uniform median molecular weight and viscosity are obtained in a good yield.

3,371,056
THIXOTROPIC MIXTURES CAPABLE OF BEING HARDENED RESULTING IN THE FORMATION OF SYNTHETIC MATERIALS
Hermann Dellus, Ahrensburg, Holstein, Germany, assignor to Reichhold Chemicals, Inc., White Plains, N.Y.
No Drawing. Continuation-in-part of application Ser. No. 56,117, Sept. 15, 1960. This application May 13, 1965, Ser. No. 455,592
Claims priority, application Germany, May 29, 1964, R 38,004
16 Claims. (Cl. 260—22)

A hardenable thixotropic mixture suitable for use as a lacquer comprising (A) a modified polyester which is a reaction product of (1) an unsaturated polyester resin containing free hydroxyl groups having a hydroxyl number between 10 and 300 and an acid number between 10 and 40 with (2) a preformed product having predominantly a free isocyanate group resulting from the heat reaction of a polyisocyanate and a monohydroxyl compound in stoichiometric proportions in admixture with (B) a copolymerizable solvent for (A) comprising at least one member of a group consisting of vinyl and allyl compounds, and (C) at least one polymerization inhibitor, the proportion of components (1) and (2) being such that no free isocyanate groups remain in the reaction product, component (1) being in liquid form and component (2) being freshly prepared when reacted with component (1).

3,371,057
COATING COMPOSITION OF IMPROVED "SLIP" CHARACTERISTICS
Arnold L. Guttman, Chicago, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 27, 1965, Ser. No. 490,727
3 Claims. (Cl. 260—28.5)

A wax composition useful, e.g., for coating and treating paper materials and containing about 25 to 80 weight percent of crystalline paraffin wax having a melting point of about 120–160° F., about 15 to 45 weight percent of an ethylene-vinyl acetate copolymer having a polymerized vinyl acetate content of about 20 to 35 weight percent, and small amounts of octadecenamide (e.g., 9-octadecenamide) and N,N'-dioleylethylenediamine. The composition may further contain up to about 35 weight percent microcrystalline wax having a melting point of about 160–180° F.

3,371,058
FLAME RETARDANT
Carl F. Perizzolo, Richmond, Calif., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 27, 1965, Ser. No. 459,417
7 Claims. (Cl. 260—29.1)

An effective flame retardant composition for wood of phosphorus oxychloride with or without a binder resin, for example, a vinylchloride-vinyl acetate copolymer, and an inert organic solvent therefor and a process for the preparation of flame retardant wood by applying to said wood for impregnating said wood with an effective flame retarding amount of said composition.

3,371,059
MONOMER STRIPPING
Stanley R. Rich, West Hartford, Conn., assignor to Teknika, Inc., Hartford, Conn., a corporation of Delaware
Continuation-in-part of application Ser. No. 260,177, Feb. 21, 1963. This application June 4, 1965, Ser. No. 461,248
8 Claims. (Cl. 260—29.6)

1. A method of removing unreacted monomer from a polymer latex comprising:
(a) centrifugating said latex in a centrifuge to the range of about 10 to 150 gravities;
(b) heating said latex to at least the temperature at which the vapor pressure of the monomer to be removed is equal to the ambient pressure within said centrifuge;
(c) during said centrifugating, irradiating the surface of said latex with sufficient gas-borne elastic wave energy to disrupt said surface with said energy; whereby said unreacted monomer is stripped from said latex; and
(d) maintaining the relative humidity within said centrifuge above 75%.

3,371,060
ACETALS OF HYDROXY-CONTAINING VINYL POLYMERS AND FORMYLBENZENE SULFONAMIDES AND GELS THEREOF
Lloyd D. Taylor, Everett, and Maurice J. Fitzgerald, Canton, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 482,583, Aug. 25, 1965. This application Aug. 1, 1966, Ser. No. 569,109
22 Claims. (Cl. 260—29.6)

This application discloses acetals of hydroxy-containing vinyl polymers and formylbenzenesulfonamides, including a class of such acetals which provides thermoreversible gels in aqueous alkaline solution.

3,371,061
COMPOSITION OF MATTER FOR DECORATIVE ARTICLES USING EGGSHELLS AS FILLERS
Audra E. Pickett, 10372 S. White Rock Road, Rancho Cordova, Calif. 95670
No Drawing. Filed Aug. 29, 1966, Ser. No. 575,531
14 Claims. (Cl. 260—40)

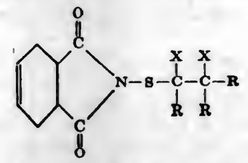
A composition of matter comprising an intimate mixture of comminuted egg shells, which may be dyed, bonded together by a clear resin, an article manufactured of such composition, and a process for producing such composition and article is disclosed.

3,371,062
ULTRAVIOLET STABILIZED ISOTACTIC POLYPROPYLENE
Leonard L. Curry, San Rafael, Calif., assignor to Chevron Research Company, a corporation of Delaware
No Drawing. Filed Apr. 6, 1965, Ser. No. 446,106
2 Claims. (Cl. 260—45.7)

Intimate mixtures of heptane-insoluble polypropylene and about 1 to 5 weight percent leafing aluminum powder. These mixtures are resistant to ultraviolet and oxidative degradation and thermal expansion.

3,371,063
POLYVINYL HALIDE RESIN COMPOSITIONS
Theodore A. Girard, Wayne, N.J., assignor to Tenneco Chemicals, Inc., a corporation of Delaware
No Drawing. Filed Oct. 20, 1965, Ser. No. 499,055
4 Claims. (Cl. 260—45.8)

Vinyl halide resin compositions that are resistant to attack by fungi and other microorganisms contain approximately 0.05% to 2% by weight of a compound having the structure



wherein each X represents a halogen atom and each R represents a hydrogen or halogen atom. Illustrative of these fungicidal compounds is N-(1,1,2,2-tetrachloroethylthio)-4-cyclohexene-1,2-dicarboximide.

3,371,064
FLUOROPHENYL VINYL ETHERS AND THEIR POLYMERS
Leo A. Wall, Washington, D.C., and Walter J. Pummer, Rockville, Md., assignors to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed Dec. 29, 1964, Ser. No. 422,090
6 Claims. (Cl. 260—47)

1. The monomer pentafluorophenylvinyl ether,

$$C_6F_5—O—CH=CH_2$$

3. The monomer 1,2-difluorovinyl pentafluorophenyl ether, $C_6F_5—O—CF=CFH$.

5. The monomer 2,2-difluorovinyl pentafluorophenyl ether, $C_6F_5—O—CH=CF_2$.

3,371,065
POLYMERS OF OXETAN-3-ONE
Robert Neal MacDonald, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Nov. 2, 1964, Ser. No. 408,321
18 Claims. (Cl. 260—63)

Oxetan-3-one is polymerized to high molecular weight homopolymer at a temperature of −20° C. to +100° C.

in the presence of cationic catalysts. Under these conditions, copolymers are formed with suitable comonomers such as aldehydes, ketones, cyclic ethers, cyclic esters and ethylenically unsaturated compounds. The polymers are useful in the form of tough fibers, self-supporting and scratch-resistant films.

3,371,066

PROCESS FOR ISOLATING GRANULAR POLYOXYMETHYLENE FROM A SOLUTION

Werner Grundmann, Hofheim, Taunus, Hans Dieter Hermann, Frankfurt am Main, Karl-Heinz Kasten, Kelkheim, Taunus, and Otto Kammann, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Apr. 21, 1964, Ser. No. 361,594
Claims priority, application Germany, Apr. 24, 1963, F 39,572
3 Claims. (Cl. 260—67)

Process for precipitating a stabilized polyoxymethylene copolymer in granular form by introducing a solution of the copolymer into a turbulent liquid coolant having a temperature 1° to 10° C. below the sintering limit of the copolymer.

3,371,067

MELAMINE-FORMALDEHYDE-ACRYLONITRILE CONDENSATION PRODUCT AND PROCESS OF MAKING SAME

Ralph S. Anderson, Sheboygan, Wis., assignor to Plastics Engineering Company, Sheboygan, Wis., a corporation of Wisconsin

No Drawing. Filed Mar. 2, 1964, Ser. No. 348,802
17 Claims. (Cl. 260—67.6)

1. The process of preparing a melamine-formaldehyde resin of improved flow characteristics comprising the steps of:

(a) reacting melamine and formaldehyde at a pH of approximately 8–11 and at a temperature of 70–95° C., said formaldehyde being used in a proportion of 2–5 moles per mole of melamine, and

(b) reacting the resultant melamine-formaldehyde reaction product with acrylonitrile in a proportion of 0.5–6 moles of acrylonitrile per mole of the melamine used in the preparation of said melamine-formaldehyde resin, said acrylonitrile reaction being conducted at a pH of at least 7.5 and by refluxing until a reflux temperature of at least 85° C. is reached.

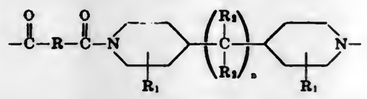
3,371,068

POLYAMIDES FROM DIPIPERIDYLS

Jack Preston, Raleigh, and Ralph W. Smith, Durham, N.C., assignors, by mesne assignments, to Monsanto Company, a corporation of Delaware

No Drawing. Filed Mar. 9, 1962, Ser. No. 178,582
15 Claims. (Cl. 260—78)

1. Synthetic linear heat resistant polyamides consisting of the regularly recurring structural unit



wherein R is a divalent hydrocarbon radical taken from the group consisting of saturated aliphatic radicals containing from 1 to 10 carbon atoms and aromatic radicals containing from 6 to 12 carbon atoms, *n* is an integer of from 0 to 5, R_1 is taken from the group consisting of hydrogen, alkyl, arylene and halogen and R_2 is taken from the group consisting of hydrogen and methyl.

3,371,069

FILAMENTS AND SURGICAL SUTURES OF POLY-L-GLUTAMIC ACID PARTLY ESTERIFIED WITH LOWER ALKANOLS AND PROCESS THEREFOR

Takashi Miyamae, Kawasaki-shi, Kanagawa-ken, and Shigeo Mori and Yoshifumi Takeda, Tokyo, Japan, assignors to Ajinomoto Co., Inc., Tokyo, Japan

No Drawing. Filed Mar. 17, 1964, Ser. No. 352,670
Claims priority, application Japan, Dec. 5, 1963, 38/65,057; Dec. 10, 1963, 38/66,055; Mar. 20, 1963, 38/13,285
6 Claims. (Cl. 260—78)

1. A filament of a macromolecular copolypeptide consisting essentially of the copolymerization product of (1) L-glutamic acid and (2) at least one other amino acid selected from the group consisting of L-valine and L-alanine, with the proviso that from 7 to 70 percent of the carboxyl hydrogen in the glutamic acid moiety have been replaced by lower alkyl radicals, the percentage of said lower alkyl radicals being substantially higher at the surface of said filament than in the interior thereof.

3,371,070

POLYANHYDRIDES OF POLYMERIC FAT ACIDS AS CURING AGENTS FOR EPOXY RESINS

Robert Chang, St. Paul, and Heinz B. Arnold, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Mar. 1, 1965, Ser. No. 436,376
12 Claims. (Cl. 260—78.4)

There is disclosed the polyanhydrides of polymeric fat acids and the curing of epoxy resins therewith. With relatively pure dimeric fat acids the anhydride of the dimeric fat acid is obtained. With relatively pure trimeric fat acids the anhydride of the trimeric fat acid is obtained. With mixtures the anhydrides of both forms are obtained. The relatively pure dimer fractions are preferred.

3,371,071

PRESSURE SENSITIVE ADHESIVE COMPOSITIONS

Berry A. Brooks, Middlesex, and Benjamin D. Jubilee, Jr., Plainfield, N.J., assignors to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 18, 1965, Ser. No. 426,424
14 Claims. (Cl. 260—78.5)

Pressure sensitive adhesives characterized by their excellent properties of tack, tack retention and cohesive strength and the substrates coated therewith; said adhesives being based upon random copolymers containing specified proportions of octyl acrylate, ethyl acrylate, vinyl acetate and maleic anhydride and which are prepared by means of free radical initiated polymerization procedures.

3,371,072

SULPHUR RESINS

Jean-Baptiste Signouret, Billere, and Jean Barge, Pau, France, assignors to Societe Nationale des Petroles d'Aquitaine, Paris, France

No Drawing. Filed Mar. 21, 1966, Ser. No. 536,145
Claims priority, application France, Mar. 23, 1965, 10,265, 10,266
11 Claims. (Cl. 260—79)

This invention relates to a process for manufacturing sulphur resins and, more particularly, to such a process in which a polythiomethylene-alkanol resin is heated with an ethylenic compound.

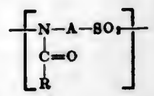
3,371,073

POLYSULFONAMIDES

Harry A. Smith, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 28, 1966, Ser. No. 523,560
7 Claims. (Cl. 260—79.3)

1. A solid polysulfonamide having a molecular structure consisting essentially of recurring units of the formula



wherein R is an alkyl radical of 1–3 carbon atoms and A is a nonvicinal divalent aromatic carbocyclic radical.

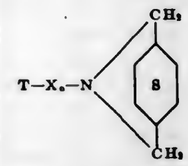
3,371,074

ACCELERATING VULCANIZATION OF RUBBER WITH (AZABICYCLONONYLTHIO)AZOLES

John J. D'Amico, Dunbar, W. Va., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 327,166, Sept. 3, 1963. This application Aug. 13, 1965, Ser. No. 479,597
5 Claims. (Cl. 260—79.5)

1. The process of vulcanizing a sulfur-vulcanizable diene rubber which comprises heating the rubber and sulfur in the presence of a small amount sufficient to accelerate vulcanization of a compound of the formula



where T is the radical resulting from removing mercaptan hydrogen from an azole selected from the group consisting of 4-(lower alkyl)-2-mercaptothiazole, 4,5-di(lower alkyl)-2-mercaptothiazole, 4-(lower alkyl)-5-(lower carboalkoxy)-2-mercaptothiazole, 4-(lower carboalkoxy)-2-mercaptothiazole, 2-mercaptobenzothiazole, monochloro-2-mercaptobenzothiazole, mono- and di(lower alkyl)-2-mercaptobenzothiazole, mono(lower alkoxy)-2-mercaptobenzothiazole, mono(lower alkyl)-monochloro-2-mercaptobenzothiazole and di(lower alkyl)-dichloro-2-mercaptobenzothiazole, X is selected from a group consisting of sulfur and methylene, and *n* is an integer from zero to one, inclusive.

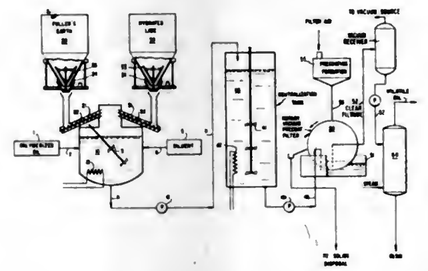
3,371,075

NEUTRALIZATION AND DECOLORIZATION OF POLYMERIZED OILS

Judson Joseph Mears, Jr., and Louis Jack Sitomer, Pittsburgh, Pa., assignors to Neville Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 362,671, Apr. 27, 1964. This application Nov. 1, 1966, Ser. No. 591,340
6 Claims. (Cl. 260—82)

A resin-containing and sludge-containing hydrocarbon oil obtained by polymerization of a cracked petroleum fraction in the presence of a boron trifluoride catalyst is neutralized and decolorized without intervening separation of sludge by treatment with fuller's earth and hydrated lime at a temperature between about 65° and 110° C. After removal of the fuller's earth and lime by filtration of the mixture, a light-colored resin of low acidity can be produced from the resulting resin-containing filtrate by stripping from it the unpolymerized constituents. The product finds utility as an internal plasticizer



for oleoresinous varnishes, light-colored plastic compositions and adhesives.

3,371,076

PROCESS OF COPOLYMERIZATION OF ETHYLENE AND ALPHA-OLEFINES WITH FLUORINATED UNSATURATED MONOMERS

Mario Ragazzini and Donato Carcano, Milan, Italy, assignors, by mesne assignments, to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Filed Mar. 9, 1962, Ser. No. 178,576
Claims priority, application Italy, Mar. 10, 1961, 4,527/61, Patent 648,753
1 Claim. (Cl. 260—87.5)

1. In a process for the copolymerization of ethylene and chlorotrifluoroethylene by contacting said monomers, at a maximum pressure of 40 atm. and a temperature from −100° to +50° C. and in an inert atmosphere in the presence of a catalyst selected from the group consisting of complexes of boron trialkyls, boron hydrides, and boron alkyl hydrides with substances having electron donator character, the molar ratio between the ethylene and chlorotrifluoroethylene being between 1 and 2, wherein the catalyst is activated by a substance yielding oxygen and selected from the group consisting of oxygen itself, peroxides and oxygenated substances capable of evolving oxygen, the improvement which consists in using as the electron donator substance a compound selected from the group consisting of ethers.

3,371,077

POLYMERIZATION OF VINYL ALKYL ETHERS AND RESULTING PRODUCT

John D. Calfee, Dayton, Ohio, assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Aug. 18, 1958, Ser. No. 755,422
11 Claims. (Cl. 260—91.1)

1. The process of polymerizing a vinyl alkyl ether, wherein said alkyl group contains from 1 to 14 carbon atoms, to solid, high molecular weight, crystalline polymer by contacting said vinyl alkyl ether with a catalyst selected from the group consisting of aluminum chlorofluorides and aluminum fluoride obtained by the fluorination of an aluminum halide selected from the group consisting of aluminum chloride, aluminum bromide, and aluminum iodide.

3,371,078

RECOVERY OF POLYOLEFINS

James D. Owens, Texas City, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Aug. 24, 1964, Ser. No. 391,615
4 Claims. (Cl. 260—94.9)

1. In a process for the production of polyethylene by polymerization of ethylene in the presence of a catalytic

amount of a catalyst comprising a titanium halide and an organoaluminum compound suspended in n-hexane, the improvement providing for recovery of polyethylene having reduced catalyst residues which comprises quenching the catalyst in the reaction mixture after the polymerization has taken place and before any substantial removal of the polymer from reaction mixture by contacting it with an anhydrous alkyl alcohol containing from 1 to 8 carbon atoms at a temperature from about 90° C. to about 100° C. for a period from about 30 to about 60 minutes; adding water to the quenched reaction mixture to form a hexane-polyethylene slurry phase and an aqueous alcohol phase rich in extracted catalyst residues; separating said phases; contacting said hexane-polyethylene slurry phase with an anhydrous alcohol at temperatures from about 30° to about 40° C.; adding water to the resulting slurry to form a hexane-polyethylene slurry phase and an aqueous alcohol extract phase; separating said phases; filtering the hexane-polyethylene slurry phase to recover the solid polyethylene; and drying said polyethylene.

3,371,079

CATALYST AND CATALYTIC PROCESS

Edwin F. Peters, Lansing, and Omar O. Juveland, South Holland, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 197,911, May 28, 1962. This application May 21, 1965, Ser. No. 457,844

1 Claim. (Cl. 260—94.9)

1. A process for the polymerization of ethylene to produce a solid polymer, which process comprises contacting ethylene with a catalyst comprising vanadium penioxide extended upon silica, having a particle diameter of from about 0.01 to about 0.04 micron said catalyst having an apparent density of less than about 0.1 gram per cubic centimeter and with a catalyst promoter which is a trihydrocarbon aluminum, each catalyst component being present in an operative proportion of at least about 0.1 percent by weight based on the weight of the catalyst, effecting said contacting under superatmospheric pressure at a suitable polymerizing temperature in the range of from about 0° C. to about 350° C., and recovering the polymer product thus produced.

3,371,080

PHENYLALANINE²-ORNITHINE⁸-VASOPRESSIN

Roger Boissonnas, Bottmingen, and René Huguenin, Reinach, Basel-Land, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

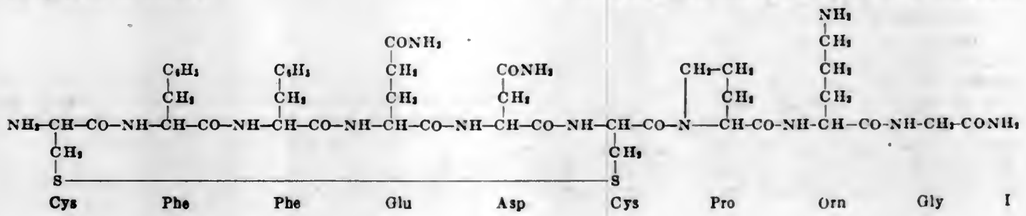
No Drawing. Filed June 1, 1964, Ser. No. 371,762

Claims priority, application Switzerland, June 6, 1963, 7,123/63

The portion of the term of the patent subsequent to Jan. 17, 1984, has been disclaimed

4 Claims. (Cl. 260—112.5)

1. A compound selected from the group consisting of a polypeptide of formula:



and is pharmaceutically acceptable, non-toxic, acid addition salts wherein all amino acid groupings except glycine are of L-configuration.

3,371,081

PROCESS FOR THE PURIFICATION OF CYTOCHROME C

Kazuo Nakanishi and Kazuo Motonaga, Tokyo, Japan, assignors to Sankyo Company, Limited, Tokyo, Japan

No Drawing. Filed Aug. 27, 1964, Ser. No. 392,580

Claims priority, application Japan, Aug. 29, 1963, 38/46,036

3 Claims. (Cl. 260—115)

Process for the purification of a yeast cytochrome C aqueous solution which comprises (1) treating an aqueous solution of yeast cytochrome C with ammonium sulfate followed by filtration; (2) adding to the filtrate a water-soluble cupric salt followed by dialysis of the resulting solution; (3) reducing the salt concentration of the dialyzate below about 1/10; (4) treating the diluted dialyzate with a weakly acid ion exchange resin, washing the said resin with a solution of a salt or a buffer solution followed by elution of the resin with a solution of a salt or a buffer solution; and then (5)(a) treating the eluate with sulfite, hydrosulfite or SH-containing compound or (b) treating the eluate with sulfite or hydrosulfite followed by reducing the salt concentration of the eluate below about 1/4, treating the diluted solution with a weakly acid ion exchange resin, eluting the resin with a solution of a salt or a buffer solution followed by treatment of the eluate with SH-containing compound.

3,371,082

REACTIVE MONOAZO DYESTUFFS CONTAINING THE 2-FLUORO-BENZOTHIAZOLE GROUP

Angelo Mangini, Antonio Tundo, and Germana Mazzanti, Bologna, Italy, assignors to Aziende Colori Nazionali Affini ACNA S.p.A., Milan, Italy

No Drawing. Filed Dec. 15, 1964, Ser. No. 418,563

Claims priority, application Italy, Dec. 17, 1963, 25,884/63

5 Claims. (Cl. 260—158)

The invention relates to reactive monoazo dyestuffs containing the radical of 2-fluoro-benzothiazole-1 used in dyeing cellulose fibers in the cold in shades particularly fast to wet treatments.

3,371,083

PROCESS FOR PREPARING THERAPEUTICALLY USEFUL 3-SUBSTITUTED BENZODIAZEPINES

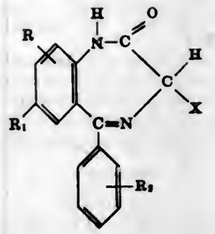
Rodney Ian Fryer, North Caldwell, Edward Ernest Garcia, West Caldwell, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 9, 1965, Ser. No. 512,775

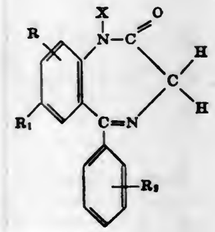
7 Claims. (Cl. 260—239.3)

1. A process for the preparation of a compound

of the formula



wherein R and R_1 are selected from the group consisting of hydrogen, halogen, nitro, trifluoromethyl and lower alkyl; R_2 is selected from the group consisting of hydrogen and halogen and X is selected from the group consisting of chlorine, bromine and iodine which comprises treating a compound having the formula of



(II)

wherein X, R, R_1 and R_2 are as above with a free radical catalyst selected from the group consisting of azo-bis-lower alkyl nitriles, di-lower alkyl peroxides, di-acyl peroxides, peresters and hydroperoxides in the presence of an inert organic solvent.

3,371,084

PROCESS FOR PREPARING HALOGEN-SUBSTITUTED-1,4-BENZODIAZEPINES

Rodney Ian Fryer, North Caldwell, Edward E. Garcia, West Caldwell, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 9, 1965, Ser. No. 512,795

8 Claims. (Cl. 260—239.3)

A process for preparing 3-halo-1,4 - benzodiazepin - 2-ones from 3-unsubstituted-1,4-benzodiazepin - 2 - ones by reacting said 3-unsubstituted compounds with a halogenating agent containing

halo group. The 3-halo-1,4 - benzodiazepin - 2 - ones are valuable intermediates for producing medicinally valuable known 1,4-benzodiazepin-2-ones having either a lower alkoxy, a lower acyloxy, or an amino group substituted on the 3-position.

3,371,085

5-ARYL-3H-1,4-BENZODIAZEPIN-2(1H)-ONES

Earl Reeder, Nutley, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

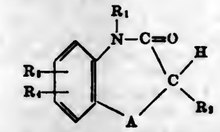
No Drawing. Continuation-in-part of application Ser. No. 149,527, Nov. 2, 1961. This application Nov. 20, 1961, Ser. No. 154,921

Claims priority, application Switzerland, Dec. 2, 1960, 13,485/60, 13,490/60, 13,491/60, 13,492/60, 13,493/60, 13,494/60, 13,495/60; Czechoslovakia, Oct. 20, 1961, 7,357/60

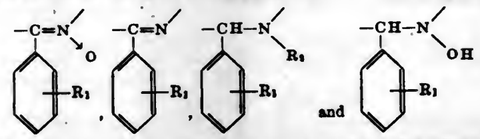
24 Claims. (Cl. 260—239.3)

1. A compound selected from the group consisting of compounds of the formula

(I)



pharmaceutically acceptable acid addition salts thereof, and pharmaceutically acceptable quaternary ammonium salts thereof with lower alkyl halides; wherein A is selected from the group consisting of



R_1 is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, lower alkynyl, phenyl-lower alkyl and mono-cyano-lower alkyl; R_2 is selected from the group consisting of hydrogen, lower alkyl, mono-lower alkoxy-lower alkyl, phenyl and mono-hydroxy-benzyl; R_3, R_4 and R_5 are selected from the group consisting of hydrogen, halogen and lower alkyl; and R_6 is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl and lower alkynyl.

3,371,086

NOVEL STEROIDAL [3,2-d]-2',6'-DIAMINOPYRIMIDINES

Leland L. Smith, Malvern, Pa., and Daniel M. Teller, Wilmington, Del., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 16, 1962, Ser. No. 230,999

1 Claim. (Cl. 260—239.5)

1. 5α-cholestano-[3,2-d]-2',6'-diaminopyrimidine.

3,371,087

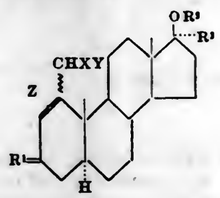
1 - HALOMETHYL - 5α - ANDROSTANES AND -Δ¹-ANDROSTENES AND PROCESSES FOR THEIR PREPARATION

Colin C. Beard, Boulder, Colo., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Mar. 25, 1966, Ser. No. 537,323

10 Claims. (Cl. 260—239.55)

1. Steroids of the formula



wherein R^1 is an oxygen atom or the group

in which R^4 is hydrogen, tetrahydrpyranyl, or a hydrocarbon carboxylic acyl group; R^2 is hydrogen, tetrahydropyranyl, or a hydrocarbon carboxylic acyl group; R^3 is hydrogen, methyl, ethyl, or ethynyl; each of X and Y is chloro or fluoro; and Z is a carbon-carbon single bond or a carbon-carbon double bond.

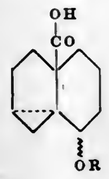
3,371,088

PROCESS FOR PREPARING 19-NOR-Δ^4-3-KETOSTEROIDS

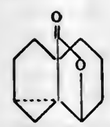
Katsumi Tanabe, Rinji Takasaki, Ryozo Hayashi, Yasuhiro Morisawa, Teruo Hashimoto, and Tadamasa Nakazawa, Tokyo, Japan, assignors to Sankyo Company Limited, Tokyo, Japan

No Drawing. Filed Apr. 26, 1966, Ser. No. 545,306
Claims priority, application Japan, May 8, 1965, 40/26,801; July 19, 1965, 40/43,527
4 Claims. (Cl. 260—239.55)

1. A process for preparing a 19-nor-Δ^4-3-ketosteroid which comprises heating a 3,5-cyclosteroid having the partial structure, with which only steroidal rings A and B are concerned, of the formula



or



wherein R represents hydrogen, an alkyl group or an acyl group and the symbol "‡" denotes either α- or β-configuration together with an alkylsulfoxide.

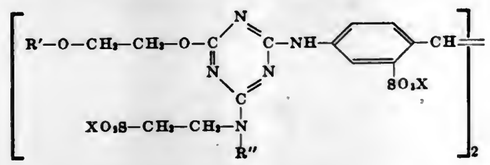
3,371,089

BIS-TRIAZINYLAMINO-STILBENE SULPHONIC ACID COMPOUNDS

Heinrich Gold, Cologne-Stammheim, Erich Lehmann, Burscheid, and Werner Theuer, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed July 28, 1964, Ser. No. 385,776
Claims priority, application Germany, Aug. 10, 1963, F 40,468
6 Claims. (Cl. 260—240)

1. A bis-triazinylamino-stilbene disulphonic acid compound of the formula



in which R' is alkyl containing 1–4 carbon atoms, R'' is hydrogen or alkyl containing 1–4 carbon atoms, and X is hydrogen, an alkali metal or ammonium moiety.

3,371,090

NOVEL ANTIBACTERIAL AGENTS

James David Johnston, Old Saybrook, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 397,004, Sept. 16, 1964. This application July 9, 1965, Ser. No. 470,934
11 Claims. (Cl. 260—240)

Schiff bases derived from 2-formylquinoxaline-1,4-dioxides valuable in the control of urinary tract and systemic infections, chronic respiratory disease, infectious sinusitis in turkeys and promotion of growth of animals.

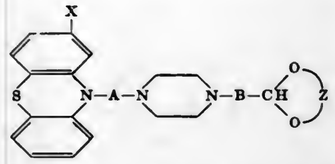
3,371,091

SUBSTITUTED 10-(1-PIPERAZINYL ALKYL) PHENOTHIAZINES, AND THEIR SALTS

Jacques Robert Boissier, Paris, and Roger Ratouis, Saint-Cloud, France, assignors to Societe anonyme dite: Societe Industrielle pour la Fabrication des Antibiotiques (S.I.F.A.), Paris, France, a French company

No Drawing. Filed June 17, 1965, Ser. No. 464,848
Claims priority, application France, June 29, 1964, 979,944; Sept. 28, 1964, 989,555; June 2, 1965, 19,227
13 Claims. (Cl. 260—243)

1. A compound of the class consisting of a base and a pharmaceutically acceptable acid addition salts thereof, said base having the formula:



(1)

in which X is a member selected from the group consisting of a hydrogen, a halogen, a trifluoromethyl, an alkyl, an alkoxy and a thio-alkyl radical, said alkyl, alkoxy and thioalkyl radicals containing from 1 to 4 carbon atoms, A represents an alkylene radical containing from 2 to 6 carbon atoms, B represents an alkylene radical containing from 1 to 4 carbon atoms, and Z is a member selected from the group consisting of ethylene, trimethylene, methylethylene, polymethylethylene, methyltrimethylene and polymethyltrimethylene.

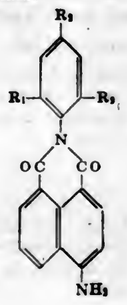
3,371,092

4-AMINO-N-POLYALKYLPHENYL-1,8-NAPHTHALIC IMIDES

Chi K. Dien, Buffalo, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed July 22, 1965, Ser. No. 474,152
5 Claims. (Cl. 260—281)

1. A 4-amino-N-aryl-1,8-naphthalic imide, suitable as a colorant, of the formula:



wherein R_1, R_2 and R_3 may be the same or different and represent lower alkyl groups of one to four carbon atoms inclusive.

3,371,093

N-LOWER-ALKYL AND N-SUBSTITUTED-LOWER-ALKYL-N- (AND N,N-BIS-) [(1-PIPERIDYL)-LOWER-ALKYL]AMINES

Bernard L. Zenitz, Colonie, and Alexander R. Surrey, Albany, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 432,845, Feb. 15, 1965. This application Nov. 25, 1966, Ser. No. 596,828
18 Claims. (Cl. 260—293)

N-lower-alkyl- and N-substituted-lower-alkyl-N- (and N,N-bis-) [(1-piperidyl)-lower-alkyl]amines, for example N-benzyl-N,N-bis-[3-(4-cyclohexylmethyl - 1 - piperidyl) propyl]amine, having anti-inflammatory, coronary dilator, hypotensive, anti-fungal, anti-viral, anthelmintic, and psychomotor depressant activities prepared by reduction of the corresponding N-acyl-N-(and N,N-bis-) [(1-piperidyl)-lower-alkyl]amines.

3,371,094

N-(AMIDOXIMINO-LOWER-ALKYL)- AND N-AMIDINO - N - [(1 - PIPERIDYL) - LOWER-ALKYL]AMINES

Bernard L. Zenitz, Colonie, and Alexander R. Surrey, Albany, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 432,845, Feb. 15, 1965. This application Nov. 25, 1966, Ser. No. 596,781
7 Claims. (Cl. 260—293)

N - (amidoximino - lower - alkyl) - and N-amidino-N-(and N,N - bis) [(1 - piperidyl) - lower-alkyl]amines, for example β-{N,N-bis-[3-(4-cyclohexylmethyl-1-piperidyl)-propyl]amino}propionamidoxime, having chemotherapeutic and pharmacodynamic, particularly anti-inflammatory, hypotensive, anti-fungal, and anthelmintic, activities, the amidoximino compounds being prepared by reaction of the corresponding N-(cyano-lower-alkyl)-N-(and N,N - bis-) [(1 - piperidyl) - lower-alkyl]amines with hydroxylamine, and the amidino compounds being prepared by reaction of the N- (and N,N-bis-) [(1-piperidyl)-lower-alkyl]amines with a 2-lower-alkyl-2-thiopseudourea.

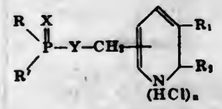
3,371,095

THIO- OR DITHIO-PHOSPHORIC (-PHOSPHONIC OR -PHOSPHINIC) ACID ESTERS AND PROCESSES FOR THE PRODUCTION THEREOF

Walter Lorenz, Wuppertal-Vohwinkel, and Gerhard Schrader, Wuppertal-Cronenberg, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Aug. 17, 1964, Ser. No. 390,195
Claims priority, application Germany, Aug. 27, 1963, F 40,594/63
16 Claims. (Cl. 260—294.8)

Pesticidal phosphorus compounds of the formula



wherein R is lower alkyl, alkoxy or aryl, R' is lower alkyl or alkoxy R_1 and R_2 are hydrogen or, together, a fused benzene ring, X and Y are oxygen or sulfur, at least one of which is sulfur and n is zero or one.

3,371,096

4-PYRIDYLMETHYL KETONES AND 4-PYRIDYLMETHYL CARBINOLS

Bernard Brust, Parsippany, Troy Hills, Rodney Ian Fryer, North Caldwell, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 465,775, June 21, 1965. This application June 28, 1967, Ser. No. 649,470
12 Claims. (Cl. 260—294.8)

Novel pharmacologically active 4-pyridylmethyl ketones and 4-pyridylmethyl carbinols are prepared inter alia by reacting a 4-picolyl metal with an acid halide or an aldehyde, respectively. The compounds of this invention are useful as anti-tremor agents, anti-convulsants and in treating diseases caused by metabolic failures of enzyme systems, for example, phenylketonuria.

3,371,097

N-AMINOIMIDES OF HALO-SUBSTITUTED POLYHYDROMETHANONAPHTHALENEDICARBOXYLIC ACIDS

Henryk A. Cyba, Evanston, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 421,665, Dec. 28, 1964. This application Sept. 28, 1966, Ser. No. 582,543
11 Claims. (Cl. 260—326)

N-aminoimides of a chloro- or bromo-substituted polyhydromethanonaphthalenedicarboxylic acid, exemplified by N-phenyl-aminoimide of 5,6,7,8,9,9-hexachloro-1,2,3,4,4a,5,8,8a - octahydro - 5, 8 - methano-2, 3-naphthalenedicarboxylic acid. The compounds are useful as shrink-proofing agents for fibrous materials such as wool, also as flame retardants for epoxy resins.

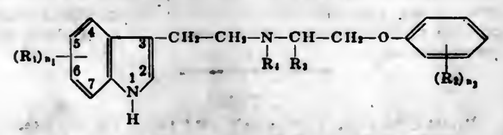
3,371,098

5- AND 6-METHOXY-3-(PHENOXYETHYL-AMINOETHYL)-INDOLES

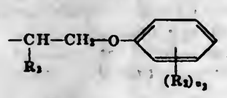
Teunis Kralt and Johannes Maria Antonius Zwagemakers, Van Houtenlaan, Weesp, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 445,726, Apr. 5, 1965. This application Nov. 29, 1966, Ser. No. 597,796
9 Claims. (Cl. 260—326.14)

1. A compound selected from the group consisting of the indolylethylamines of the formula



wherein R_1 is a member selected from the group consisting of methoxy and hydroxy, n_1 is 1 or 2, R_2 is a member selected from the group consisting of methoxy and hydroxy, n_2 is 0 or 1, R_3 is a member selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms inclusive, R_4 is a member selected from the group consisting of hydrogen, benzyl, alkyl of 1 to 4 carbon atoms inclusive, and a moiety of the formula



wherein R_2, R_3 and n_2 have their above-designated meanings and the non toxic acid-addition salts thereof.

3,371,099

HYDROXYALKYL-SUBSTITUTED POLYALKYLENEPOLYAMINO IMIDES OF POLYHALOPOLYHYDROMETHANONAPHTHALENE DICARBOXYLIC ACID

Edward M. Geiser, Downers Grove, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Oct. 21, 1964, Ser. No. 405,611
8 Claims. (Cl. 260—326)

Hydroxyalkyl-substituted polyalkylenepolyamino imides of polyhalopolyhydromethanonaphthalene dicarboxylic acid, exemplified by N-[3-(2-hydroxyethyl)-7-methyl-3,6-diazatridecyl] - 5,6,7,8,9,9 - hexachloro - 1,2,3,4,4a,5,8,8a - octahydro - 5,8 - methano - 2,3 - naphthalene dicarboxylic imide. The compounds are useful as flame retardants and anti-weathering agents for elastomers, plastics and resins.

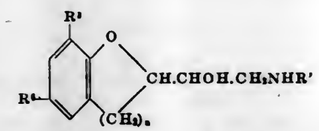
3,371,100

CHROMANYL OR DIHYDROBENZOFURANYL SUBSTITUTED ALKYLAMINOETHANOLS

Ralph Howe, Macclesfield, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Jan. 5, 1965, Ser. No. 423,594
Claims priority, application Great Britain, Jan. 24, 1964, 3,201/64
6 Claims. (Cl. 260—345.2)

Amine derivatives possessing β-adrenergic blocking activity selected from compounds of the formula:



where R' is hydrogen, alkyl of 2–5 carbons, or alkyl of 2–5 carbons containing one or more specific substituents, e.g. hydroxy; n is 1 or 2; R^5 and R^6 are hydrogen, chlorine or bromine; esters of these compounds with carboxylic acids of the formula R^3.COOH where R^3 is alkyl of 1–3 carbons or aryl of 6–10 carbons and the non-toxic acid addition salts. Various procedures for preparing these compounds are also disclosed as well as compositions containing same for use in the treatment or prophylaxis of heart disease.

3,371,101

PROCESS FOR THE PREPARATION OF HALO-SUBSTITUTED POLYHYDRODIALKANOTRICYCLIC DICARBOXYLIC ACIDS AND CARBOXY DERIVATIVES THEREOF

Herman S. Bloch, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed May 8, 1964, Ser. No. 366,165
10 Claims. (Cl. 260—346.6)

Preparation of halo-substituted polyhydrodialkanotricyclic dicarboxylic acid by condensing maleic acid with vinylacetylene at a temperature of 35°–125° C., thereafter further condensing the resultant product with a chloro- or bromo-substituted cycloalkadiene at a temperature of 50°–200° C.

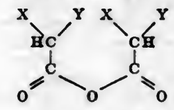
3,371,102

ACIDIC LIPID ANHYDRIDES

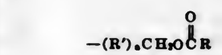
James Bruce Martin, Hamilton, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

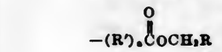
No Drawing. Filed Nov. 4, 1963, Ser. No. 321,331
13 Claims. (Cl. 260—347.4)

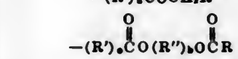
1. A compound of the formula

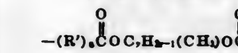


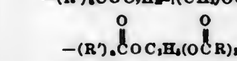
wherein X is a member selected from the group consisting of —H, —CH_3; Y is a radical selected from the group consisting of:

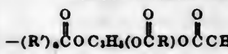
(1) 

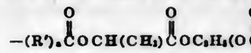
(2) 

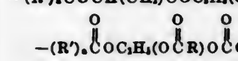
(3) 

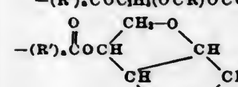
(4) 

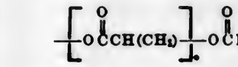
(5) 

(6) 

(7) 

(8) 

(9) 

(10) 

R=a radical selected from the group consisting of —C_nH_{2n+1} and —C_nH_{2n-1}
R'=a radical selected from the group consisting of CH_2, —C_2H_4—, —C_3H_6—
R''=a radical selected from the group consisting of —CH_2— and —$CH_2CH_2OCH_2CH_2$—
a=zero to 1
b=1 to 6
d=1 to 2
e=zero to 2
n=11 to 21
r=2 to 4, and provided that
When R''=—$CH_2CH_2OCH_2CH_2$—, b=1
When R''=—CH_2, b=2 to 6
When Y=radicals (1) through (9), X=—H
When Y=radical (10), X=CH_3

3,371,103

6,17-DISUBSTITUTED 5(10)-ANDROSTENES

John S. Tadanier, Chicago, Ill., assignor to Abbott Laboratories, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Dec. 13, 1965, Ser. No. 513,567
7 Claims. (Cl. 260—397.4)

A process for making 6,17-disubstituted 5(10)-androstenes is described; the new compounds are useful antiandrogens which inhibit or reduce prostate growth.

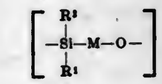
3,371,104

PROCESS OF PREPARING ACYLOXYALKYL GROUP CONTAINING POLYSILOXANES

Gerd Roesmy, Altendorf (Ruhr), and Gotz Korner, Mulheim (Ruhr), Germany, assignors to Th. Goldschmidt A.G., Essen, Germany

No Drawing. Continuation of application Ser. No. 236,119, Nov. 7, 1962. This application Feb. 3, 1967, Ser. No. 613,968
Claims priority, application Germany, Nov. 10, 1961, G 33,546; Mar. 1, 1962, G 34,375; May 9, 1962, G 34,931
20 Claims. (Cl. 260—408)

Process of preparing acyloxyalkyl group containing polysiloxanes. Compounds of the unit formula



wherein R^1 is hydrolyzable halogen or alkoxy, R^2 is hydrolyzable halogen, alkoxy or monovalent hydrocarbon, and M stands for alkylene of 3–4 carbon atoms which bridges the Si in the formula with the oxygen atom through at least three carbon atoms, are reacted with

(a) Carboxylic acids of the general formula

$$X \cdot R^3 \cdot COOH$$

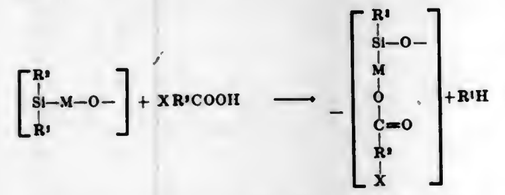
wherein R^3 is unsaturated or saturated divalent hydrocarbon, and X is hydrogen or carboxyl,

Or (b) the anhydrides of (a),

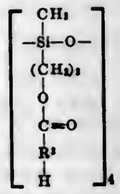
Or (c) mixtures of (a) and (b),

Or (d) carboxylic acid chlorides of the general formula $Y \cdot R^3 \cdot COCl$, wherein R^3 has the above meaning and Y is hydrogen or carboxychloride.

When the reactant is (d), the reaction product is subjected to hydrolysis and condensation. The reaction results in a rearrangement which, when the reactant is represented by XR^3COOH, proceeds according to the equation



The application specifically claims the novel cyclic siloxane of the general formula



wherein R^3 is a divalent hydrocarbon with 5 to 21 carbon atoms.

The compounds produced by the process are suitable as impregnating agents for textiles, leather and paper. They also are excellent lubricants. Siloxanes which are modified with unsaturated acids also find use as molding resins.

3,371,105

METHOD FOR THE PRODUCTION OF 10-CHLOROPHENOXARSINE

Thomas W. McGee, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 30, 1964, Ser. No. 414,900
3 Claims. (Cl. 260—440)

1. A method for the manufacture of 10-chlorophenoxarsine which comprises causing diphenyl oxide, arsenic trichloride and a catalyst selected from the group consisting of aluminum chloride and aluminum bromide to react at a temperature of between 240° and 285° C.

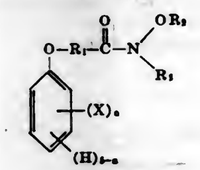
3,371,106

ACETYL SUBSTITUTED PHENOXYACETAMIDES AND THEIR USE AS HERBICIDES

Jordan P. Berliner and Sidney B. Richter, Chicago, Ill., assignors to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Aug. 11, 1964, Ser. No. 388,915
9 Claims. (Cl. 260—453)

A compound of the formula



wherein n is an integer from 1 to 4; each X is independently selected from the group consisting of chlorine, bromine and unsubstituted lower alkyl; R_1 is an unsubstituted alkylene containing from 1 to 4 carbon atoms; R_2 is selected from the group consisting of lower alkanoyl acyl, unsubstituted lower alkyl, phenyl, and lower alkene; R_3 is selected from the group consisting of lower alkanoyl acyl, unsubstituted lower alkyl, phenyl and lower alkene; wherein at least one of R_2 and R_3 is lower alkanoyl acyl. A method for the pre-emergence control of undesirable plant life which comprises applying to soil containing seeds of the undesirable plant life a herbicidal composition comprising an inert carrier and as the essential active ingredient, in a quantiay which is herbicidally injurious to said undesirable plant life, the foregoing compound.

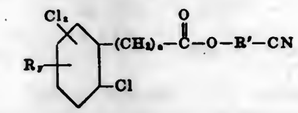
3,371,107

PESTICIDAL COMPOUNDS AND THEIR USE

Joseph F. De Gaetano, Montvale, N.J., assignor to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed Nov. 12, 1964, Ser. No. 410,733
7 Claims. (Cl. 260—465)

Cyanoalkyl esters having the formula



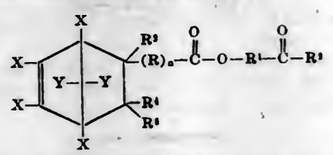
wherein R is a nitro, amino, methyl or methoxy group; R' is an alkylene group having from 2 to 6 carbon atoms; x is an integer in the range of 1 to 4; and y and z are either zero or 1 are useful as pesticidal compounds. They are particularly valuable as selective herbicides since they have a spectrum of activity that is quite different from that of the acids from which they are derived. Illustrative of these compounds are β-cyanoethyl 2,3,6-trichlorobenzoate, α-cyanoisopropyl 2,6 - dichlorobenzoate, and β-cyanoethyl 2,3,6-trichlorophenylacetate.

3,371,108
HALOGENATED BICYCLIC ACID KETO ESTERS

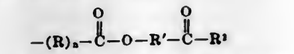
Israel J. Dissen, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Aug. 21, 1964, Ser. No. 391,312
5 Claims. (Cl. 260—468)

1. A compound of the formula



wherein X is selected from the group consisting of chlorine, bromine and fluorine; Y is selected from the group consisting of hydrogen, chlorine, bromine and fluorine; *n* is an integer from 0 to 1; R and R^1 are alkylene groups containing from one to ten carbon atoms; R^2 is an alkyl group containing from one to ten carbon atoms; R^3 and R^4 are independently selected from the group consisting of hydrogen and an alkyl group containing from one to ten carbon atoms; and R^5 is independently selected from the group consisting of hydrogen, an alkyl group containing from one to ten carbon atoms and



wherein R, R^1, R^2 and *n* are as described above.

3,371,109
CARBAMIC ACID ESTERS OF THIOBISPHENOLS

Joseph Willard Baker, Kirkwood, and Ignatius Schumacher, Webster Groves, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed June 19, 1964, Ser. No. 376,574
9 Claims. (Cl. 260—471)

This disclosure covers certain carbamic acid esters of halogenated thiobisphenols. These esters have been found to be useful in the control of bacterial and fungal organisms.

3,371,110
CATALYTIC CONVERSION OF AROMATIC CARBOXYLIC ACIDS TO PHENOLS

Lyle A. Hamilton, Pitman, and Phillip S. Landis, Woodbury, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Jan. 29, 1964, Ser. No. 341,120
17 Claims. (Cl. 260—476)

1. A method of oxidizing an aromatic monocarboxylic acid to an ester thereof, said acid having its carboxyl group attached directly to the aromatic ring, comprising bringing said acid into contact with an otherwise inert gas containing elemental oxygen in the presence of a solid, porous, positive ion-containing, crystalline aluminosilicate molecular sieve catalyst, the pores of said crystalline aluminosilicate being of a size such as to permit ingress therein of said monocarboxylic acid and egress therefrom of said ester.

13. A method of synthesizing phenolic compounds comprising placing an aromatic monocarboxylic acid in the presence of a solid, porous, positive ion-containing crystalline aluminosilicate molecular sieve catalyst; subjecting said acid while in the presence of said catalyst to an oxidation reaction by bringing said acid into contact with an otherwise inert gas containing elemental oxygen to convert said acid to an ester thereof; and subjecting said ester while in the presence of said catalyst to a hydrolysis reaction to convert said ester to form the desired phenolic compound, the pores of said crystalline aluminosilicate being of a size such as to permit ingress therein of the reactants in said oxidation and hydrolysis reactions and egress therefrom of the reaction products resulting from said reactions.

3,371,111
PROCESS FOR PRODUCING ETHOXY NAPHTHOIC ACID

Joseph Levy, Paramus, and William W. Walker, Rutherford, N.J., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

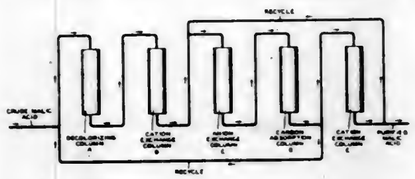
No Drawing. Filed July 14, 1965, Ser. No. 472,007
6 Claims. (Cl. 260—520)

1. Process for producing 2 - ethoxy - 1 - naphthoic acid which comprises: (A) reacting 2 - hydroxy - 1-naphthoic acid with diethyl sulfate in the presence of an aqueous solution of an alkali metal hydroxide at a temperature at least initially within the range of from about 25° to 60° C. with both the diethyl sulfate and the alkali metal hydroxide being present in excess above about 100 percent of the stoichiometric quantity required to form the corresponding ethyl ester of ethoxy naphthoic acid; (B) subjecting the resultant reaction products to a saponification treatment with an alkali metal hydroxide in the presence of an alcohol selected from the group consisting of methyl and ethyl alcohols (C) acidifying the saponified mixture; and (D) recovering the desired product.

3,371,112
PURIFICATION OF CRUDE MALIC ACID LIQUORS

Leon O. Winstrom, East Aurora, and Milton R. Ingleman, Hamburg, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Dec. 18, 1964, Ser. No. 419,540
6 Claims. (Cl. 260—535)



Malic acid liquors containing unsaturated organic acid impurities, particularly maleic and fumaric acid, are purified by contacting the liquors with a weakly basic anion exchange resin. Preferably the liquor is also contacted with a carbon adsorbent and with a cationic exchange resin.

3,371,113
PREPARATION OF HEPTAALKYLBENZENONIUM FLUOBORATES IN AN ETHER MEDIUM

George Suld, Springfield, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Dec. 16, 1963, Ser. No. 330,593
9 Claims. (Cl. 260—543)

Crystalline heptaalkylbenzenonium fluoborates are prepared by contacting an alkylideneheptaalkylcyclohexadiene starting material with $HF\text{-}BF_3$, removing excess HF, and then treating the reaction product with a certain type of ether to form crystalline heptaalkylbenzonium fluoborate. Another embodiment is the same except that the suitable starting material is formed by alkylating benzene or an alkylbenzene until the benzenoid material contains a total of seven alkyl groups.

3,371,114
HYDROCARBYL ISOCYANATE CATALYST FOR THE PHOSGENATION OF ARYL SULFONAMIDES

Adnan A. R. Sayigh, North Haven, and Henri Ulrich, Northford, Conn., assignors to The Upjohn Company, Kalamazoo, Mich, a corporation of Delaware

No Drawing. Filed Sept. 14, 1964, Ser. No. 396,359
6 Claims. (Cl. 260—545)

An improved method of converting an aromatic sulfonamide to the corresponding aromatic sulfonyl isocyanates. Phosgenation of the sulfonamide in the presence of a catalytic quantity of a hydrocarbyl isocyanate gives the desired sulfonyl isocyanate in high yield. Additionally much lower molar proportions of phosgene are needed. The sulfonyl isocyanates are useful intermediates.

3,371,115
PROCESS FOR COMBINED PRODUCTION OF AMMONIA AND UREA

Lucien H. Cook, Port Washington, and Ivo Mavrovic, New York, N.Y., assignors to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 15, 1965, Ser. No. 432,728
8 Claims. (Cl. 260—555)

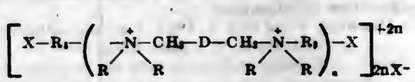
A combined process for the production of ammonia and urea is provided, in which crude ammonia synthesis gas derived from hydrocarbon reforming and principally containing hydrogen, nitrogen and carbon dioxide is reacted with ammonia synthesis effluent gas stream containing ammonia vapor, hydrogen and nitrogen. The reaction takes place under urea synthesis conditions, and recycled ammonium carbamate solution is added to the gaseous process streams being passed to urea synthesis. The combined effluent stream from urea synthesis is processesd to separate a gaseous phase containing hydrogen, nitrogen and ammonia vapor from a liquid phase containing urea, ammonium carbamate, ammonia and water. The gaseous phase is preferably cooled to condense product liquid ammonia, and the residual gas phase is passed to ammonia synthesis. The liquid phase is processed to separate product aqueous urea solution from recycle ammonium carbamate solution and ammonia vapor, which is condensed and recycled as reflux ammonia to the processing of the gaseous phase of the urea synthesis effluent stream.

3,371,116
DIMERIC FATTY HYDROCARBON POLYQUATERNARY AMINES

Robert Nordgren and Harold A. Wittcoff, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed May 21, 1964, Ser. No. 369,300
5 Claims. (Cl. 260—567.6)

1. A polymeric compound represented by the formula:



wherein each R is a lower alkyl group, D is a dimeric fat hydrocarbon radical, each X is a halide group, *n* is an integer of at least one, and each R_5 is a divalent radical having separate terminal —CH_2— groups selected from alkylene of 2 to 4 carbon atoms, alkyleneoxyalkylene and alkylenethioalkylene wherein the alkylene groups contain 2 to 4 carbon atoms or benzene.

3,371,117
PROCESS FOR PREPARING BIS-QUATERNARY AMMONIUM SULFATES

Charles R. Campbell, Le Moyne W. Pliechke, and Roland R. Spiegelhalter, Pensacola, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Feb. 15, 1965, Ser. No. 432,820
11 Claims. (Cl. 260—567.6)

A bis-tetraalkylammonium sulfate can be prepared by contacting one mole of a dialkyl sulfate with at least two moles of a trialkylamine at a temperature in the range of 50° to 400° C. and under pressure sufficient to prevent vaporization of the trialkylamine.

3,371,118
AMINATION PROCESS FOR ALIPHATIC TERTIARY AMINES

Allan J. Lundeen and Kaye L. Motz, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed May 8, 1964, Ser. No. 366,155
15 Claims. (Cl. 260—583)

A mixture of primary and corresponding secondary mono-chloroalkanes, such as typically provided by the partial chlorination of a paraffin or mixture thereof, is reacted with an acyclic amine nucleophilic agent under conditions resulting in a high selectivity of the aminated derivative of the primary chloroalkanes present in said mixture of alkyl chlorides.

3,371,119
PROCESS FOR THE PREPARATION OF 2,4-DIHYDROXYBENZOPHENONE

Myron S. Whelen, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 2, 1965, Ser. No. 511,246
5 Claims. (Cl. 260—591)

1. A process for preparing 2,4-dihydroxybenzophenone comprising reacting resorcinol with at least about two moles of benzonitrile per mole of resorcinol in the presence of zinc chloride and hydrogen chloride and thereafter, hydrolyzing the resulting reaction product to 2,4-dihydroxybenzophenone.

3,371,120
3,4'-HALOGEN-CONTAINING DIPHENYL ETHERS AND THIO ETHERS

Kurt A. Nowotny, Rock Hill, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Sept. 21, 1964, Ser. No. 398,093
7 Claims. (Cl. 260—609)

1. A compound represented by the structure



where A is selected from the group consisting of oxygen and sulfur and X and Y are each selected from the group consisting of bromine and chlorine provided when A is sulfur one of X and Y is chlorine and one of X and Y is bromine.

3,371,121
PROCESS FOR PRODUCING SATURATED DIOLS

Samuel J. Kahn, Rutherford, N.J., and Eugene Brown, Hempstead, N.Y., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Dec. 9, 1964, Ser. No. 417,203
7 Claims. (Cl. 260—635)

Process for producing a saturated 1,4-diol which comprises hydrogenating the corresponding acetylenic 1,4-diol at a temperature of 15°–125° C. and a pressure of

15–500 p.s.i.g. in the presence of a platinum, palladium or rhodium catalyst and a solvent selected from the group consisting of benzene, ethylbenzene, p-isopropyltoluene, dibutyl carbitol and mixtures thereof.

3,371,122
CONTINUOUS PROCESS FOR THE NITRATION OF XYLENE

Reinhold Betschel, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 2, 1966, Ser. No. 598,602
5 Claims. (Cl. 260—645)

The present invention relates to a continuous emulsion process for the nitration of xylenes to form mononitroxylenes wherein residence time in the reactor, reaction temperature, degree of agitation and a specific dehydrating value of the sulfuric acid are combined to achieve rapid separation of the product without the need of a separating agent.

3,371,123
PROCESS FOR PREPARING $CF_3CF_2CHBrCl$

Harry L. Yale, New Brunswick, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 12, 1967, Ser. No. 637,895
6 Claims. (Cl. 260—653)

This invention relates to a new process for preparing 1,1,1,2,2-pentafluoro - 3 - chloro-3-bromopropane by treating 1,1,1,2,2-pentafluoro-3,3-dichloropropane with an inorganic bromide salt in the presence of a non-protic solvent, such as N,N-dimethylformamide or N,N-dimethylacetamide.

3,371,124
INHIBITING POPCORN POLYMER FORMATION

Harry Elmer Albert, Lafayette Hill, and Alfred Case Whiton, Blue Bell, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 26, 1965, Ser. No. 451,042
7 Claims. (Cl. 260—666.5)

Inhibition of the undesirable polymerization of olefinic monomers which give rise to popcorn polymers by the use of a mixture of N,N-dialkylhydroxylamine and its bisoxalate salt as a popcorn polymer inhibitor in processes relating to the preparation of synthetic rubber.

3,371,125
NOVEL METHOD AND COMPOSITION OF MATTER

Joseph Francis McMahon, Clinton, N.J., assignor to Princeton Chemical Research, Inc., Princeton, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 2, 1965, Ser. No. 445,238
20 Claims. (Cl. 260—669)

Oxidative dehydrogenation through the use of niobium catalyst. The specific catalyst is:

$$M_{6/x}O_3 \cdot Nb_2O_5 \cdot A_{2/y}O$$

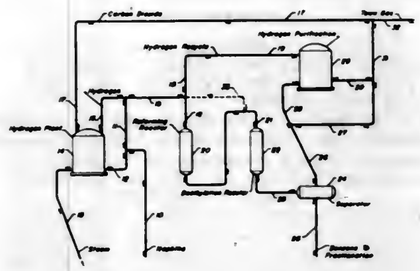
in the metal atom ratios 0.05 to 10:1:0 to 2 respectively. M is tungsten or chromium, and A is alkali or alkaline earth metal. X and Y represent valences of their respective metals.

3,371,126
HYDROCARBON CONVERSION PROCESS, NAPHTHA TO AROMATICS AND TOWN GAS

Don B. Carson, Mount Prospect, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Aug. 19, 1966, Ser. No. 573,560
9 Claims. (Cl. 260—672)

Combination method embodying the process of catalytic reforming using platinum catalyst and using hydrodealkylation to produce benzene type hydrocarbons and town

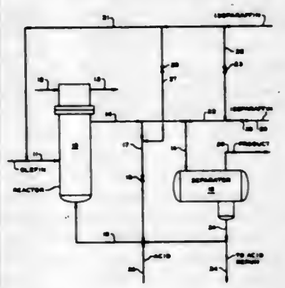


gas wherein the calorific value of the town gas may be variably adjusted.

3,371,127
ALKYLATION PROCESS WITH IMPROVEMENT IN PHASE SEPARATION

Eldred J. Cabanaw and Charles C. Chapman, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Jan. 29, 1965, Ser. No. 428,969
2 Claims. (Cl. 260—683.43)



In an alkylation process wherein an olefin is alkylated with an isoparaffin in the presence of an acid catalyst, additional isoparaffin is added to the effluent at a temperature higher than the effluent to raise the effluent temperature to at least 120° F. as well as increase the isoparaffin concentration in the settling zone, thereby increasing the ability of the acid phase to separate from the hydrocarbon phase.

3,371,128
LACTONE POLYMERS DERIVED FROM 3-FERROCENYL PHTHALIDES

Eberhard W. Neuse, Santa Monica, and Edward Quo, Inglewood, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

No Drawing. Filed Oct. 6, 1964, Ser. No. 401,982
18 Claims. (Cl. 260—837)

Ferrocene containing polymers may be prepared from heating 3-ferrocenyl lactones at temperatures between 115° and 160° C. in the presence of a Lewis acid. Alternately one may heat either 3-hydroxy phthalide or 3-alkoxy phthalide with ferrocene and an acidic catalyst. The mole ratio of the ferrocene to the phthalide is between 0.5 and 2.0. In an example 27.9 parts ferrocene, 15 parts of 3-hydroxy phthalide and 1.4 parts of anhydrous $ZnCl_2$ are heated at 110° C. under N_2 for 2 hrs. to give a polymeric product.

3,371,129
ALLYL t-BUTYL-METHYLPHENYL ETHER AS POLYMERIZATION INHIBITOR FOR UNSATURATED POLYESTER RESINS

Jeremiah Mark Howald, Perrysburg, Ohio, assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Aug. 23, 1965, Ser. No. 481,894
4 Claims. (Cl. 260—872)

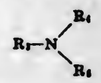
This invention relates to new polymerization inhibitors for unsaturated polyester/monomer mixtures. The inhibitors are allyl t-butyl-methylphenyl ethers.

3,371,130
ANTIELECTROSTATIC MOLDED BODIES OF POLYOLEFINES

Friedrich Seifert, Fritz Baxmann, and Dieter Carla, Marl, Germany, assignors to Chemische Werke Huls Aktiengesellschaft, Marl, Germany, a corporation of Germany

No Drawing. Filed June 3, 1965, Ser. No. 461,203
Claims priority, application Germany, June 24, 1964, C 33,232
3 Claims. (Cl. 260—897)

1. A destaticized molded product consisting essentially of a polyolefine with an addition of 2 to 7% by weight relative to the polyolefine of a mixture consisting of (a) 60 to 90% by weight of at least one member selected from the group consisting of polyethyleneglycolmonoalkylethers of the formula $R—O—(C_2H_4O)_xH$, wherein R represents a member selected from the group consisting of saturated and unsaturated alkyl groups with 6 to 28 carbon atoms, and x represents a whole number from 2 to 100, and polyethyleneglycolmonoaralkylethers of the formula $R_3—Ar—O—(C_2H_4O)_xH$, wherein R_3 represents a member selected from the group consisting of saturated and unsaturated alkyl groups with 1 to 18, Ar represents an aromatic hydrocarbon residue and x represents a whole number from 2 to 100, and (b) 10 to 40% by weight of a compound of the general formula



wherein R_3 represents a member selected from the group consisting of alkyl-, alkenyl- and acyl residues with 30 to 6 carbon atoms, R_4 represents a member selected from the group consisting of residues of the formulae

$$(C_yH_{2y}O)_mH$$

and $(CH_2 \cdot CHOH \cdot CH_2O)_nH$ and R_5 represents a member selected from the group consisting of residues of the formulae $(C_yH_{2y}O)_mH$ and $(CH_2 \cdot CHOH \cdot CH_2O)_nH$ and hydrogen, in which y represents a whole number from 2 to 3, m represents a whole number from 1 to 30, and n represents a whole number from 1 to 3.

3,371,131
ADDITION PHOSPHONATE POLYMERS AND PREPARATION THEREOF

Andrew Carson, Southampton, Wayne E. Feely, Rydal, and Marvin J. Hurwitz, Elkins Park, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Feb. 7, 1964, Ser. No. 343,223
19 Claims. (Cl. 260—931)

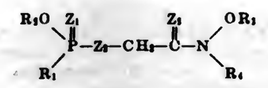
High molecular weight phosphonate polymers having a number average molecular weight of at least 5,000 are produced in a two reactant process. The two reactant process consists of reacting a cyclic chlorophosphite with an enolizable ketone in the temperature range of about −70° to about 100° C. in an acid medium. The high molecular weight phosphonate polymers are used to impart flame-retardant properties to normally flammable polymeric materials.

3,371,132
O - ALKYL O(S) - (N - ALKOXY - N - ALKYLCARBAMYL METHYL) PHENYL (THIOLO) (THIONO)PHOSPHONATES

Sidney B. Richter, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Sept. 8, 1964, Ser. No. 395,060
7 Claims. (Cl. 260—943)

A compound of the formula



wherein R_1 is aryl; R_2, R_3, and R_4 are independently selected alkyl groups; and Z_1, Z_2 and Z_3 are independently selected from the group consisting of sulfur and oxygen. A herbicidal, insecticidal and miticidal composition comprising an inert carrier and a toxic quantity of the above described compound. A method of the control of undesirable plant life, insects and mites which comprises applying a toxic quantity of the above described herbicidal, insecticidal, and miticidal composition.

3,371,133
METHOD OF PREPARING NUCLEAR FUEL PELLETS

Toraji Nishijima, Yokohama-shi, Eiji Fukushima, Kawasaki-shi, Akira Ishihata, Tokyo, Takashi Wada and Toshiyuki Kawada, Kawasaki-shi, and Haruya Kitagawa, Tokyo, Japan, assignors to Nippon Atomic Industry Group Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Mar. 31, 1965, Ser. No. 444,362
Claims priority, application Japan, Apr. 3, 1964, 39/18,502
4 Claims. (Cl. 264—.5)

A method of preparing pellets of oxide nuclear fuel powder characterized by using a roll mill at the step of pulverizing the raw fuel material produced by chemical process. The roll mill has to be used under the condition of limited clearance between two rolls. That is to say, the clearance is to be kept from 0.5 to 1.0 mm. The other conditions of the process are similar to the conventional method.

3,371,134
METHOD OF MAKING CERAMIC ACOUSTICAL PRODUCT

James C. Ollinger, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of applications Ser. No. 148,877, Oct. 31, 1961, and Ser. No. 371,832, June 1, 1964. This application June 23, 1965, Ser. No. 466,477
6 Claims. (Cl. 264—56)

Water, mineral wool, and Mississippi M and D clay are mixed to form a homogeneous slurry and deposited as a water-laid sheet. Water is removed and the sheet dried and fired at a temperature in the range of 1000° to 1600° F. to form a ceramic bond.

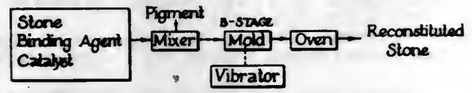
3,371,135
METHOD OF MAKING RECONSTITUTED MARBLE

William D. Goodwin, 445 Bishop St. NW., Atlanta, Ga. 30318

Filed Dec. 7, 1964, Ser. No. 416,430
6 Claims. (Cl. 264—63)

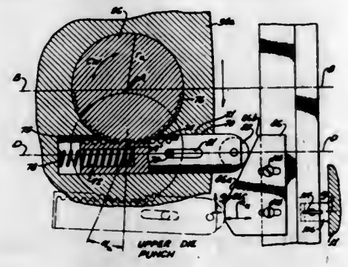
A method of making an article or body of reconstituted

marble, wherein sotnes of selected size are combined with



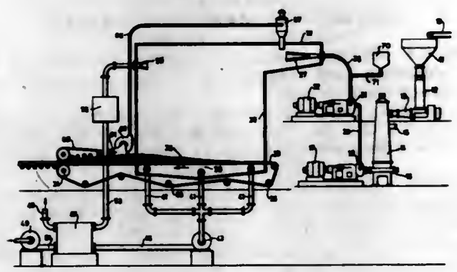
a resin matrix, vibrating the mixture to stratify the stones, curing the resin, heating the material, and cooling.

3,371,136
DETERGENT TABLET FORMING MACHINE
Floyd H. Johannsen, Upland, Calif., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada
Filed July 28, 1965, Ser. No. 475,488
15 Claims. (Cl. 264—109)



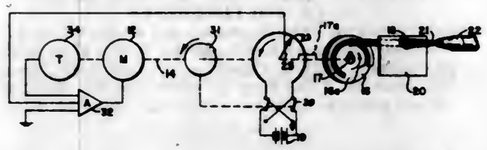
To prevent a detergent tablet from sticking to opposing tablet forming punch surfaces, the punches are provided with gear operated cam followers which twist the punches as the detergent is being compressed and untwist the punches just as they are being withdrawn. A pair of cams adjustably mounted on the machine displace the cam followers at the desired preselected points.

3,371,137
METHOD IN THE MANUFACTURE OF FIBER BOARD
Arne Johan Arthur Asplund, Lidingo, Sweden, assignor to Defibrator Aktiebolag, Stockholm, Sweden, a corporation of Sweden
Filed Apr. 21, 1965, Ser. No. 449,775
Claims priority, application Sweden, Apr. 24, 1964, 5,132/64
3 Claims. (Cl. 264—121)



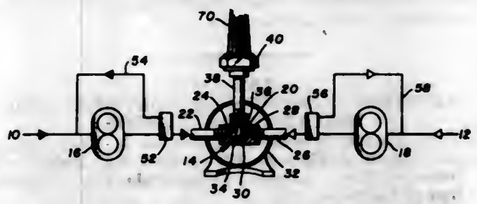
The method of making a fiber board comprising defibrating and/or grinding moist, steam-treated fiber pulp and delivering the pulp into and through an expansion nozzle into a chamber of lower pressure, wherein the pulp discharged as a jet into the chamber is given, under the expansion of the steam, a speed component in the direction of discharge and while it is dispersed about in the air space in the chamber in a manner to cause the fibers to be evenly distributed. After said expansion in the chamber, the fibers float down to the bottom of the chamber where they collect in a layer upon a traveling screen wire belt. The layer thus collected is then compressed and may be otherwise treated to produce the desired fiber board.

3,371,138
METHOD AND APPARATUS FOR PRODUCING FUNCTION POTENTIOMETERS
Henry S. Zablocki, 181 Hillside Ave., Nutley, N.J. 07110
Continuation-in-part of application Ser. No. 434,180, Feb. 23, 1965. This application Feb. 28, 1966, Ser. No. 530,465
21 Claims. (Cl. 264—134)



17. The process of forming a nonlinear potentiometer element including a layer of resistive composition in the form of a track supported by an insulator substrate, comprising the steps of:
providing a collimated spray of a moldable resistive composition to form said track;
positioning a mold member in the path of said spray;
providing relative movement between said spray and a reference point on said mold member;
generating a reference voltage which varies nonlinearly with variation in the relative position of said spray with respect to said reference point, wherein said relative movement between said reference point and said collimated spray is at a velocity proportional to the magnitude of said reference voltage; and
placing the resultant sprayed mold member in juxtaposition with a moldable insulator composition and simultaneously subjecting said track and said insulator composition to conditions of heat and pressure suitable for comolding said resistive and insulator compositions.

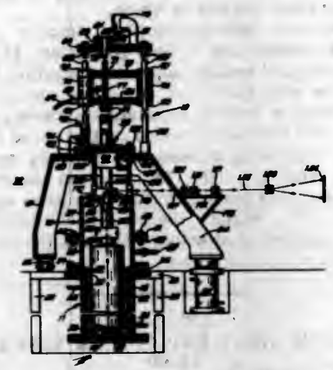
3,371,139
PROCESS AND APPARATUS FOR PRODUCING SELF-TEXTURING FIBERS
John E. Frazer, Decatur, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Dec. 22, 1964, Ser. No. 420,276
5 Claims. (Cl. 264—171)



A proportioning device comprised of a three-port, two-way plug valve which has been modified for utilization in spinning self-texturing filaments by circumscribing the plug with a groove passing through the port openings to insure uninterrupted flow, and means connected to the plug member for rotation thereof to sequentially align the inlet ports with the outlet port to combine two or more spinning dopes having differential shrinkage characteristics into a single alternating segmented dope stream prior to extrusion of said dopes through a spinneret to form filaments.

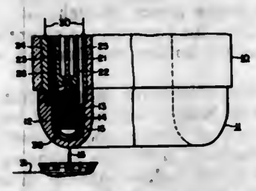
ELECTRICAL

3,371,140
OPTICAL SYSTEM FOR ELECTRIC ARC FURNACES
Peter J. Wynne, Pittsburgh, Pa., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Nov. 9, 1964, Ser. No. 409,661
15 Claims. (Cl. 13—9)



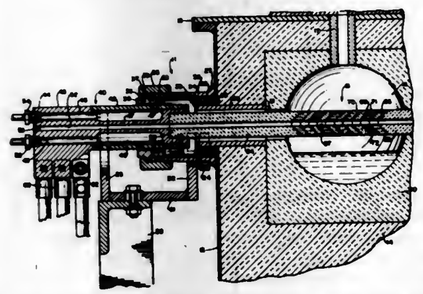
1. In an arc melting furnace, the combination of a plurality of vessels, support means, electrode drive means mounted on said support means for supporting an electrode in said vessels, said support means being movable from a first position above one of said vessels to a second position above another of said vessels, an optical system including light modifying means mounted on said electrode drive means and constructed and arranged to receive an electric arc image ray and to project said ray at a predetermined angle, viewing means disposed for receiving said projected ray when said electrode drive mechanism is in its first position, reflecting means positioned to receive said projected rays when said electrode drive mechanism is in its second position, said reflector being disposed in such an angular position relative to said light modifying means and said viewing means that the projected rays will reflected to said viewing means.

3,371,141
ARC ROTATION DETECTOR
Serafino M. De Corso, Media, and Lee A. Kilgore, Export, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 11, 1967, Ser. No. 629,996
5 Claims. (Cl. 13—9)



An arc rotation detector for use on an electrode in an arc furnace is provided to prevent damage to the electrode resulting from stoppage of arc rotation, and resulting in having the intensely hot arc spot remain in one position on the electrode, and includes a pickup coil placed within the electrode tip or other arcing surface forming means, and shielded leads from the pickup coil to an instrument located outside the electrode structure for giving an alarm or shutting off the power to the electrode. A filter at the instrument may be provided to allow passage of signals having a frequency corresponding to the frequency of the alternating current which supplies the power to the arc. The coil is wound symmetrically in a manner whereby, as long as the high speed arc rotation, which may be of the order of 1000 cycles per second, persists, the field coil will behave as though it were subjected to a field of uniform current flow in a cylindrical conductor, that is, the electric field on the coil at the power frequency will be negligible. However, when arc rotation stops the pickup coil will be subjected to a high electromagnetic field from the current filament through the electrode to the tip which supplies the arc. When arc rotation stops the field within the tip cylinder is no longer negligible near the region of the arc spot and a strong 60 cycle or other power frequency signal will be produced.

3,371,142
RESISTANCE MELTING FURNACE
Henry W. Soller, Dover, N.J., assignor to Howmet Corporation, a corporation of Delaware
Filed Dec. 4, 1964, Ser. No. 416,047
9 Claims. (Cl. 13—25)

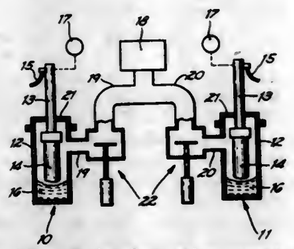


1. In a resistance melting furnace having a crucible for melting which is mounted for rotation about a horizontal axis, the improvement in a carbon resistance heating element in combination therewith comprising two end portions extending into the crucible from opposite sides thereof, a plurality of separate intermediate portions supported between said end portions to form an elongated heating element suspended horizontally across and within said crucible, said intermediate portions having adjacent end portions joined together in matching surface-to-surface contact to provide resistance heating without arcing therebetween, and a plurality of contact resistance interfaces defined between adjoining surfaces of such end portions and positioned within the heating element along a portion thereof located within the crucible to provide internal thermal and electrical resistances in the heating element greater than those of a similar shaped element constructed in one piece.

3,371,143
VALVE CONTROL FOR VACUUM FURNACES
Peter J. Wynne, Pittsburgh, Pa., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Aug. 26, 1965, Ser. No. 482,664
8 Claims. (Cl. 13—31)

A value control for connection in a conduit between a vacuum furnace and a source of vacuum, including first and second valve means operated together for closing the

conduit and operated independently for opening the conduit whereby the second valve means has a restricted flow passageway and is opened initially to permit pressures



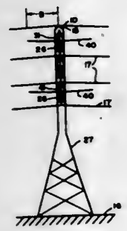
on opposite sides of the first valve means to become balanced gradually and thereafter the first valve means is opened.

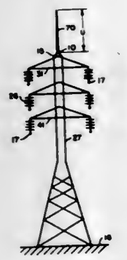
3,371,144

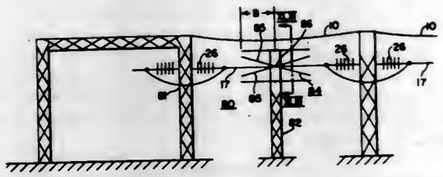
TRANSMISSION-LINE LIGHTNING-PROOFING STRUCTURES

Samuel B. Griscom, Wilkinsburg, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 26, 1963, Ser. No. 261,139
24 Claims. (Cl. 174—2)







1. An upstanding metallic transmission-tower structure having one or more grounded support members for supporting insulator-string assemblages, one or more insulator-string assemblages for carrying one or more phase conductors and secured in depending relation to said one or more grounded support members, a plurality of rod-like metallic cantilever members in unitary relation disposed in a generally horizontal plane passing in close proximity through the point of attachment of said one or more insulator-string assemblages, whereby to increase the electrostatic coupling between said one or more grounded support members and the one or more phase conductors to reduce the potential difference across the insulator-string assemblages during lightning-stroke phenomena, and cause the voltage across the insulators to be more uniform, whereby the entire string will have greater electrical strength.

15. In combination, a metallic transmission-tower structure for carrying phase conductors and a ground wire, a metallic whip-type mast extending upwardly from the tower structure to drain electrostatic charge, and the mast being from 20 to 100 feet in length.

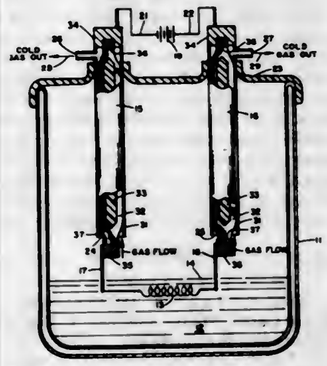
20. Substation lightning-proofing structure including means (81) terminating a phase conductor (17), an upstanding grounded metallic supporting structure (82) disposed in the near vicinity of said phase conductor (17) and supporting a metallic grounded cantilever-rod structure (84), said metallic grounded cantilever-rod construction (84) comprising at least two generally oppositely-extending cantilever rods (85) attached together (86) and extending in a plane generally parallel to said phase conductor (17), whereby the electrostatic coupling between the supporting structure (82) and the phase conductor (17) will be increased.

3,371,145

CRYOGENIC HEAT EXCHANGER ELECTRICAL LEAD

Richard J. Camille, Jr., Gloucester, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Oct. 7, 1966, Ser. No. 585,175
8 Claims. (Cl. 174—15)



1. In an elongated electrical lead wherein a cold gas in a cryogenic region passes through said electrical lead to a warmer region, the combination comprising:

(a) an elongated hollow member for receiving said gas;

(b) electrically conductive mesh screen means disposed in said hollow member, said means comprising a plurality of closely spaced substantially axially disposed electrical conductors extending substantially the length of said hollow member in contact with a plurality of closely spaced conductors disposed at substantially right angles to said axially disposed conductors, said conductors at least substantially filling said hollow member whereby said gas during flow through said lead must flow substantially only through said mesh screen means; and

(c) an electrically conductive end terminal member disposed at opposite ends of said mesh screen means and in electrical contact with respective opposite ends of said axially disposed conductors.

3,371,146

METHOD OF REDUCING SECONDARY EMISSION INDUCED BY RADIATION

Dinsdale M. J. Compton, Del Mar, Calif., assignor by mesne assignments, to the United States of America as represented by the Secretary of the Army

No Drawing. Filed July 1, 1965, Ser. No. 469,007
1 Claim. (Cl. 174—17)

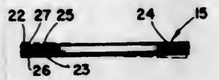
The reduction of the secondary emission of electrons, caused by exposure to intense high energy radiation, from ordinary components in electronic systems is accomplished by introducing a highly electronegative gas into the electronic system. The preferred gas for this purpose is a mixture of one atmosphere nitrogen dioxide and dinitrogen tetroxide which form a stable mixture in the gaseous state at low to moderate temperatures. The gas may be introduced into the electronic system by any conventional means well known to those skilled in the art.

3,371,147

HIGH FREQUENCY SHIELDING AND SEALING GASKET

Charles J. Daubenberger, Van Nuys, and Bill Joe Bryant, El Segundo, Calif., assignors to DA/Pro Rubber Company, Incorporated, a corporation of California

Filed Oct. 28, 1966, Ser. No. 590,319
3 Claims. (Cl. 174—35)



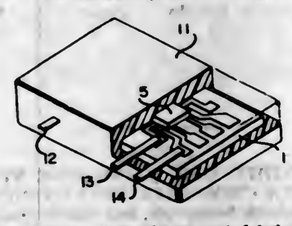
This disclosure relates to a radio frequency sealing gasket comprising a flexible sheet of conducting material having a central opening, the annular edge of the opening turning out of the plane of the remaining surface of the sheet and thence radially extending towards the center to define an annular flat surface lying in a plane parallel to and spaced a given distance from the plane of the remaining surface. First and second flat members of resilient material of a thickness corresponding to the given distance are secured to opposite sides of the flexible sheet about the central opening and provide proper sealing. The displaced planes of the conducting sheet provide intimate contact with surfaces to be secured together and yet the structure is such that the entire gasket may flex to accommodate any unevenness in the engaging surfaces involved.

3,371,148

SEMICONDUCTOR DEVICE PACKAGE AND METHOD OF ASSEMBLY THEREFOR

Rodney A. Roques, Palm Bay, and Eugene B. Stewart, West Melbourne, Fla., and Uryon S. Davidsohn, Tempe, Ariz., assignors to Radiation Incorporated, Melbourne, Fla., a corporation of Florida

Filed Apr. 12, 1966, Ser. No. 542,024
23 Claims. (Cl. 174—52)



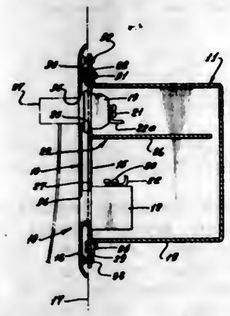
An integrated circuit package and fabrication method therefor in which an insulative substrate has a plurality of terminal strips bonded along a surface thereof, the terminal strips comprising a layer of semi-conductor material bonded to said surface and a eutectic alloy of a metal and said semi-conductor material bonded to and superposed on said layer. A semi-conductor circuit chip is bonded to said alloy, the alloy providing electrical connections to the chip. The method of fabricating the package comprises the sequential deposition of the semi-conductor and metal in layers on the substrate, etching the layers to correspond to a layout determined by interconnection requirements of the integrated circuit chip, and mating metal contact pads of the circuit chip with corresponding portions of the terminal strips. The chip and substrate are then heated to form a eutectic alloy including all of the metal in the terminal strips.

3,371,149

BARRIER PROTECTION OF ELECTRICAL POWER AND TELEVISION ANTENNA LEAD RECEPTACLES

Charles F. Maxted, Gardena, Calif., assignor to Sierra Electric Corporation, Gardena, Calif., a corporation of California

Filed Oct. 18, 1965, Ser. No. 497,299
5 Claims. (Cl. 174—53)



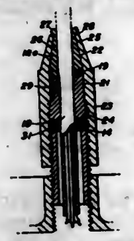
The disclosed electrical outlet assembly includes integral L-shaped strap structure having a protective barrier plate projecting within an outlet box between an electrical power terminal receptacle and a television antenna lead terminal receptacle; the strap structure also having spaced arms and an interconnecting cross piece spaced from the barrier plate and proximate the front of the box so that one of the receptacles is receivable between the arms and also between the barrier and cross piece, and also so that the arms or cross piece may be removably retained by a fastener at the inner side of a covering face plate.

3,371,150

VAPOR PROOF CONNECTOR FOR UNDERGROUND ELECTRICAL LEADS

Gerhart Herman Bachman, 12 Hawkedon Crescent, Rexdale, Ontario, Canada

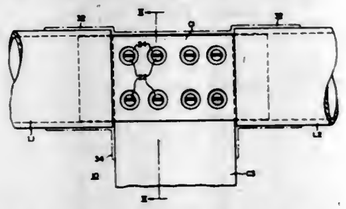
Filed Oct. 21, 1965, Ser. No. 499,700
Claims priority, application Canada, Sept. 28, 1965, 941,587
4 Claims. (Cl. 174—65)



This specification discloses a junction box intended to be embedded underground and having an externally

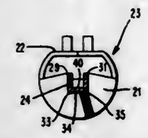
threaded nipple projecting therefrom, together with a terminal connector comprising a fitting having an internally threaded portion at one end receiving the nipple and a conical portion at the other end, an abutment washer engaging the nipple, a deformable body in the fitting engaging the washer, and a second washer between the deformable body and the conical portion. The washers and deformable body have central openings accommodating a cable going to the junction box.

3,371,151
ELECTRICAL BUS STRUCTURE
Thompson K. Bonzo, Pittsburgh, Pa., and Gordon F. Sauers, deceased, late of Pittsburgh, Pa., by Genevieve J. Sauers, administratrix, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 18, 1966, Ser. No. 528,657
6 Claims. (Cl. 174—71)



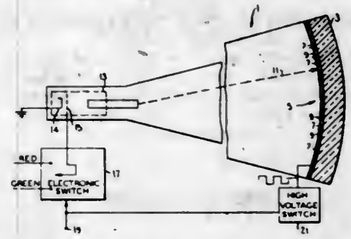
1. A bus structure comprising first and second tubular, electrical conductors having adjacent ends generally aligned with each other and spaced axially from one another, first and second generally cylindrical, electrically conducting members having the opposite ends disposed between and extending into the adjacent ends of the first and second conductors and being laterally spaced from one another, a substantially flat conductor disposed between the first and second conducting members and projecting in at least one direction transversely with respect to a line extending between the ends of the first and second conductors beyond the outer periphery of each of the latter conductors, and one or more threaded members each passing through and engaging a corresponding threaded opening in only one of the conducting members transversely with respect to a line extending between the ends of the first and second conductors to bear against the flat conductor to actuate the substantially flat conductor into engagement with one of the conducting members and to actuate the conducting members into engagement with the ends of the first and second conductors.

3,371,152
CONTACT SPRING
Joseph N. Damiano, Willow Grove, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 14, 1964, Ser. No. 345,014
2 Claims. (Cl. 174—94)



1. A contact spring for a stationary plugboard device having a barrel shaped section adapted to be frictionally positioned in said plugboard device, said barrel section having first and second end positions, a wiper element integrally formed with said first end position of said barrel shaped section, said wiper element adapted to make an ohmic connection with a contact element of a removable plugboard device the improvement comprising: (a) a channel shaped post member integrally formed at said second end position of said barrel shaped section, (b) said channel shaped post member having four sharply edged corners running the length thereof, at least two of which sharply edged corners being formed by an arcuate indentation of the surface lying opposite the surface having the channel therein, said four sharply edged corners providing biting surfaces for a continuous wire wrap connection.

3,371,153
COLOR DISPLAY SYSTEM UTILIZING RED AND CYAN LIGHT
Walter T. Matzen, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Apr. 30, 1965, Ser. No. 452,299
3 Claims. (Cl. 178—5.4)



1. In a color display system for producing colored images from first and second records:

a viewing screen comprising particles of a first phosphor which emit light of a first color when excited by a beam of electrons having a velocity of at least a first predetermined value, and particles of a second phosphor each having a surface layer which constitutes a partial barrier to electrons whereby the second phosphor particles have a higher electron energization threshold than that of said first phosphor particles, said second phosphor particles emitting a second color light substantially complementary to said first color when excited by a beam of electrons having a velocity of at least a second predetermined value which is greater than said first value,

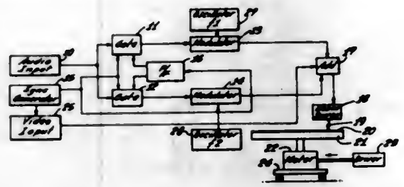
means for generating a first beam of electrons having a velocity of said first predetermined value and an intensity modulated in accordance with said first record thereby to cause said first phosphor particles to emit light of said first color and produce an image in said first color corresponding to said first record, and

means for generating a second beam of electrons having a velocity of said second predetermined value and an intensity modulated in accordance with said second record thereby to cause both said first and second phosphor particles to emit substantially achromatic light and produce an image in substantially achromatic light corresponding to said second record.

3,371,154
AUDIO-VIDEO DISK RECORDING SYSTEM WITH CROSSTALK PREVENTION
Hugh F. Frohbach, Sunnyvale, and Albert Macovski, Palo Alto, Calif., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Dec. 26, 1963, Ser. No. 333,285
14 Claims. (Cl. 178—5.6)

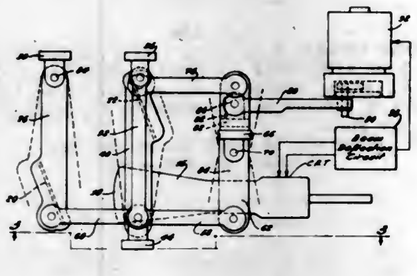
Composite video and audio signals are recorded on a disk along a spiral track in that during the horizontal

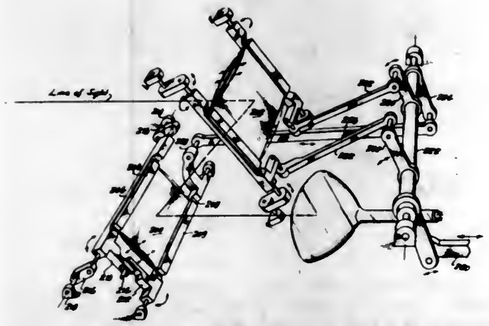
blanking pulse periods the audio signals are recorded as carrier modulated signals with alternating carrier frequencies for sequential blanking pulses so that the record-



ing of a blanking pulse is juxtaposed to recordings of blanking pulses, wherein the carrier frequencies for the audio signals differ.

3,371,155
DISPLAY MECHANISM AND APPARATUS
Chris S. Andersen, 4517 Clara St., Bell, Calif. 90201
Continuation-in-part of application Ser. No. 187,730, Apr. 16, 1962. This application May 27, 1964, Ser. No. 373,597
18 Claims. (Cl. 178—6.5)





12. Apparatus for displaying in apparent three dimensional form a two dimensional representation, including:

a first member having a reflecting surface for forming a first image of the representation;

first mounting means for said first member for positioning said first member in an optical path with its said surface facing said representation;

a second reflecting member having a reflecting surface for forming a second image from said first image;

second mounting means for said second member for positioning said second member in said optical path with its said surface facing said first member;

and control means for cyclically causing said surfaces to move toward and away from each other, thereby to impart a third dimension to said representation as viewed along said path.

17. Apparatus for displaying, in apparent three-dimensional form, a two-dimensional representation, comprising:

a screen;

means for making a cyclic trace on said screen;

optical path means for permitting a viewer to view said cyclic trace;

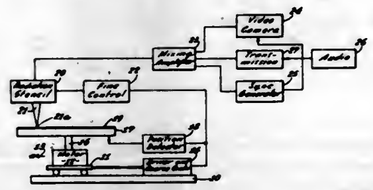
said optical path means including at least one surface for altering the character of an image conveyed along said optical path;

means for effecting a cyclic change in curvature of said surface, so as to cause all portions of said trace to cyclically appear closer and farther from the viewer; and

synchronizing means for synchronizing the cyclic change in curvature of said surface with the said cyclic trace;

whereby there is imparted an apparent third dimension to the image viewed by the viewer.

3,371,156
TELEVISION RECORDING SYSTEM HAVING AUDIO SIGNALS RECORDED DURING HORIZONTAL BLANKING INTERVALS
Hugh F. Frohbach, Sunnyvale, and Albert Macovski, Palo Alto, Calif., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Jan. 23, 1964, Ser. No. 339,790
20 Claims. (Cl. 178—6.6)



Video and audio signals are recorded along a spiral track on a disk in that the audio information is sampled during each blanking pulse period but recorded only during a fraction of the blanking pulse period so that audio recordings in juxtaposed blanking pulse periods do not register in radial direction.

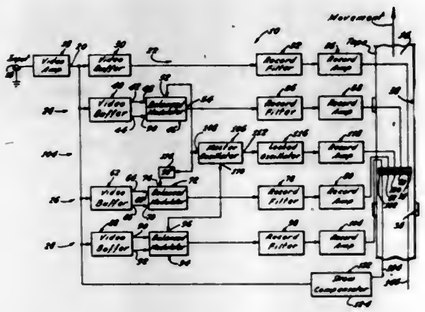
3,371,157
FREQUENCY DIVISION MULTIPLE TRACK RECORDING OF WIDEBAND SIGNALS
Vernon B. Bushway, Woodland Hills, Calif., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Feb. 28, 1964, Ser. No. 348,160
15 Claims. (Cl. 178—6.6)

This invention relates to a system for converting a wide band signal such as a video signal into a plurality of continuous signals which are recorded in different tracks on a medium such as a tape. The invention is especially adapted to minimize the effects of tape skew in such a system.

For example, when the wide band signal represents color information, it has a range of approximately 6 megacycles. This color information may be converted by this invention to a plurality of continuous signals each having a range of approximately 1.5 megacycles and each recorded in a separate track on the tape. The invention also includes a system for reproducing the low band signals from the tape and combining the signals in a particular relationship to reproduce the wide band signal.

The invention includes a control generator which generates signals having suitable characteristics to vary between particular values such as +1 and −1. A pair of additional signals may have the same frequency and have a particular phase displacement, such as 90°, relative to each other. A fourth signal having a frequency approximately twice as great as that of the pair of additional signals is also produced. Each of these signals modulates the wide band signal to produce a product signal. Each of the product signals is filtered in a separate channel by a low pass filter constructed to pass signals in a particular frequency range such as approximately 1.5 megacycles. Each of the resultant signals is recorded in a spaced track on a medium such as a tape.

A pair of reference signals may also be recorded in a pair of spaced reference tracks on the medium such as the tape. The reference signals may be recorded on a continuous basis or may be recorded only during the production of the horizontal sync signal for each horizontal line of information.



To reproduce the wide band signal, the signals recorded in the separate tracks on the tape are reproduced by magnetic heads from the tape. The signals are then modulated with signals having characteristics corresponding to the characteristics of the modulating signals in the recording operation. The signals are then delayed for a controlled interval of time and are filtered to pass the signals in the particular range such as approximately 1.5 megacycles and are combined to reproduce the wide band signal.

The reference signals are compared in phase to produce a control signal having characteristics dependent upon such relative phase. These control signals are used to delay the modulated signals for an interval of time dependent upon the characteristics of the control signal. A network may be provided to vary the characteristics of the control signal for each track in accordance with the relative disposition of the track on the tape.

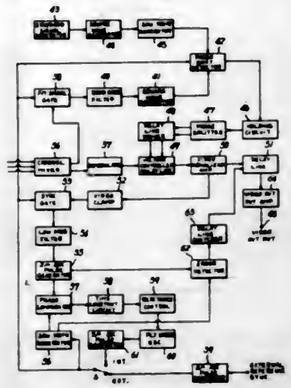
3,371,158

SYSTEM FOR CORRECTING VIDEO SIGNALS

Tomiyuki Tanaka, Meguro-ku, Tokyo, and Yuzuru Inoue, Machida, Tokyo, Japan, assignors to Victor Company of Japan, Limited, Yokohama, Japan

Filed Apr. 30, 1964, Ser. No. 363,914
Claims priority, application Japan, May 4, 1963, 38/23,192
4 Claims. (Cl. 178—6.6)

A video tape reproducing system in which a carrier wave of predetermined frequency corresponding to the horizontal synchronizing signal is separated out of the reproduced video signal and compared to a standard frequency signal produced by a reference generator so that a signal is developed which corresponds to the comparison of the standard signal and carrier signal phase relationships. The system includes a variable delay circuit which receives the reproduced demodulated video signal and imparts a delay thereto in accordance with the value



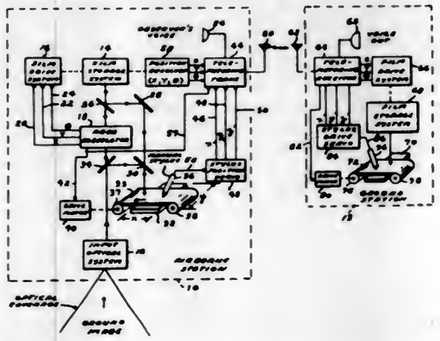
of the comparison signal. The variable delay circuit has the capability of having a digital time interval variation characteristic.

3,371,159

RECONNAISSANCE SYSTEM WITH GROUND DISPLAY OF AIRBORNE PICTORIAL INFORMATION

Paul B. Oncley, Seattle, Wash., assignor to the United States of America as represented by the Secretary of the Air Force

Filed May 18, 1965, Ser. No. 457,544
1 Claim. (Cl. 178—6.6)



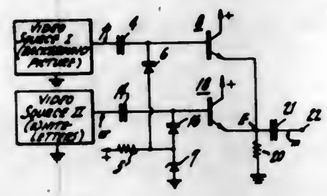
Identical film strip maps, conforming to the ground track to which a vehicle is committed, are prepared in advance of a reconnaissance flight of an airborne vehicle. One of the films is located aboard an airborne vehicle and the other is located at the ground station. The image on the film in the airborne vehicle is continuously compared with the real time image below the vehicle during flight with an area correlator which provides x, y and θ signals to continuously position the film image with respect to the ground image. The film position signals are continuously transmitted to the ground station to maintain the ground film in position synchronism with the airborne film. The film image and ground image are projected onto a screen having a moving overlay. The ground station film image is likewise projected onto a screen having a moving overlay. A stylus is used to make various markings on the overlay to provide additional information that the airborne observer wishes to transmit to the ground. A like stylus is moved with respect to the ground station overlay in response to positioning information transmitted to the ground station. A voice communication system is also provided to transmit additional related information to the ground station.

3,371,160

TELEVISION CIRCUIT FOR NON-ADDITIVELY COMBINING A PAIR OF VIDEO SIGNALS

Winslow Leroy Hurford, Collingswood, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Jan. 31, 1964, Ser. No. 341,575
5 Claims. (Cl. 178—7.1)



Video signals from a pair of independent video sources are combinated non-additively using a simple diode or transistor mixing circuit, which continually provides at its output whichever input signal is greater in a given polarity direction (e.g., whichever signal is "whiter"). Lap dissolve amplifier advantageously incorporates such a mixing circuit for combining its channel inputs. Superposition of white letters on a background scene is readily achieved with such aparatus, without disadvantages of background contrast reduction and letter intensity and width modulation. Additionally, lap dissolve circuitry is used to advantage as keyed channels for achieving "wipe" and other insert effects without deleterious edge transient effects.

3,371,161

METHOD OF ELECTRONIC STABILIZATION OF THE IMAGE OBTAINED WITH A TELEVISION CAMERA RIGIDLY INSTALLED ON A MOVING SUPPORT

Christian-Charles Crovella, Antony, France, assignor to Nord-Aviation Societe Nationale de Constructions Aeronautiques, Paris, France, a joint-stock company of France

Filed Mar. 23, 1964, Ser. No. 353,725
Claims priority, application France, Mar. 28, 1963, 929,643
5 Claims. (Cl. 178—7.2)

1. Apparatus for compensating for movements of the optical image produced in the tube of a television camera mounted aboard an aircraft and placed on a support rigidly secured to said aircraft, which movements of the optical image result from relative movements between the camera on its support and an object to be filmed due to movement of the aircraft about its pitching, rolling and yawing axes comprising

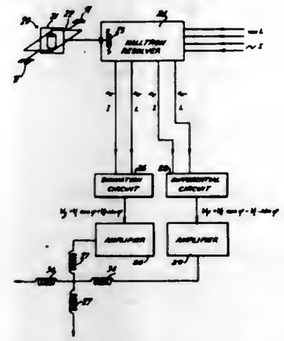
gyroscopic means for detecting and measuring the angles of yawing, pitching, and rolling of the aircraft,

a television camera rigidly mounted on a support secured to the aircraft for movement therewith,

said television camera having a tube with electron gun means to produce an electron beam and deflecting coil means associated therewith,

means connected to said gyroscopic means for forming and applying deviation voltages, said means supplying electrical signals which are a function of movement of said gyroscopic means to said deflecting coil means of said television camera tube,

said gyroscopic means including at least one directional gyroscope having primary and secondary rings and freely mounted on said support secured to the aircraft with axes connected to said primary and secondary rings respectively to drive said means for forming and applying deviation voltages including detecting means for detecting the angles of pitching and yawing respectively, the output voltages of said detecting means being simultaneously applied with corresponding voltages at image frequency and line scanning frequency, respectively, to said deflecting coil means,



said gyroscopic means also including a vertical gyroscope mounted on said aircraft and having a stabilized permanent magnet fixed to an axis of a ring of said vertical gyroscope corresponding to a stabilized vertical plane, the said axis being concident with the optical axis of said camera and the axis of rolling,

said means for forming and applying deviation voltages further including a resolver subjected to the action of the magnetic field rotating in synchronism with the rolling movement and created by the magnet,

input signals applied to said resolver to obtain an output from said resolver of signals modulated and dephased as a function of the instantaneous rotation about the rolling axis,

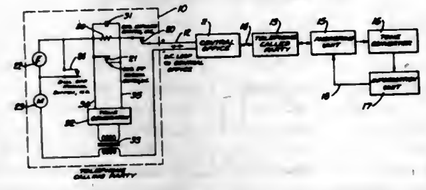
and amplifier means connecting said output of said resolver to said deflecting coil means.

3,371,162

SYSTEM FOR TRANSMITTING DIGITAL DATA VIA TELEPHONE LINES UTILIZING A TELEPHONE AS THE INPUT

John R. Scantlin, Los Angeles, Calif., assignor to Scantlin Electronics, Inc., Los Angeles, Calif., a corporation of Delaware

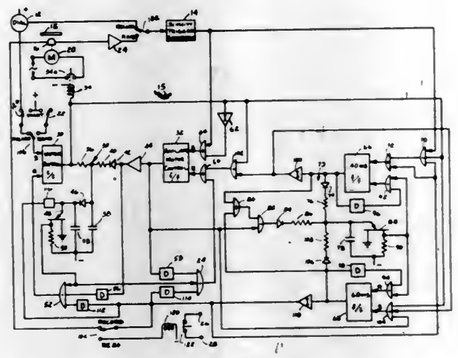
Filed Sept. 2, 1964, Ser. No. 394,009
2 Claims. (Cl. 179—2)



The modification of the conventional telephone using existing keying, such as the dial or a plurality of push buttons, and using central office power and providing for digital data transmission between telephones. A tone

generator added to a conventional telephone and energized from the central office D.C. power loop by dial switch closings to couple tone bursts onto the line to the central office for transmission to a called telephone.

3,371,163
REPERTORY DIALERS
Robin C. Moseley, San Jose, Calif., assignor to DASA Corporation, a corporation of California
Filed Dec. 30, 1964, Ser. No. 422,344
5 Claims. (Cl. 179—90)



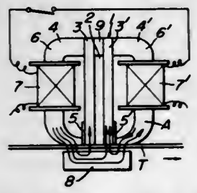
1. A circuit for producing, in response to a train of pulse signals wherein the interval between successive ones of the pulse signals may vary, a similar train of digital signals wherein the interval between successive ones of the digital signals is substantially fixed, comprising:

(a) digital signal forming means, including a first and a second flip-flop and an electronic gate, for producing a train of digital signals wherein the interval between successive ones of the digital signals is substantially fixed;

(b) means, including a control flip-flop set by each pulse in the train of pulse signals and reset by the complementary output of the first flip-flop, for enabling the digital signal forming means for a period of time, less than the interval between successive ones of the digital signals; and,

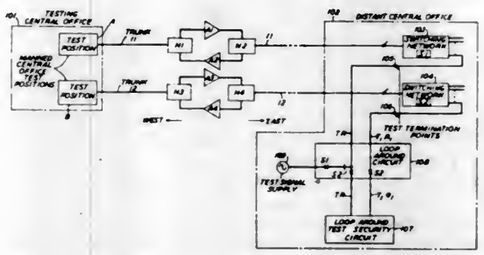
(c) means, for connecting the digital signal produced by the digital signal forming means to a utilization device.

3,371,164
COMBINED MAGNETIC TRANSDUCING AND ERASE HEAD
Susumu Makimura, Yokohama, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Nov. 5, 1963, Ser. No. 321,522
Claims priority, application Japan, Nov. 10, 1962, 37/50,595
6 Claims. (Cl. 179—100.2)



A magnetic head assembly capable of performing the functions of sound recording, reproducing and erasing, which comprises a central yoke member constituted of a plate of nonmagnetic material interposed between plates of magnetic material and U-shaped cores arranged in abutment against both sides of said central yoke member and having a sound recording and reproducing coil and an erasing coil wound thereon respectively, whereby a sound recording and reproducing magnetic circuit and an erasing magnetic circuit are formed independently of each other.

3,371,165
TELEPHONE CENTRAL OFFICE LOOP-AROUND TEST SECURITY CIRCUIT
Harold W. Earle, New Shrewsbury, and Verne E. Munson, Manasquan, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 15, 1965, Ser. No. 448,401
10 Claims. (Cl. 179—175.3)



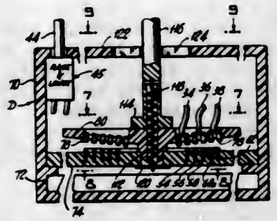
1. Apparatus for testing two-way line transmission loss comprising, in combination,

first and second transmission paths,

means responsive to a tone signal on one of said paths for connecting said paths,

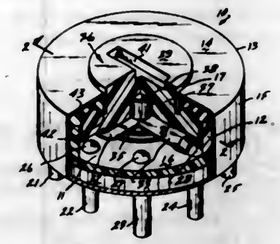
and means responsive to speech signals on one of said paths for inserting a relatively high impedance between said paths.

3,371,166
SWITCH CONTROL APPARATUS WITH TILTABLE ACTUATOR AND CONTACT STRUCTURE
Robert A. Wolfe, 455 Elizabeth Ave., Newark, N.J. 07112
Original application Apr. 17, 1964, Ser. No. 360,711, now Patent No. 3,292,304, dated Dec. 20, 1966. Divided and this application Oct. 3, 1966, Ser. No. 596,034
11 Claims. (Cl. 200—6)



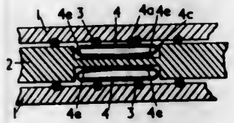
A switch assembly comprising stationary arcuate electrical contacts arranged in a plane along concentric circles, and an actuator having a conical surface with elongated circumferentially spaced contact bars thereon and tiltable in planes perpendicular to the plane of the circles. When the actuator is tilted at least one of the contact bars will interconnect two stationary contacts to establish a preselected electric circuit.

3,371,167
MINIATURE ROTARY SWITCH WITH CONTOURED CONTACTS
George Soulakis, Jr., Pasadena, Calif., assignor to Spectrol Electronics Corporation, City of Industry, Calif., a corporation of Delaware
Filed Dec. 13, 1965, Ser. No. 513,203
4 Claims. (Cl. 200—11)



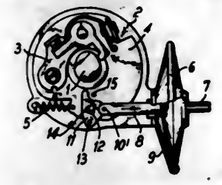
Disclosed is a miniature rotary switch having a plurality of discrete positions contactable by a movable contact member connected to a rotor or drive mechanism. The discrete positions are each constituted by a conduit surface extending upwardly into a cavity defined by the housing of the switch and the movable contact is defined by an arm having a contact surface which mates with the conduit surface of the stationary contacts and also includes a pair of cam surfaces extending from the contact surface but which are adapted to engage the conduit surface of the stationary contacts as the contact arm is moved, thereby to wipe against the clean conduit surfaces of the stationary contact elements. The switch is sealed from the atmosphere by a rubberlike resiliently deformable washer member internally of a portion of the housing which mates against and seals with the rotor and the base of the housing.

3,371,168
ELECTRICAL PUSH BUTTON SWITCH WITH IMPROVED SLIDER CONTACT
Ernest Milner, Cynroed, Cardiff, Wales, assignor to A. B. Metal Products Limited, Glamorgan, Wales, a British company
Filed Feb. 28, 1967, Ser. No. 619,439
Claims priority, application Great Britain, Jan. 10, 1967, 1,391/67
7 Claims. (Cl. 200—16)



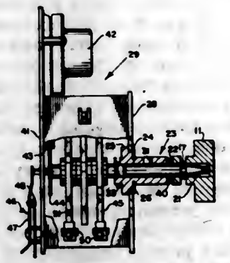
A push-button switch of the type including a housing for spaced fixed contacts and a slider carrying moving contacts arranged to bridge selected pairs of fixed contacts. The moving contacts are arranged in recesses in the slider and having a long arm for bridging the fixed contacts and one or two short arms connected to the long arm and resting by this free end on the inner surface of the recess, so as to support the long arm for rocking movement during changeover.

3,371,169
IGNITION DISTRIBUTOR FOR INTERNAL COMBUSTION ENGINES OF THE TYPE IN WHICH SPARK ADVANCE IS DEPENDENT
Hiromu Shiga and Akio Kakiuchi, Nagoya shi, Japan, assignors to Nippon Denso Company Ltd., Kariya shi, Japan
Filed Aug. 4, 1966, Ser. No. 570,188
Claims priority, application Japan, Aug. 17, 1965, 40/67,527
8 Claims. (Cl. 200—19)



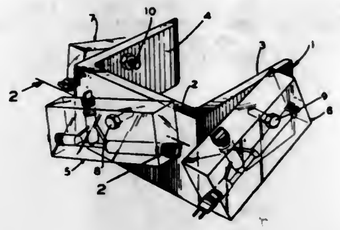
An ignition distributor for an internal combustion engine of the type in which spark advance is dependent upon the operating vacuum of the engine, and in which pressure responsive means producing a force depending on the aforementioned operating vacuum are connected to the turntable interrupter plate of the distributor to adjust the angular position of the latter, and in which the point of application of the force is shifted from a radially outer to a radially inner point on the plate during increase of the operating vacuum to obtain thereby an improved ignition point adjustment characteristic.

3,371,170
MANUAL DRIVE MEANS FOR A TIMER SHAFT
Allan T. Thomas and Boudewyn F. Gevaert, Downsview, Ontario, Canada, assignors to Johnson, Matthey and Mallory, Ltd., Toronto, Ontario, Canada, a corporation of Canada
Filed Nov. 1, 1965, Ser. No. 505,906
10 Claims. (Cl. 200—38)



A manual drive means for a timer shaft including an axially depressible control knob, a rotatably displaceable hub means and a means for coupling the hub means to the timer shaft. The hub means is carried by the housing and is restrained against axial displacement by the housing. The control knob and the hub means include a plurality of extending means which engage upon depression of the control knob to form a clutch means. The depressed knob means is locked with the hub means when displaced in one direction and is free-wheeling of the hub means when displaced in another direction. Means coupling the hub means to the shaft so that rotational displacement of the axially depressed knob means in the one direction is transferred through the clutch to the shaft so as to rotationally displace the shaft.

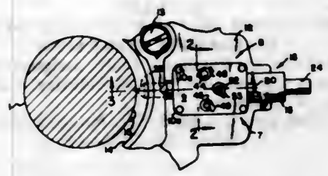
3,371,171
IGNITION CUT-OFF DEVICE
Charles Q. Gregory, 10428 Driver, Overland, Mo. 63114
Filed Mar. 2, 1967, Ser. No. 620,157
17 Claims. (Cl. 200—61.45)



The present invention covers, in part, a tilt responsive switch for sensing orientation of an element such as a tractor and terminates a continuous signal when the orientation has exceeded a predetermined limit so that such signal termination causes the ignition of said tractor to be cut off. This switch comprises a housing adapted for rigid mounting on said element and being movable therewith. Such housing has a first and second chamber, a fluid duct connecting said chambers, a pair of electric terminals extending into said housing and an electrically conductive fluid such as mercury in said housing and being freely movable between said chambers. The electric terminals are located in said housing so that both of said terminals contact said fluid when said housing is orientated in a first position, thus providing a continuous signal caused by the electrical connection between said terminals (the opposite ends of which are connected to an outside power source), and at least one of said terminals remains out of contact with said fluid when said housing is orientated to a second position so that said signal terminates when said terminals are electrically disconnected from each other by the removal of said fluid from contact with both of said terminals when said element is orientated to a position which exceeds said predetermined limit. In other parts of the present invention, said housing includes either four or six chambers, some of which have a plurality of fluid ducts and a plurality of gas ducts therebetween. In the four chamber-containing housing, there is only one pair of electric terminals, whereas in the six chamber-containing housing there are three pairs of electric terminals so that upon various orientations of either of said housings the movement of said element beyond a predetermined limit results in only one of said terminals (i.e., of a pair of terminals) being in contact with mercury and thus cuts off the ignition system of an element such as a tractor. Another part of the present invention covers a U shaped member having affixed thereto three separate tilt responsive switches which provide ignition cutoff when a vehicle orientates beyond a predetermined limit, for example, moves in an upward arcuate manner either from the front to the rear or from one side to the other side.

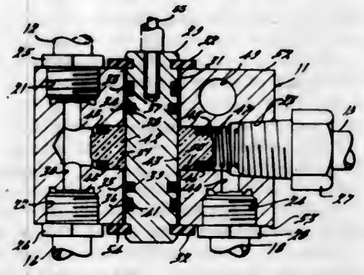
3,371,172
HAZARD WARNING SWITCH WITH SELF-CATCHING CONSTRUCTION
Gerald McClure, Warren, Mich., assignor to Boyne Products, Inc., Boyne City, Mich., a corporation of Michigan
Filed June 29, 1966, Ser. No. 561,620
13 Claims. (Cl. 200—61.54)

A self-latching switch having a casing provided with fixed contacts engageable by resilient contacts carried by a reciprocable operator that is biased by a spring to one position. The engagement between the resilient and fixed contacts when the operator is in a second position disables the spring and latches the operator in its second position. The operator includes a part on which force



may be applied to augment the force of the spring and initiate return movement of the operator to its first position.

3,371,173
PRESSURE FAILURE INDICATING DEVICE FOR BRAKE SYSTEMS
William Stelzer, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed July 28, 1966, Ser. No. 568,655
7 Claims. (Cl. 200—82)



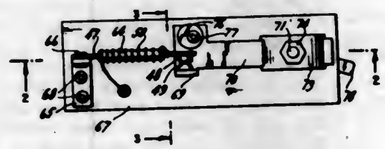
The device of the present invention completes a circuit to a signal when the differential in pressure between the fluid in the front and rear brake system reaches a predetermined amount. The driver of the vehicle will be notified of the pressure failure in one of the systems by the signal.

3,371,174
ELECTRO-THERMAL TIME-DELAY SWITCH HAVING A HEATING ELEMENT AND A HEAT-RESPONSIVE SWITCH-OPERATING MEMBER
Edgar E. Marquis, Rte. 1, Flat Swamp Road, Newtown, Conn. 06470
Filed Oct. 1, 1965, Ser. No. 492,056
7 Claims. (Cl. 200—122)



1. A thermal delay switch assembly comprising an upstanding elongated one-piece channel-shaped metal support, the web of said support being formed with an inwardly-pressed resilient tongue element extending from the top end portion of the web of the support toward the bottom end portion of said web, with an integral arcuate transversely inwardly-offset corrugation at the connection of the top end of the tongue element to the top end portion of the web, the tongue element being substantially housed at all times between the flanges of the support, a strip of the same metal as said support connecting the top end portion of the support to the bottom end portion of the tongue element and being sufficiently short so that said tongue element is arcuately-bowed when the strip is in a cool state, whereby in said cool state the tongue element is in compression and the strip is in tension, an electric heating element mounted on said strip in thermal contact therewith, whereby when the heating element is energized the heat therefrom causes the strip to expand and move the connected end portions of the strip and tongue element toward the web of the support, abutment means on said connected end portions, and switch means mounted adjacent said tongue element and being provided with switch-actuating means operatively-engageable by said abutment means responsive to the movement of said abutment means.

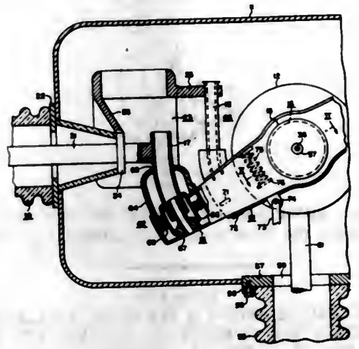
3,371,175
SELF-ADJUSTING THERMALLY-RESPONSIVE ELECTRIC SWITCH
Fedor Benedik, 19 E. 76th St., New York, N.Y. 10021
Original application Oct. 9, 1961, Ser. No. 143,641, now Patent No. 3,274,441, dated Sept. 20, 1966. Divided and this application Dec. 23, 1965, Ser. No. 516,846
1 Claim. (Cl. 200—139)



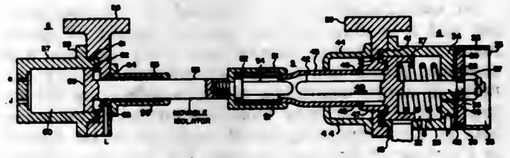
An electrical switch in which a stationary contact is mounted on a support and a movable contact is carried by a bimetallic element also mounted on the support and associated with a heater element providing successively a heating period in which the bimetallic element flexes to separate the contacts and a cooling period in which the bimetallic element moves the movable contact into engagement with the fixed contact. One of the contact mounts is a pivotal mount and a stop element is positioned to be engaged by the heat responsive element when the latter is heated, to cause such adjustment of the pivotal mount as to maintain a preselected constant cooling period for the heat responsive element regardless of the degree to which it is heated.

3,371,176
HIGH-VOLTAGE CIRCUIT INTERRUPTER WITH A PAIR OF FLUID-CONDUCTING PIVOTALLY-MOUNTED CONTACT ARMS
Winthrop M. Leeds, Forest Hills, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 26, 1965, Ser. No. 435,560
10 Claims. (Cl. 200—148)

A high-voltage compressed-gas circuit interrupter has two pivotally-mounted fluid-conducting contact arms supported on a bearing portion of the high-pressure reservoir. Spaced pairs of stationary contacts, with resistance means connected therebetween, are electrically bridged by the contact arms in the closed-circuit position, and the arrangement is such that the two resistance sections are inserted electrically into the circuit during the opening operation. The arms may be rigidly connected together or may have a spring-biased lost-motion mechanical connection therebetween.



3,371,177
GAS-BLAST CIRCUIT BREAKER WITH SEPARABLE MOVABLE AND ISOLATING CONTACTS
William A. Fish, Jr., Wilkins Township, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 3, 1965, Ser. No. 436,774
8 Claims. (Cl. 200—148)



A compressed-gas circuit interrupter has a movable contact cooperable with a movable isolating contact disposed within a pressurized tank. An exhaust blast tube extends from the contact structure externally of the tank. During the opening operation, the arrangement is such that the movable contact first separates from the movable isolating contact and subsequently the movable isolating contact moves to an isolating position. The movable contact then returns to its closed position in the fully open-circuit position of the interrupter.

3,371,178
LINKAGE MECHANISM FOR CIRCUIT BREAKERS
Marcel Lallemand, Argenteuil, France, assignor to Societe Anonyme dite: Constantale & Garnier, Paris, France, a French company
Filed Mar. 22, 1966, Ser. No. 536,388
8 Claims. (Cl. 200—153)

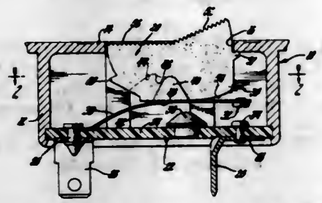
A mechanism for a circuit breaker which is of small dimensions, especially in thickness, which gives complete protection against overloads and short-circuits. One of two pivotally connected links is itself pivoted at a fixed point, the other link having a pin slidably engaged in a pivotally mounted slide, the pin being connected to a third link which has a second pin slidably mounted in a fixed slide having an elbow and an operating member

is adapted to move the second pin in the second slide into the elbow portion to lock the mechanism so that a



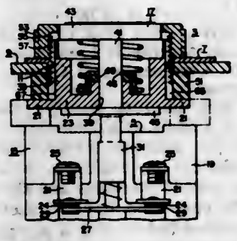
movable contact connected with the first and second links bridges the fixed contacts to close the circuit.

3,371,179
ELECTRICAL SWITCH HAVING A FLOATING ACTUATOR WHICH IS DETENTED INTO VARIOUS CIRCUIT CONTROLLING POSITIONS BY A LEAF SPRING CONTACT
Thomas E. Lohr, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 22, 1966, Ser. No. 596,304
6 Claims. (Cl. 200—153)



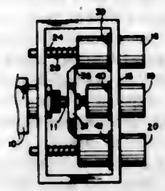
An electrical switch is constructed of a housing member and a floating actuating member devoid of attachment to the housing member and being movable with combined pivotal and bodily movement therein to a plurality of circuit controlling positions defined by the engagement of a cam nose projection on one of the members in a corresponding detent recess or pocket formed in a surface of the other member. The actuating member is detented in each of the various circuit controlling positions by the bias of resilient contact means which are moved between predetermined circuit controlling positions by the actuating member.

3,371,180
MEANS FOR FIXEDLY POSITIONING A SWITCH ON A PANEL
Stanley L. Frank, Beaver, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 24, 1966, Ser. No. 560,215
9 Claims. (Cl. 200—168)



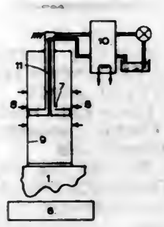
An improved plate is provided for fixedly positioning a switch on a panel. An improved combination comprises a nameplate that cooperates with a switch structure and panel to prevent rotation of the switch structure on the panel.

3,371,181
PUSH BUTTON DEVICE FOR A TOGGLE SWITCH
Max van Mastrigt, Beverly Hills, Calif., assignor to W. C. Dillon & Company, Inc., a corporation of California
Filed Dec. 30, 1966, Ser. No. 606,074
6 Claims. (Cl. 200—172)



This disclosure relates to a push button device for operating a toggle switch so that conventional type toggle switches may readily be converted by the device to push button operation. Essentially, the device comprises a frame for mounting the toggle switch with the operating lever of the toggle switch extending into the frame. Also mounted on the frame are three aligned push buttons biased to outer positions but movable to inward positions along parallel axes. The position of the operating lever of the toggle switch is at the same level as the axis of movement for the center push button and when the operating lever of the toggle switch is in a neutral position, it is parallel to this axis. An actuating plate is secured to the operating lever of the toggle switch and lies in a plane generally normal to the axes of movement of the various push buttons. The arrangement is such that portions of this plate are juxtaposed the outer push buttons such that pushing of either one of these outer push buttons will cant the plate and thereby move the operating lever of the toggle switch to one position or the other. The center push button in turn is arranged to engage another portion of the plate to return the plate to its original position and thus restore the operating lever of the toggle switch to its center or off position.

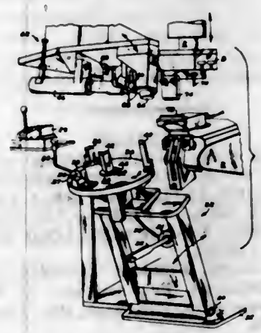
3,371,182
ELECTRO-EROSION APPARATUS
Gordon V. Smith, Higham, England, assignor to Sparcatron Limited, Stafford, England, a British company
Filed Sept. 30, 1963, Ser. No. 312,748
Claims priority, application Great Britain, Oct. 2, 1962, 37,333/62
4 Claims. (Cl. 219—69)



Electro-erosion apparatus in which a hydraulic electrode spacing system employs a fixed piston having an

upwardly extending rod with fluid ducts in it, and a movable cylinder supported on and guided by the piston's large outside bearing area for improved mechanical precision and guidance, the cylinder supporting the movable electrode, and the position of the cylinder and attached electrode with respect to the fixed electrode (workpiece) being maintained by a fluid controlling valve operated by a solenoid connected across the spark gap so that its current is proportional to the gap voltage. The system further includes a modulator means for causing the cylinder to cyclically vibrate axially through a small amplitude to help keep the spark gap clear, and the system also having means for providing reduced power across the gap and solenoid winding of the valve during setting-up of the apparatus, the power being inadequate to erode the workpiece but strong enough to cause the movable electrode to continually approach it.

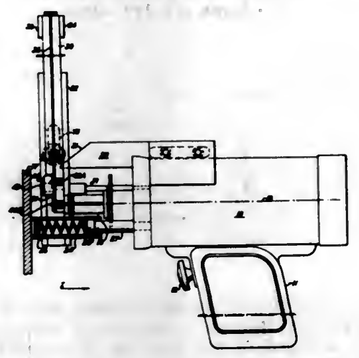
3,371,183
APPARATUS FOR FABRICATING WELDED WHEEL ASSEMBLY
Martin Mayrath, Dallas, Tex., and Wayne E. Sinclair, Compton, Ill., assignors to Mayrath Company, a corporation of Illinois
Original application Oct. 14, 1960, Ser. No. 62,758. Divided and this application July 18, 1966, Ser. No. 590,121
3 Claims. (Cl. 219—78)



Apparatus and process for fabricating metal wheels of superior flatness and concentrically from a pre-formed doubly-flanged but welded rim, a tubular hub element, and a pair of three-armed spiders, whose tips are stagger welded to the respective flanges, and at their centers are welded to the ends of the hub. The apparatus includes a swinging and rotatable table having fixtures for supporting the rim and the hub in concentric relation, and a spider press for pressing one spider against the rim and hub and holding these parts under pressure while electrodes secured to the press perform spot-welding operations at the hub and at least one spider tip simultaneously. The opposite spider is similarly welded but in angularly offset relation to the first spider when the assembly has been inverted on the table. The rotating table permits the other spider tips on each flange to be welded in succession, with a single welding electrode unit.

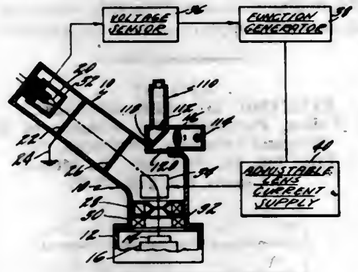
3,371,184
CARTRIDGE TYPE MAGAZINE FEEDER FOR WELD STUDS
Francis S. Napoli, Troy, Mich., assignor to Lattner Bros. Machining Co., Ferndale, Mich., a partnership
Filed Oct. 14, 1963, Ser. No. 316,071
2 Claims. (Cl. 219—98)

A stud welding gun having a cartridge of studs attached on the front of the gun whereby the studs are automatically fed to the collet of the gun as the gun is actuated by



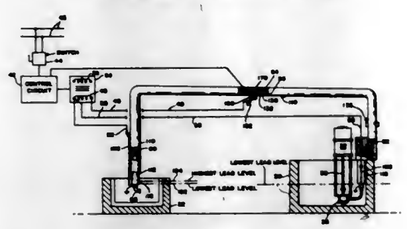
moving same against the panel to which the studs are welded.

3,371,185
ELECTRON BEAM MAINTENANCE DEVICE
Harry B. Anderson, Wapping, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 5, 1964, Ser. No. 401,501
20 Claims. (Cl. 219—121)



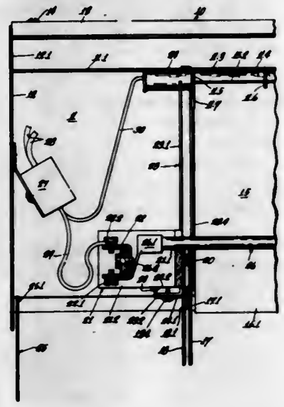
1. Apparatus for working materials with a beam of charged particles comprising:
a source of charged particles,
means for accelerating the particles provided by said source through a potential,
means for collimating the accelerated particles into a beam,
means for producing a magnetic field in the path of said beam whereby said beam is caused to be bent through an angle,
means supporting a workpiece in a plane perpendicular to the normal axis of the bent beam,
means electrically connected to said accelerating means for sensing the particle acceleration potential and for generating a signal commensurate therewith,
means responsive to said signal commensurate with acceleration potential for generating a control signal which is a function thereof, and
means responsive to said control signal for varying the strength of the beam bending field produced by said magnetic field producing means in such a manner that the point of impingement on the work will remain constant with changes in particle acceleration potential.

3,371,186
TYPE METAL TRANSPORTATION SYSTEMS
William J. Trablicy, 280 Prospect Ave., Hackensack, N.J. 07604
Filed May 1, 1967, Ser. No. 635,023
7 Claims. (Cl. 219—300)



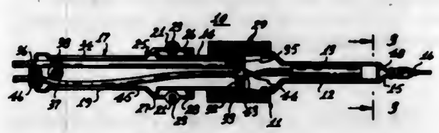
In the transportation system disclosed herein, molten metal is pumped through an electrically heated pipeline which is arranged in the form of an inverted U between a source of the molten metal and a receptacle. Both the inlet and outlet ends of the pipeline are continuously immersed in the molten metal to maintain liquid columns in the vertical sections of the piperline when the delivery pump is shut down. The pipeline is heated substantially throughout its entire length to keep the columns of metal in the vertical pipe sections molten during shutdown. The pipeline insulation is provided with expansion joints having relatively slidable sections which prevent exposure of the pipeline when it expands upon heating. A terminal or tap, which is connected to the midpoint of the pipeline for transmitting electrical current to heat the pipeline, is tubular, and a temperature sensing element for controlling the current flow extends across the midpoint to simultaneously sense the pipeline temperatures on the opposite sides of the terminal.

3,371,187
ELECTRIC HEATER ASSEMBLY
John F. Volker, Pittsburgh, Pa., assignor to Edwin L. Wiegand Company, Pittsburgh, Pa.
Filed Jan. 28, 1964, Ser. No. 340,642
7 Claims. (Cl. 219—347)



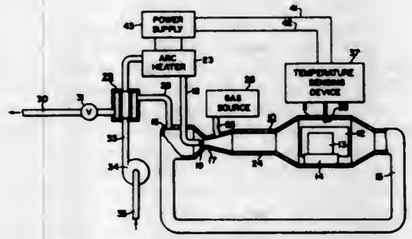
A radiant heater assembly wherein opposite ends of the heating elements are mechanically and electrically connected to terminal blocks which are respectively connected to walls which are slidably mounted in guides carried by the heater housing, so that the heating element and terminal blocks may be slid between an operative position wherein the heating element is disposed adjacent to the bight of a U-shaped reflector, to an access position wherein the heating element and terminal blocks are disposed adjacent to the open side of the reflector.

3,371,188
ELECTRICALLY HEATED TORCH FOR ELEVATING THE TEMPERATURE AND DIRECTING THE FLOW OF A GAS
Richard W. Henes, Phoenix, and Frithiof Nielsen, Tempe, Ariz., assignors to Henes Manufacturing Company, Inc., Phoenix, Ariz.
Filed Aug. 25, 1965, Ser. No. 482,581
4 Claims. (Cl. 219—373)



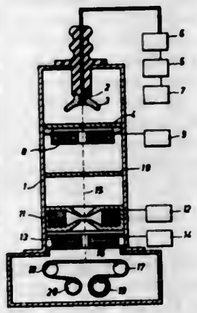
A hand held torch for elevating the temperature of and directing a concentrated stream of hot gas for heating, drying, melting, shrinking and soldering applications requiring temperatures up to 1000° F. The torch has a tubular casing having a detachable gas-jet-velocity-increasing nozzle at one end thereof. A handle is attached to the other end of the casing. A readily removable electric heater is supported within the casing near the nozzle. Heat-dissipating means are provided on the casing adjacent to the handle to keep the external temperature of the torch low enough for comfortable operator handing.

3,371,189
APPARATUS FOR ESTABLISHING AND MAINTAINING AN ATMOSPHERE CONTROLLED AS TO PRESSURE, TEMPERATURE, GAS CONTENT AND RATE OF GAS FLOW, AND CLOSED AND SEMI-CLOSED ARC HEATER LOOP APPARATUS FOR USE THEREIN
George A. Kemeny, Franklin Township, and Peter F. Kienast, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 20, 1964, Ser. No. 390,898
8 Claims. (Cl. 219—383)



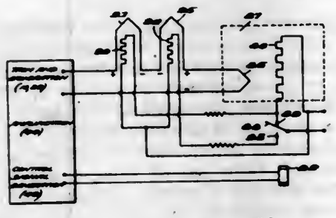
Loop apparatus for providing a controlled atmosphere controlled as to pressure, temperature, gas content and rate of gas flow, especially suitable for metal working in gases at high temperatures, includes an arc heater having an energizing circuit and having compressed gas at a predetermined pressure and rate of flow supplied thereto to be heated to a desired temperature, and a furnace operatively connected to the arc heater for utilizing the gas for metal working, and including means forming a closed loop for recycling gas through the furnace. Additionally, means is provided for removing a predetermined minor portion of gas from the closed loop at a predetermined pressure and rate of flow to maintain the pressure and rate of gas flow in the furnace substantially constant. Some embodiments employ a preheater, heated by the removed gas, to preheat gas supplied to the arc heater; others employ in addition to a preheater a dust separator circuit for cleaning removed gas, and after it is used in the preheater, feeding it back into the arc heater to thereby reduce the total quantity of gas required for operation of the furnace.

3,371,190
APPARATUS AND METHOD FOR PERFORATING SHEET PLASTIC BY MEANS OF AN ELECTRON BEAM
Edgar Meyer, 2 Karolingerstrasse, 8031 Gilching, Germany
Filed July 26, 1965, Ser. No. 474,672
Claims priority, application Germany, July 24, 1964, St. 22,452
5 Claims. (Cl. 219—384)
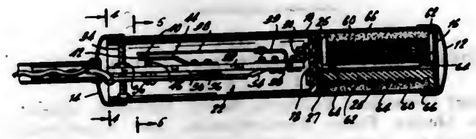


Prior to perforating a plastic with a beam of charged particles, the area of the plastic at which the perforation is to be made is subjected to an application of charged particles having a power density insufficient to perforate the plastic. This stiffens the plastic so that it resists being deformed by the action of the perforating beam subsequently applied.

3,371,191
ELECTRIC HEATER CONTROL CIRCUIT
John Seymour Seney, Seaford, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 838,985, Sept. 9, 1959. This application Sept. 12, 1966, Ser. No. 578,680
3 Claims. (Cl. 219—511)



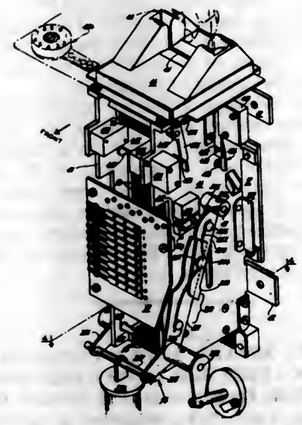
A temperature control system, which includes an electric heater, a primary temperature sensor, and a switch in the heater circuit coupled to the sensor, is stabilized by a pair of feedback sensors in a circuit with the primary sensor and a pair of heater elements, one for each feedback sensor. Each heater element is selectively energized by means of the primary heater switch and thereby includes a feedback increment in the primary sensed signal.

3,371,192
ELECTRIC AQUARIUM HEATER
Arthur L. Rosenel, 11 5th Ave., New York, N.Y. 10003
Filed Oct. 22, 1965, Ser. No. 500,790
1 Claim. (Cl. 219—523)



An aquarium heater comprising a stainless steel casing divided into a pair of hermetically sealed upper and lower chambers by an electrical insulating member. An electric heating coil supported on a porcelain core and surrounded by a filling of magnesia is retained in the lower chamber. The upper chamber houses an adjustable thermostatic heating coil control means supported on the insulating member.

3,371,193
AUTOMATIC CARD READING SYSTEM
Andrew Craig Reynolds, Jr., Fort Wayne, Ind., and Oliver H. Chalker, Jr., Litchfield, and Raymond R. Lupkas, Waterbury, Conn., assignors, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Continuation-in-part of application Ser. No. 863,227, Dec. 31, 1959. This application May 22, 1962, Ser. No. 196,672
20 Claims. (Cl. 235—61.11)



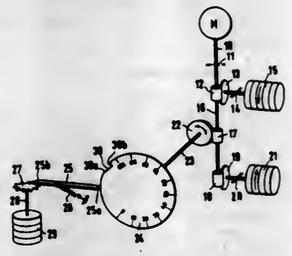
1. A card-reading mechanism, comprising in combination, means defining a slot communicating with a chamber for receiving and guiding a card to be read, a plurality of sensing fingers having tips at one end for engagement with indicia on said card, guide means for supporting said sensing fingers for movement parallel to the path of travel of said card in said chamber, the movement of said sensing fingers being in response to the movement of said card in said chamber, said sensing fingers further being pivotally supported at a distance from said tips, means urging said tips toward said chamber, and releasable latching means for supporting said fingers with said

tips disposed adjacent said chamber and near the entrance to said chamber, at least one control finger having a contact member positioned in said chamber near said slot for engagement with the entering edge of said card, means supporting said control finger for movement parallel to the path of travel of said card in said chamber, and unlatching means controlled by movement of said control finger for releasing said sensing fingers from said latching means, whereby said tips of said sensing fingers pivot into contact with said card.

3,371,194
SUPERVISORY ARRANGEMENT FOR ELECTRIC ACCUMULATORS

Robert Östreicher, Teningen, Baden, Germany, assignor to Messrs. Frako Kondensatoren. und Apparatebau G.m.b.H., Teningen, Baden, Germany, a corporation of Germany

Filed Apr. 8, 1965, Ser. No. 446,554
Claims priority, application Germany, Apr. 8, 1964, F 42,558
4 Claims. (Cl. 235—92)



The disclosure is directed to a supervisory arrangement for electric accumulators, such as storage batteries, and which indicates the number of charging cycles, the total number of ampere hours discharged from the battery and the remaining battery capacity. The means for indicating the remaining or available battery capacity also indicates the number of times the battery has been discharged below 20 percent of its capacity.

The various counting means are operated by an ampere-hour meter driving motor having the battery current flowing therethrough during both discharge and charge. The supervisory arrangement of the disclosure is intended as part of an overall supervisory arrangement for electric accumulators, such as storage batteries, wherein the charging operation of a battery may be controlled in accordance with the number of discharge-charge cycles of the battery.

3,371,195
PARALLEL BINARY ADDER USING TRANSMISSION LINES FOR CARRY HANDLING

Murray H. Bolt, Poughkeepsie, and Howard H. Nick, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

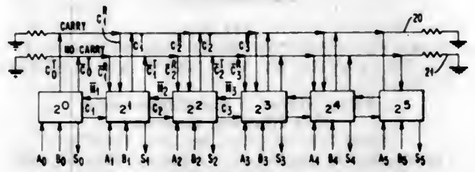
Filed Oct. 12, 1965, Ser. No. 495,289
8 Claims. (Cl. 235—175)

1. A binary adder comprising:

a plurality of logical function generators each receiving corresponding binary bits of two plural-bit binary operands to be added, each of said function generators including first, second and third outputs, the first being indicative of a transmitted carry (1, 1), the second of a transmitted no-carry (0, 0), and the third of a carry propagate (1, 0) designating the absence of either said first or second signal;

a first and a second transmission line;

carry transmitting means connected and responsive to a corresponding one of said function generators, with the exception of the highest order function generator, including first and second directional couplers for transmitting said first or second function signals toward higher order binary positions of the adder on said first and second transmission lines respectively;



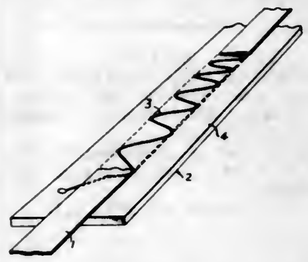
a plurality of received carry signalling means, including signal responsive means connected to said first and said second transmission lines for indicating that the first detected pulse on said first or said second transmission line was either a received carry signal or no-carry signal from a lower order position of the adder;

and a plurality of sum generating means, connected and responsive to outputs from a corresponding one of said function generators, and a corresponding one of said received carry signalling means for generating a plural-bit binary sum of the applied operands.

3,371,196
APPARATUS FOR THE CORRELATION OF TWO VARIABLES

William Edward Lerwill, Keston, and Nigel Allister Anstey, Chelsfield, England, assignors, by mesne assignments, to Seismograph Service Corporation, Tulsa, Okla., a corporation of Delaware

Continuation-in-part of application Ser. No. 190,912, Apr. 30, 1962. This application May 1, 1963, Ser. No. 277,211
20 Claims. (Cl. 235—181)

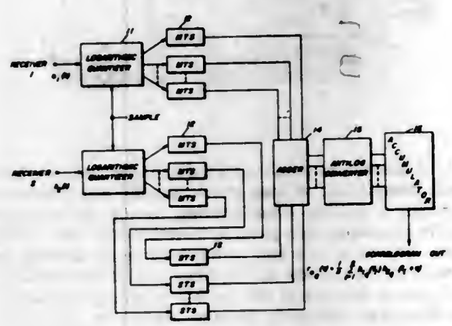


1. Apparatus for cross-correlating two variables one of which $r(t)$ includes a property which is represented by variations in an energy field as a function of distance and which is to be correlated with a property of the other variable $g(t)$, wherein the apparatus includes a detector comprising a plurality of detecting elements, means for relatively moving the detector and the energy field, said detecting elements being spaced along a line which is parallel to the direction of relative movement of the energy field with respect to the detector, the distances between the detecting elements and the outputs sensitivities thereof representing a predetermined function of the variable $g(t)$ such that each detecting elements produces an output which represents a product of its own output sensitivity and the magnitude of the said property of the variable $r(t)$, said detector including means for attenuating a predetermined harmonic of the fundamental frequency content of one of the variables, and means for adding the outputs of the detecting elements to produce an overall detector output which represents the running cross-correlation function of the two variables with said predetermined harmonic attenuated.

3,371,197
REAL TIME DIGITAL MULTIPLIER CORRELATOR USING LOGARITHMIC QUANTIZATION AND MULTIPLICATION

John C. Munson, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Jan. 31, 1964, Ser. No. 341,809
5 Claims. (Cl. 235—181)



A system for determining the time delay between signals derived from a common transient signal and arriving at separate receivers in the presence of independent background noise at the receivers. First and second signal channels are connected to receive the signals and have their output connected to logarithmic quantizers. The quantizers provide logarithmic bits of information corresponding to the sampled electrical signals. Deltic processing means are coupled to the outputs of the quantizers for delaying the signals before they are summed and fed to an antilog converter. An accumulator is connected to said converter for integrating the resultant antilog signal necessary to provide correlograms of the input signals.

3,371,198
SIGNAL SELECTION FOR CORRELATION

John P. Greening, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 4, 1964, Ser. No. 408,830
6 Claims. (Cl. 235—181)

5. Apparatus for measuring the correlation between signals comprising:

a plurality of first input terminals adapted to receive respective first input signals;

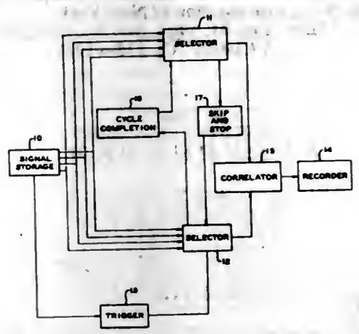
a plurality of second input terminals adapted to receive respective second input signals;

signal correlation means having first and second inputs;

first switching means to connect said first input terminals in sequence to said first input;

second switching means to connect said second input terminals in sequence to said second input; and

means to actuate said first and second switching means to connect said of said second input terminals in sequence to said second output terminal for preselected time intervals and to connect said first input terminals in sequence to said first output terminal during the first of said predetermined time intervals and to connect said plurality of first input terminals, less

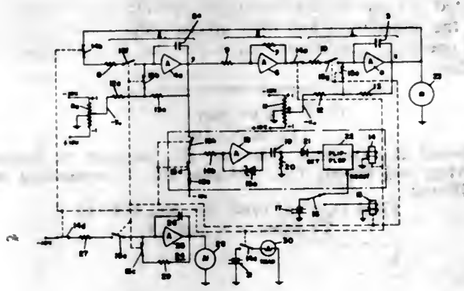


one for each succeeding time interval, to said first output terminal, while a sequential second input terminal is connected to said second output terminal.

3,371,199
POLAR COORDINATE CONVERTER

John W. Schwartzenberg, Maple Glen, and Duncan K. Foley, Ambler, Pa., assignors to Leeds & Northrup Company, a corporation of Pennsylvania

Filed Nov. 7, 1963, Ser. No. 322,141
4 Claims. (Cl. 235—189)



1. An inverse resolver for converting a pair of inputs representative of two rectangular coordinate components of a radius vector into an output signal representative of the magnitude of said radius vector comprising

means for producing two time varying output signals respectively representative of the varying rectangular components of a rotating vector signal of constant amplitude,

means for presetting said first-named means to initial conditions representative of positive or negative values of the two coordinate components of a radius vector of unknown magnitude,

means for energizing said first-named means for producing said time-varying output signals after presetting means has been preset,

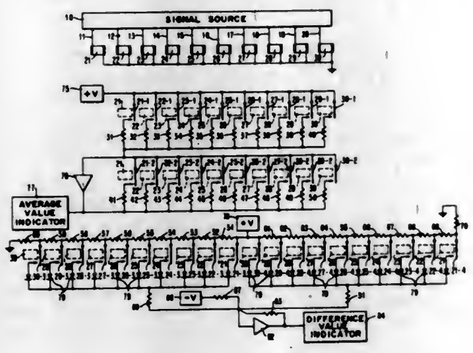
means responsive to one of said output signals for deenergizing said first-named means when said one of said output signals is zero and when the rate of change of said one of said outputs is less than zero, and

means responsive to the other of said output signals to provide a signal representative of the magnitude of the radius vector represented by said initial conditions.

3,371,200
AVERAGING AND DIFFERENCING SYSTEM

Howard L. Funk, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Aug. 31, 1964, Ser. No. 393,267
5 Claims. (Cl. 235—193)

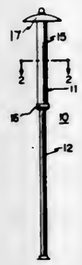


An averaging and differencing system wherein the average value of a group of separately valued signals is determined and where the absolute difference between the highest and lowest value signals is likewise determined. A plurality of signals actuate separate relay coils which close a plurality of sets of switches to form two associated voltage divider networks. Specific interconnection of the impedances and their precise value during any set of operating conditions determines the above-mentioned values.

3,371,201
LUMINAIRE

Edward H. Yonkers, Glencoe, Ill., assignor to Joslyn Mfg. and Supply Co., Chicago, Ill., a corporation of Illinois

Filed Dec. 16, 1964, Ser. No. 418,742
2 Claims. (Cl. 240—3)

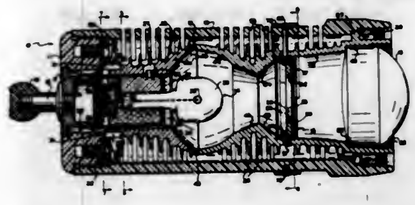


1. An outdoor lighting luminaire comprising a vertically positioned, elongated cylindrical refractor provided with refractive elements on at least one of its surfaces said refractive elements comprising horizontally extending prisms, the inner surface of said refractor having an upper surface inclined about 55° above the horizontal and a lower surface inclined about 10° below the horizontal directing the light downwardly at about 15° from the horizontal, at least one vertically positioned, tubular fluorescent lamp positioned within said refractor, and vertically extending elongated reflector means within said refractor and provided with geometric light reflecting surface means for controlling lateral light distribution from said lamp.

3,371,202
MEDICAL HEADLIGHT

William C. Moore, Skaneateles, and John D. Connors, Auburn, N.Y., assignors to Wech Allyn, Inc., Skaneateles Falls, N.Y., a corporation of New York

Filed July 21, 1966, Ser. No. 571,377
7 Claims. (Cl. 240—41.15)

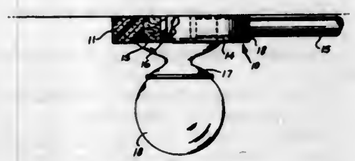


1. A medical headlight adapted to be secured on a headband, comprising: a base of electrically non-conductive material; a hollow inner housing having an elongated, axially extending light passage therethrough, said housing being secured at one end to the base; a condensing lens secured in the passage at the other end of the housing; a light source secured in the passage adjacent the base; an iris-diaphragm assembly secured across the passage between the source and the lens, the assembly having an aperture variable in size disposed coaxially within the passage; the inner housing have a plurality of internal annular reflective surfaces between the base and the diaphragm including a first elliptically curved surface around the source for reflecting light substantially axially forward of the source toward the lens, a second spherically curved surface forward of the source for reflecting light emanating non-axially forward from the source back on to the elliptical surface, and a third frusto-conical surface forward of the spherical surface for reflecting light emanating non-axially forward from the source toward the diaphragm aperture; a tubular outer housing around and spaced from the inner housing, the outer housing being secured at one end to the base and secured at its other end coaxially about the forward end of the inner housing; and means operable from outside the outer housing for manually controlling the size of the diaphragm aperture.

3,371,203
ROSETTE SPACER

John B. Cato, 206 Combs St., Milton, Fla. 32570

Filed Nov. 29, 1965, Ser. No. 510,262
4 Claims. (Cl. 240—78)

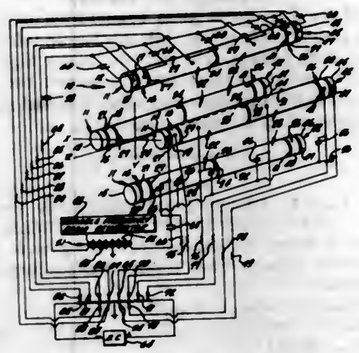


A ring-shaped device placeable against a ceiling for decoratively enclosing the sides of a junction box and a non-flammable filler around the junction box, the device supporting a depending lamp holder having a lamp, and having radial openings to receive conduit wires to the box and lamp.

3,371,204
MASS FILTER WITH ONE OR MORE ROD ELECTRODES SEPARATED INTO A PLURALITY OF INSULATED SEGMENTS

Wilson M. Brubaker, Arcadia, Calif., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Continuation-in-part of application Ser. No. 492,985, Sept. 28, 1965. This application Sept. 7, 1966, Ser. No. 593,231
12 Claims. (Cl. 250—41.9)

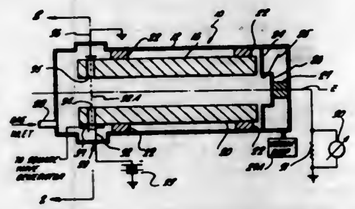


A non-magnetic mass filter utilizing one or more rod electrodes to create a mass analyzing electric field in the vicinity of the electrode. The rod electrode or electrodes are broken into two or more insulated segments with the voltages applied to the rod segment nearest the entrance end and/or the exit end of the filter having a magnitude less than the voltage applied to the segments located interiorly of the exit and entrance ends of the filter.

3,371,205
MULTIPOLE MASS FILTER WITH A PULSED IONIZING ELECTRON BEAM

Clifford E. Berry, deceased, late of Altadena, Calif., by Jean R. Berry, executrix, Altadena, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California

Filed Nov. 17, 1964, Ser. No. 412,296
4 Claims. (Cl. 250—41.9)

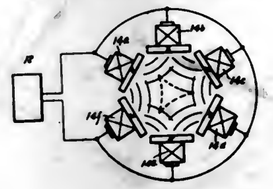


A non-magnetic multipole mass filter wherein ions to be analyzed are formed within the analyzing fields of the filter eliminating the problem of passing ions into the filter through fringing electric fields existing at the entrance end of the filter.

3,371,206
ELECTRON BEAM APPARATUS HAVING COMPENSATING MEANS FOR TRIANGULAR BEAM DISTORTION

Tadao Takizawa, Akishima-shi, Tokyo, Japan, assignor to Nihon Denshi Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed Feb. 2, 1965, Ser. No. 429,803
Claims priority, application Japan, Feb. 4, 1964, 39/5,521
4 Claims. (Cl. 250—49.5)

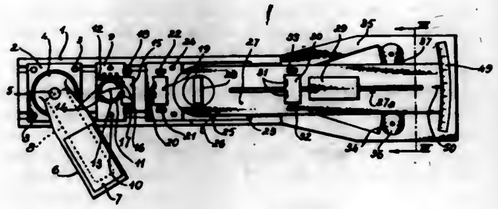


An apparatus for irradiating a workpiece with an electron beam having a beam source and means for focusing the beam and also having a magnetic deflection system and a compensator positioned between the deflection system and focusing means to compensate for triangular image distortion introduced by the deflection system.

3,371,207
APPARATUS FOR THE STUDY OF THE SMALL ANGLE SCATTERING OF X-RAYS USING AN ANGULARLY DISPLACEABLE DETECTOR

Henri Bottazzi, Sainte-Foy-les-Lyon, Rhone, Albert Renouprez, Decines, Dominique Weigel, Rennes, and Marcel Prettre, Villeurbanne, France, assignors to Centre National de La Recherche Scientifique, Paris, France, a French organization

Filed June 28, 1965, Ser. No. 467,466
4 Claims. (Cl. 250—51.5)



An X-ray goniometer for low angle scattering has a stand, an adjustable arm to support the X-ray source, and an angularly displaceable arm supporting an X-ray detector. This latter arm is frictionally driven by an endless metallic ribbon applied against a substantial portion of the periphery of a smooth cylindrical sector carried by this arm. This ribbon is supported by rollers driven through speed reducing gearing, and the drive shaft of the gearing actuates a counter.

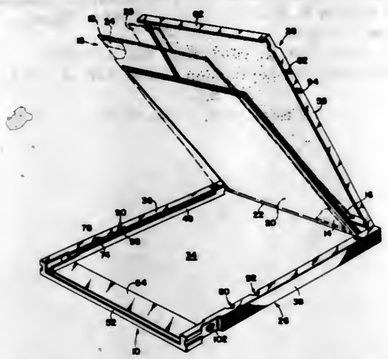
3,371,208
X-RAY FILM CASSETTE HAVING MEANS FOR REMOVING THE FILMS WHILE MAINTAINING A LIGHT-TIGHT CONDITION

Robert D. Brackett, Wakefield, and Herman E. Erikson, Winchester, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed July 12, 1965, Ser. No. 471,275
13 Claims. (Cl. 250—68)

The present application relates to a cassette for use in X-ray photography in conjunction with a film unit having a protective envelope which is adapted to be re-

moved preliminary to the exposure and to be replaced thereafter. The cassette includes, in addition to relatively pivotal base and cover elements and a pivotal intensifying screen, a freely rotatable roller positioned, adjacent



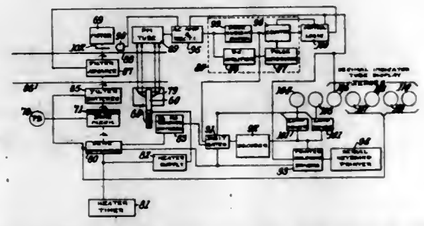
to an aperture for withdrawing the envelope for facilitating movement of the envelope and for providing an internal light barrier with respect to any ambient light entering the aperture.

3,371,209

AUTOMATIC READING APPARATUS FOR THERMOLUMINESCENT TYPE RADIATION DOSIMETERS

David F. Rutland, Santa Barbara, Roger E. Lagerquist, Goleta, and Ernest F. Blase, Santa Barbara, Calif., assignors, by mesne assignments, to the United States of America as represented by the National Aeronautics and Space Administration

Filed Sept. 11, 1964, Ser. No. 395,711
7 Claims. (Cl. 250—83)



Automatic reading apparatus for thermoluminescent type radiation dosimeters having electrically controlled mechanical apparatus for automatically inserting a dosimeter within the reader, positioning the dosimeter in reading position with respect to a mirror and photomultiplier tube and ejecting the dosimeter from the reading apparatus after a reading has been made; digital means for reading and recording on paper the serial number of the dosimeter as the dosimeter is being automatically inserted within the reading apparatus; automatic means for heating the heater element of the dosimeter for a predetermined length of time slightly greater than the time required for the dosimeter to exude its characteristic glow peak while being heated; a light chopper, photomultiplier tube and AC amplifier and rectifier arranged to detect the characteristic glow of the dosimeter, chop it into glow pulses that are seen by the photomultiplier tube, and to amplify and rectify the resulting AC output of the photomultiplier tube; digital means including a pulse generator, a digital counter and control logic for determining the peak amplitude of the glow signal and storing it digitally in the counter; means including additional digital circuitry for decoding the peak amplitude that is stored in the counter and for printing it in a serial keyboard printer and for displaying in a decimal indicator tube display; means for shifting ranges in the automatic reading apparatus when the counter storage is exceeded; and means for calibrating the reading apparatus with a thermoluminescent standard.

3,371,210

INORGANIC GLASS COMPOSITION

Maurice J. Brau, Richardson, and Hall E. Jarman, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 31, 1964, Ser. No. 422,800
2 Claims. (Cl. 250—83)

Disclosed is a novel glass compesition $Ge_3As_3Se_8Te_8$ which, among other things, will serve as an infrared transmitting glass cement. The material has a high index of refraction and is substantially transparent over a broad range of the infrared spectrum. Also disclosed is a method for compounding the glass composition.

3,371,211

Ge-S-Te GLASS COMPOSITIONS AND INFRARED DETECTION SYSTEM

Maurice J. Brau, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Continuation-in-part of application Ser. No. 425,887, Jan. 15, 1965. This application Apr. 22, 1965, Ser. No. 450,023
8 Claims. (Cl. 250—83)

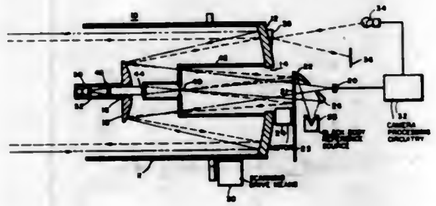
Disclosed are compositions of matter comprising germanium, sulfur and tellurium, many samples of which have been found to be glasses transmitting in the infrared region of the electromagnetic spectrum, and some of which have been found to be crystalline. Also disclosed are methods of compounding these compositions, and an illustration of the use of the glass compositions of this invention as transmitting elements within an infrared detection system.

3,371,212

LIGHT SPOT PROJECTION SYSTEM FOR INFRARED CAMERA

Morris Weiss, Stamford, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware

Filed Nov. 13, 1963, Ser. No. 323,426
4 Claims. (Cl. 250—83.3)



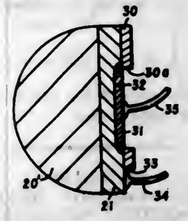
A light source and a collimating lens are mounted on and movable with a secondary mirror of an optical telescope of a radiometer. The primary mirror of the telescope has a reimaging lens and reticle mounted thereon in optical alignment with the light source and collimating lens. The arrangement provides automatically focusing a light spot projected from the radiometer as well as ready access to the light source.

3,371,213

EPITAXIALLY IMMERSED LENS AND PHOTODETECTORS AND METHODS OF MAKING SAME

Herbert D. Adams, Dallas, and Billie J. Cottongim, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed June 26, 1964, Ser. No. 378,160
10 Claims. (Cl. 250—211)



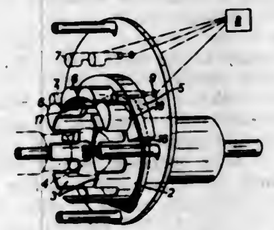
Disclosed is a photosensitive device in which the photosensitive device is immersed with a lens, so that the device is a monocrystalline extension of at least a part of the crystal of the lens structure, and the lens is used as the base support of the device.

3,371,214

READING HEAD WITH LIGHT SOURCE, ROTATING SHUTTER AND SWITCHED PHOTOCELLS

Walter Pascoe Berryman, Bedford, England, assignor to George Richards & Company Limited, Altrincham, England, a company of Great Britain

Filed Jan. 29, 1964, Ser. No. 340,901
Claims priority, application Great Britain, Jan. 30, 1963, 3,893/63
12 Claims. (Cl. 250—233)



1. An angular reading head comprising a source of radiation, a single shutter means positioned adjacent the source to be angularly movable for establishing a cyclically modulated pattern of the radiation whose phase changes with shutter position, a number of detectors of the radiation respectively sensitive to the radiation pattern at phase-displaced positions, and switching means for cyclically rendering the detectors sensitive and insensitive in turn.

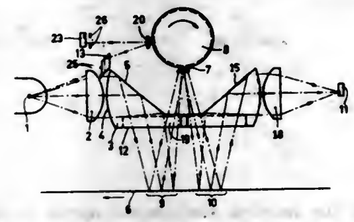
3,371,215

DEVICE FOR DEFINING THE DISPLACEMENT OF A MACHINE TOOL WITH THE AID OF A RASTER AND ROTATING OPTICAL ELEMENT

Scato Albarda, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 8, 1965, Ser. No. 494,067
Claims priority, application Netherlands, Oct. 13, 1964, 64—11,872
6 Claims. (Cl. 250—237)

1. An apparatus for determining the relative displacement of an object, with respect to a reference structure, comprising a raster secured to said object, said reference structure including a rotating reflecting polyhedron, means for directing an optical image of a first portion of said raster to said reflecting rotating polyhedron, means for directing the resultant image of said first raster portion from said rotating reflecting polyhedron to a second portion of said raster, and a photosensitive means responsive to the cyclical variation caused by the optical interference of the first raster portion image superimposed onto the second raster portion for indicating the relative displacement.

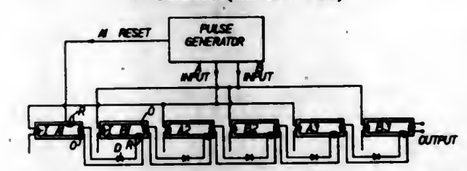


3,371,216

PROTECTIVE APPARATUS

James Sherlock, Cropston, England, assignor to Associated Electrical Industries Limited, London, England, a British company

Filed Jan. 2, 1964, Ser. No. 335,260
Claims priority, application Great Britain, Jan. 7, 1963, 706/63
2 Claims. (Cl. 307—88)



A cascaded system of laddics has the output winding of each laddic except the last connected to the resetting winding of the next laddic in sequence so that the laddics are reset sequentially, a separate resetting means being supplied for the first laddic. The input signals are applied in alternation to a first alternate laddic in the series of cascaded laddics and then to the intervening laddics, the arrangement being such that output signals of the correct polarity are produced at the last laddic only if all control signals are present.

3,371,217

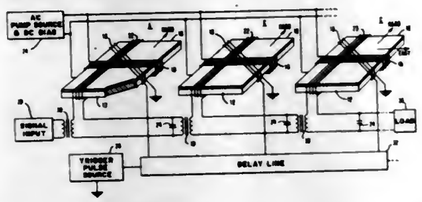
PARAMETRIC INFORMATION TRANSLATING SYSTEM

William E. Flannery, Norristown, and Thomas J. Matcovich, Maple Glen, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 5, 1964, Ser. No. 349,549
11 Claims. (Cl. 307—88)

1. In combination
a first, a second, and a third parametric device;
each of said devices adapted to be activated by a control signal of one polarity and deactivated by a control signal of an opposite polarity;
each of said devices adapted to oscillate in one phase or a second phase when activated;
a signal source for providing signals in said one phase or said second phase;
means coupling said signal source to said first device;
means coupling said first device to said second device;
means coupling said second device to said third device;

means coupling said third device to an output circuit;
a control source for providing alternately control signals of said one polarity and control signals of said opposite polarity; and



means for coupling said control signals to said first, second, and third parametric devices in a timed manner.

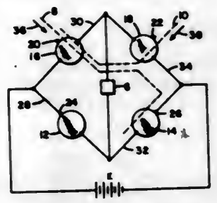
3,371,218
MAGNETIC SWITCHING DEVICES
Louis A. Russell, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 35,051, June 9, 1960. This application May 8, 1964, Ser. No. 366,690
17 Claims. (Cl. 307—88)



12. A magnetic switch comprising:
a first plurality of magnetic elements;
a first plurality of input windings each respectively coupling only a respective one of said elements;
means including said input windings for causing coincident flux changes in all said elements according to a selected pattern of flux changes;
a second plurality of output lines each coupling all said elements in accordance with a predetermined combinatorial code and being responsive to said flux changes in all said elements, whereby there is obtained an output voltage only on a selected one of said output lines in accordance with said selected pattern.

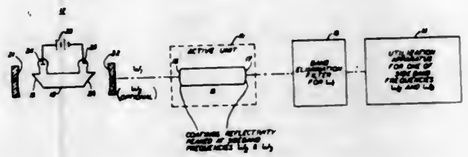
3,371,219
MAGNETORESISTIVE AND GATE
Charles H. Tolman, Bloomington, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 27, 1965, Ser. No. 516,250
4 Claims. (Cl. 307—88)

1. An AND gate comprising:
(a) a plurality of magnetic elements having magnetoresistive properties connected in the form of a balanced Wheatstone bridge,
(b) drive lines inductively coupled to said elements for changing the resistance of said elements when said lines are energized, said lines being selectively coupled to said elements such that said bridge is unbalanced only when all of said drive lines are energized, and



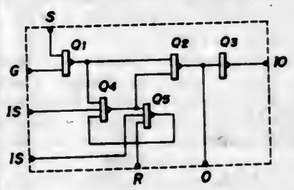
(c) bridge output means for providing a signal when said bridge is unbalanced.

3,371,220
OPTICAL PARAMETRIC DEVICE USING THIRD-ORDER NONLINEARITY
Paul A. Fleury V, Plainfield, Chandra K. N. Patel, Chatham, Richart E. Slusher, Millington, and Peter A. Wolff, Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York
Filed Oct. 25, 1966, Ser. No. 589,452
5 Claims. (Cl. 307—88.3)



Optical parametric devices, such as oscillators and mixers, can employ a third-order nonlinear interaction derived from the nonparabolicity of the conduction band in a suitable crystal having a nonparabolic conduction band. The strength of the effect is directly related to the concentration of mobile charge carriers. In one process employing the nonlinear interaction, the frequencies generated are the sideband frequencies, the sum of which is equal to twice the pumping frequency. Illustratively, a carbon dioxide laser operating at 10.6 microns is employed to pump an active unit including a crystal of n-type indium antimonide having an effective charge carrier concentration of 1×10^{17} carriers per cubic centimeter, which concentration provides a substantial plasma suitable for the nonlinear interaction.

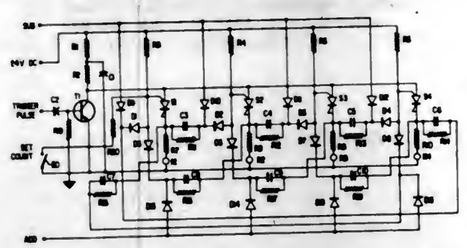
3,371,221
SHIFT REGISTER USING CASCADED NOR CIRCUITS WITH FORWARD FEED FROM PRECEDING TO SUCCEEDING STAGES
Giichi Onuma and Takaomi Kurokouchi, Tokyo, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Dec. 30, 1964, Ser. No. 422,387
2 Claims. (Cl. 307—221)



A shift register wherein conventional flip-flops are replaced by cascaded NOR circuits with forward feed from

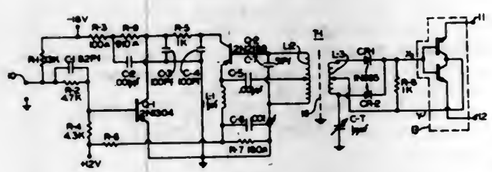
preceding to succeeding circuits and feedback from each succeeding to the preceding circuit.

3,371,222
BI-DIRECTIONAL RING COUNTER
Gerald F. Guettler, St. Petersburg, and Robert H. Roosen, Clearwater, Fla., assignors to General Electric Company, a corporation of New York
Filed May 25, 1965, Ser. No. 458,668
4 Claims. (Cl. 307—222)



A bi-directional ring counter comprises a plurality of silicon controlled switching stages. An input pulse causes an RC circuit to charge through a path which is determined by the selective energization of either an add or a subtract bus. The direction of the charging current effects the desired direction of counter operation.

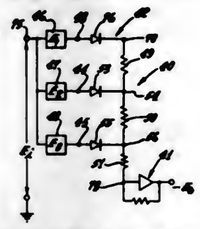
3,371,223
ELECTRONIC SWITCHING APPARATUS
Elmer G. Gilbert, Ann Arbor, Mich., assignor to Applied Dynamics, Inc., Ann Arbor, Mich., a corporation of Michigan
Filed June 11, 1964, Ser. No. 374,341
16 Claims. (Cl. 307—239)



Electronic switching circuits to provide a floating single-pole single-throw switch including means for rectifying the output of a floating transformer secondary to provide repeated pulses to a semi-conductor switch, with high frequency pulses being controllably applied to the transformer primary and the frequency selected so that successive rectified pulses are applied to the semi-conductor switch in less time than the recovery time of the semi-conductor switch and the switch remains continuously closed while the pulses are being applied, with the rectified pulses being unfiltered, so that the switch will open with minimum delay when the high frequency pulses are discontinued.

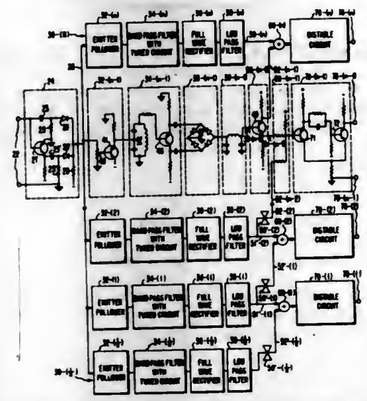
3,371,224
HIGH ACCURACY ELECTRONIC FUNCTION GENERATOR
Benito L. Polo, Downey, Calif., assignor to Astrodata, Inc., Anaheim, Calif., a corporation of California
Filed July 16, 1965, Ser. No. 472,630
3 Claims. (Cl. 307—229)

The disclosure concerns a function generator employing diodes and resistors and characterized in that it allows stretching of straight line segment break-point rounding characteristics over much wider input voltage ranges, with resultant much closer fitting of the function generator out-



put to the ideal function for a given number of diodes used.

3,371,225
CLOCKING PULSE RATE DETECTION CIRCUITRY
John Richard Featherston, Tucson, Ariz., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 28, 1964, Ser. No. 421,223
4 Claims. (Cl. 307—233)



One of a plurality of bistable circuits corresponding to a plurality of predetermined clocking pulse repetition rates is switched in accordance with the detection of a received signal for enabling a clocking pulse generator corresponding to the repetition rate of the signal received.

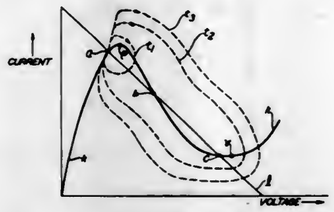
Detection is performed by a plurality of band pass filters each having a circuit tuned to one of the predetermined repetition rates followed by a signal rectifier and an appropriate low-pass filter. Dual input adder circuits connected to the bistable circuits are arranged to apply the output of the corresponding low-pass filter to the bistable circuit. An inverter connected to the adjacent lower pulse repetition rate or noise low-pass filter is connected to the adder circuit for enhancing the switching voltage input to the bistable circuit.

The arrangement is suitable for systems in which the predetermined repetition rates are not harmonically related as well as those in which they are.

3,371,226
PULSE AMPLITUDE DISCRIMINATOR USING NEGATIVE RESISTANCE DEVICES
William C. G. Ortel, New York, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 30, 1964, Ser. No. 422,221
7 Claims. (Cl. 307—235)

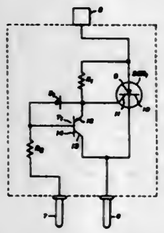
A pulse amplitude discriminator that uses the negative resistance characteristics of a tunnel diode is disclosed.

The bias and load of the tunnel diode are adjusted so that the diode has a stable equilibrium point in the positive resistance region of its characteristic curve and two unstable equilibrium points in the negative resistance region of its characteristic curve. When input signals



above a selected amplitude are applied, the diode switches from the stable equilibrium point, through both unstable equilibrium points, to produce output pulses which are all of substantially the same amplitude. When the input signals are below the selected amplitude, there is substantially no output pulse generated by the diode.

3,371,227
TRANSISTOR-S.C.R. CIRCUITRY PROVIDING A THYRATRON EQUIVALENT
Tage P. Sylvan, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 18, 1963, Ser. No. 317,274
7 Claims. (Cl. 307—252)



1. A solid state switching apparatus capable of being utilizable in a circuit as a direct substitute for a thyratron, said apparatus comprising:

(A) an envelope structure provided with at least first, second and third terminals adapted to be received by conventional thyratron-receiving terminals and corresponding directly to the anode, cathode, and control grid terminals respectively of the thyratron,

(B) a silicon controlled rectifier mounted within said envelope and having relatively high power handling capability and relatively low input impedance with respect to the thyratron,

(1) said silicon controlled rectifier having anode, cathode and gate electrodes.

(C) a transistor mounted within said envelope and having relatively low power handling capability and relatively high input impedance with respect to said silicon controlled rectifier, said transistor having first, second and base electrodes,

(D) said first and second electrodes of said transistor being connected so as to define a path in shunt with said anode and cathode of said controlled rectifier,

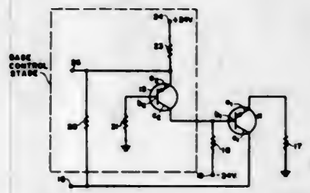
(1) said shunt path including series resistance,

(E) said first electrode of said transistor being connected to said gate electrode of said controlled rectifier,

(F) said anode and cathode electrodes of said silicon controlled rectifier being coupled to said first and second terminals respectively, and

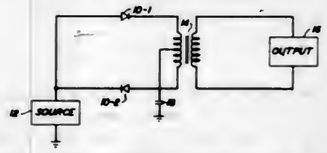
(G) said base of said transistor being coupled to said third terminal.

3,371,228
TRANSISTOR ELECTRONIC SWITCH WITH BASE CONTROL STAGE
Maurice W. Murray, Scottsdale, Ariz., assignor to General Electric Corporation, a corporation of New York
Filed June 26, 1963, Ser. No. 290,813
11 Claims. (Cl. 307—254)



1. A transistor switching circuit for opening and closing an electrical line and which functions substantially as a short circuit in its closed state, comprising: a first junction transistor having emitter, collector and base electrodes; means for connecting said emitter and collector electrodes in series with said line; means for applying an input signal to said collector electrode; and base control means continuously responsive to said input signal and coupled to said base electrode for continuously controlling the base current of said transistor in accordance with the magnitude of said input signal to render the collector and emitter currents of said transistor substantially equal.

3,371,229
FREQUENCY TRANSLATOR
Charles J. N. Candy, Convent Station, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 23, 1965, Ser. No. 515,927
6 Claims. (Cl. 307—271)

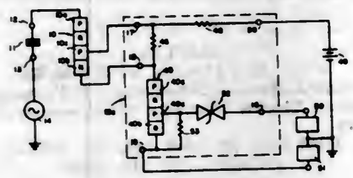


Due to component unbalance, unwanted harmonics are usually present in the output waveform of a frequency converter. Unwanted harmonic content may be significantly reduced by apparatus which equalizes the conduction paths in the frequency converter.

3,371,230
SWITCHING CIRCUITS
Hans G. Blank, Bronx, and Martin Fischman, Wantagh, N.Y., assignors to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware
Filed June 29, 1964, Ser. No. 378,639
13 Claims. (Cl. 307—284)

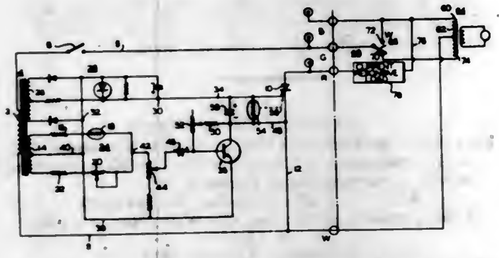
A switching circuit for controlling a high impedance load, such as an electroluminescent lamp, in which a silicon controlled rectifier (SCR) is connected in series with the load. The load is maintained in either an energized or deenergized state by application of an input signal of short duration to a bistable circuit which controls

the conductivity of the SCR. The high impedance of the load compared to the relatively low impedance of the



SCR prevents the SCR from entering its avalanche mode during conduction.

3,371,231
ELECTRONIC CONTROL AFFORDING MODULATING CONTROL OF A LOAD CURRENT IN ACCORDANCE WITH A SENSED CONDITION
Billy Burley, Dallas, Tex., assignor to Johnson Service Company, Milwaukee, Wis., a corporation of Wisconsin
Continuation of application Ser. No. 206,345, June 29, 1962. This application Oct. 22, 1964, Ser. No. 407,273
7 Claims. (Cl. 307—308)



A silicon controlled rectifier is connected in series circuit with a load to an alternating current reference voltage. An adjustable network is connected to the gate of the controlled rectifier to establish a time constant causing said component to have a given angle of conduction relative to said reference voltage. The adjustable network includes a capacitor connected in series with the emitter and collector electrodes of a transistor. A variable resistor also connects the base to the collector. A direct current source is applied to the circuit to establish a current through the capacitor just below the triggering value of the SCR. A Wheatstone-type bridge is connected to the base electrode of the transistor and superimposes an A-C signal upon the D-C gate biasing current to control triggering of the SCR. The magnitude of the signal voltage affects the time constant of the R-C network (and consequently the phase relationship between the anode to cathode reference voltage and the amplified gate to cathode signal voltage) and thereby varies the conduction angle and the level of effective D-C load current as a function of the magnitude of the condition deviation.

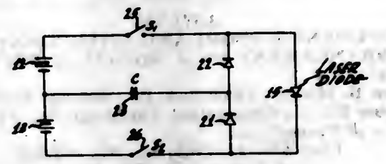
3,371,232
HIGH CURRENT, SHORT DURATION PULSE GENERATOR
William J. Hannan, Moorestown, and Dainis Karlsons, Camden, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Feb. 21, 1966, Ser. No. 528,885
7 Claims. (Cl. 307—312)

1. In combination:

first and second unidirectional current conducting devices connected in series across a load with unlike electrodes of said devices connected together,

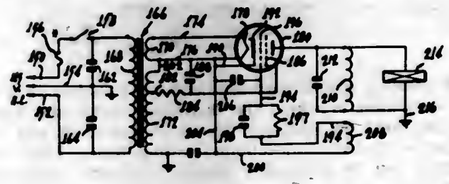
a voltage supply having a positive terminal and a negative terminal,

a capacitor having one terminal connected to the junction of said first and second devices and its other terminal connected to the electrical midpoint of said voltage supply, and



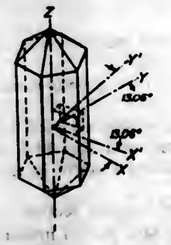
means for alternately connecting first said positive terminal of said voltage supply to one side of said load and then said negative terminal of said voltage supply to the other side of said load to cause said first and second devices alternately to conduct and direct current flow to charge and discharge said capacitor through said load.

3,371,233
MULTIFREQUENCY ULTRASONIC CLEANING EQUIPMENT
Edward G. Cook, 9 Richie Lane, Yardley, Pa. 19067
Filed June 28, 1965, Ser. No. 467,319
3 Claims. (Cl. 310—8.1)



A transducer is attached to a cleaning tank and is of a shape incorporating in it a plurality of differing dimensions. In each dimension, the transducer resonates in a plurality of differing fundamental modes and their harmonics. By shock excitation, there is simultaneously applied to the transducer a multitude of frequencies falling within a range encompassing the fundamental vibratory modes and the harmonics thereof in which the transducer is known to be resonant in each of its several dimensions. This in turn generates simultaneously within the tank a wide band of frequencies to improve the cleaning of an immersed article.

3,371,234
PIEZOELECTRIC VIBRATORS AND SYSTEMS EMBODYING THE SAME FOR CONVERTING THE MECHANICAL VIBRATION THEREOF INTO ELECTRIC ENERGY
Walter G. Cady, 127 Power St., Providence, R.I. 02906
Filed Oct. 15, 1965, Ser. No. 496,345
4 Claims. (Cl. 310—9.5)



1. A rectangular prism of piezoelectric quartz, the length dimension of which is substantially parallel to an

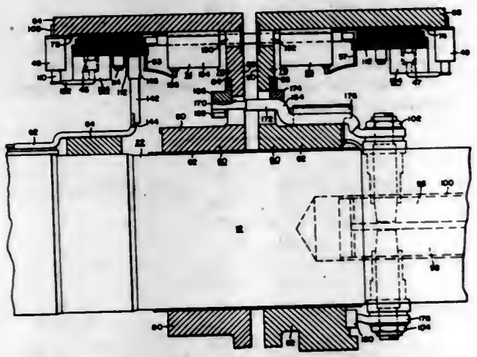
X axis of the crystal and the breadth and thickness dimensions of which are disposed substantially +13 degrees with respect to the corresponding Y and Z axes of the crystal.

3,371,235

COMPONENT SUPPORT AND INTERCONNECTION ARRANGEMENT IN A ROTATING RECTIFIER EXCITER

Dillon B. Hoover, Edgewood, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 12, 1965, Ser. No. 455,206
6 Claims. (Cl. 310—68)



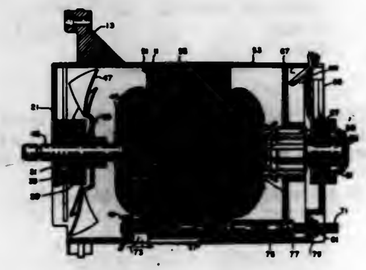
A rotating rectifier arrangement for brushless generator excitation in which the rectifying diodes and fuses are mounted on insulated wheels on the shaft and arranged so that the connections are simplified and the conductors can be adequately supported against rotational forces.

3,371,236

MOTOR MOUNT

Roy L. Swanke, Newington, Conn., assignor to Dynamics Corporation of America, New York, N.Y., a corporation of New York

Filed June 28, 1965, Ser. No. 467,282
8 Claims. (Cl. 310—89)



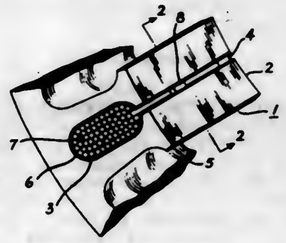
1. An electric motor mount comprising,
a first housing section,
a plurality of lugs extending inwardly of said first housing section,
a second housing section adapted to mate with said first housing section, said first and second housing sections encompassing a motor including a stator mounted therein,
a slot in said first housing section extending from each of said lugs to said second housing section,
removable spacer means in said slot abutting said lugs at one end thereof, and
means passing through said second housing section and said motor stator and secured to said lug for retaining said motor against the other end of said spacer.

3,371,237

COIL RETAINING STRUCTURE

Clairmont J. Herman, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed June 28, 1965, Ser. No. 467,525
4 Claims. (Cl. 310—214)



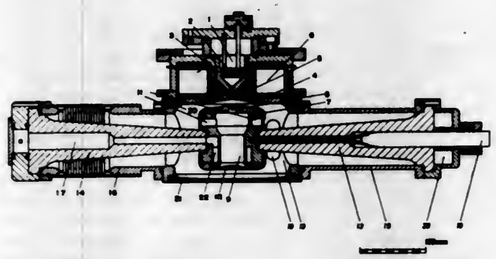
Slot wedging means consisting of at least one slug of resilient material is inserted in the slot of electrical apparatus between the coil and the slot teeth.

3,371,238

NEUTRON GENERATOR

Karl Heinz Beckurts and Werner Eyrich, Karlsruhe, Germany, assignors to Gesellschaft fur Kernforschung m.b.H., a corporation of Germany

Filed Nov. 27, 1964, Ser. No. 414,293
Claims priority, application Germany, Nov. 27, 1963, K 51,465
9 Claims. (Cl. 313—61)



1. A neutron generator which comprises an evacuable outer housing having a wall portion the exterior surface of which is adapted to be positioned in close proximity to objects to be irradiated with neutrons, an ion source means operatively connected to said outer housing for introducing an ion beam therein directed generally toward said irradiation wall portion thereof, an inner housing means disposed within said outer housing in spaced apart relation thereto, said inner housing means including a suction electrode for accelerating ions within said ion beam and a target for generating neutrons upon impact by ions accelerated by said suction electrode, said inner housing means and its suction electrode and target being electrically connected together for maintenance at a common high electic potential difference with respect to said outer housing, and feed through insulator means operatively connected to said outer housing and to said inner housing means for supporting said inner housing means is spaced apart relation to said outer housing, electrically insulated therefrom, and with said target positioned in unobstructed opposite spaced relation to said irradiation wall portion.

3,371,239

ELECTRON DISCHARGE DEVICE WITH STORAGE TARGET ELECTRODE

Robert A Shaffer, Elmira, and Leo G. Bonney, Jr., Horseheads, N.Y., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 7, 1961, Ser. No. 115,551
4 Claims. (Cl. 313—65)



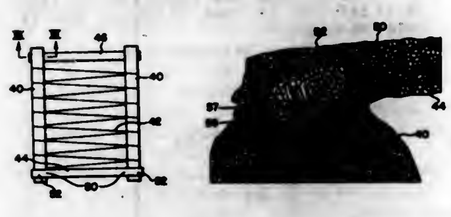
1. A pickup tube for a device of the image orthicon type compising a storage target electrode comprising a first layer of amorphous aluminum oxide and a second layer of an insulating material having a higher secondary electron emission characteristic than said amorphous aluminum oxide, means for impressing an electron image on the surface of said storage target electrode having said second layer thereon and means for scanning a uniform electron beam on the opposite surface of said storage target electrode.

3,371,240

FRAME TYPE ELECTRODES FOR ELECTRON DISCHARGE DEVICES

Harry L. Ormsby, Bath, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 29, 1965, Ser. No. 478,008
5 Claims. (Cl. 313—350)



This invention relates to frame type electrodes for electron discharge devices and includes in one illustrative embodiment a pair of side rods between which are supported a plurality of lateral grid wires, and first and second cross straps disposed upon opposite sides at either end of the pair of side rods. The first and second cross straps are made of a substantially pure molybdenum which has been partially crystallized to an extent in the range of 20 to 80% in order to enable the cross strap to be welded to the side rods without producing an unduly brittle weld.

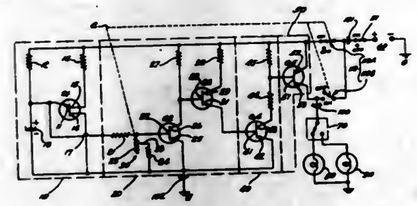
3,371,241

VEHICLE LIGHT DIMMING SYSTEM INCLUDING SOLID STATE CIRCUITRY AND MANUAL CONTROL MEANS

Arthur W. Amacher, 718 Cawood, Lansing, Mich. 48915

Filed June 25, 1965, Ser. No. 466,922
4 Claims. (Cl. 315—77)

A manually controlled vehicle light dimming system comprising a manual rheostat, a switch means, and a solid state circuit including a sawtooth generator and a power line switch to receive the sawtooth output and control the amount of line current passed from the vehicle power supply to the lights inversely in accordance with the amplitude of the sawtooth spikes. The spike amplitude and then the light output is controlled by the



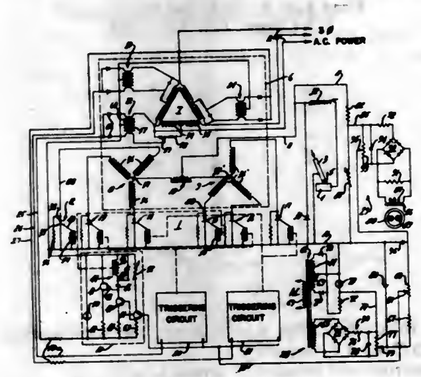
manual rheostat coupled as a biasing voltage divider between ground and the output line from the sawtooth generator to the power switch. The rheostat also controls the condition of the switch means to permit the solid state circuit to be by-passed and shut down.

3,371,242

ARC POWER SUPPLY USING SOLID STATE CONTROL DEVICES FOR PHASE SHIFTING

Bernard J. Aldenhoff, Oconomowoc, and John N. Kuhr, Jr., Milwaukee, Wis., assignors, by mesne assignments, to Harnischfeger Corporation, West Milwaukee, Wis., a corporation of Wisconsin

Filed Apr. 7, 1964, Ser. No. 357,936
11 Claims. (Cl. 315—139)



An arc welding power source for energizing an arc between a continuous consumable electrode and a metal workpiece in which controlled rectifiers of the low loss type are connected in the main current supply circuit to the arc to control the voltage and amperage characteristics of the electric energy supplied to the arc in a predetermined manner.

3,371,243

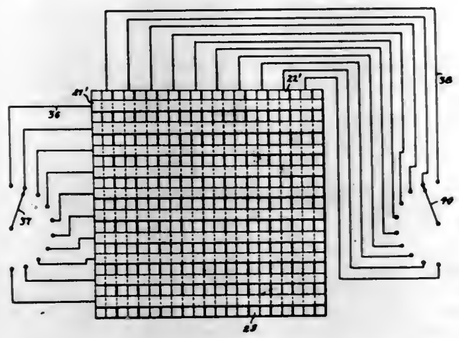
ELECTROLUMINESCENT VOLTAGE DEVICE

Jenny Bramley and Arthur Bramley, both of 7124 Strathmore St., Falls Church, Va. 22042

Filed Dec. 30, 1952, Ser. No. 328,757
29 Claims. (Cl. 315—169)

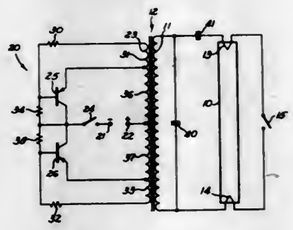
1. The method of rendering a screen luminescent in different colors, which comprises applying a voltage selectively and simultaneously to one of a first group of semitransparent conducting strips side by side and to one of a second group of conducting strips side by side

and at an angle to the strips of the first group across an electroluminescent semitransparent dielectric layer having impurity centers, making the dielectric layer and impurity semi-conductor, which layer is electroluminescent



in different colors in different areas and becomes luminous in such different colors when different pairs of strips are energized, thereby selectively generating light of different colors in the dielectric.

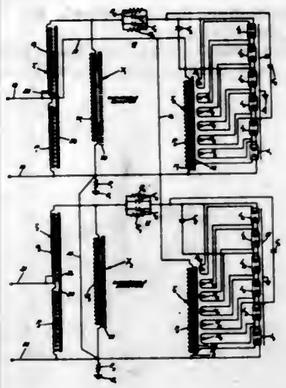
3,371,244
ULTRAVIOLET LAMP TRANSFORMER
Steven H. Boland, Temple City, Calif., assignor to Ultra-Violet Products, Inc., San Gabriel, Calif., a corporation of California
Filed Feb. 8, 1965, Ser. No. 430,995
3 Claims. (Cl. 315—219)



2. In a circuit for a tube lamp, the combination of:
a D.C. to A.C. inverter;
a starter unit connected across a tube; and
a transformer having a multisection balanced primary winding connected in circuit with said inverter and a secondary winding connected in series with said starter unit, the transformer having a core in the form of a bar having a substantially uniform cross-sectional area providing an open magnetic flux path, with said primary and secondary windings disposed on said core and providing a substantially uniform flux density in said core within said windings.

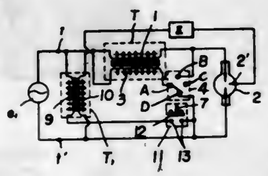
3,371,245
DISCHARGE LAMP CIRCUIT HAVING SERIES CONDENSER AND SHUNT SWITCH FOR DISCHARGING CONDENSER THROUGH LAMP
Roger E. Hume, Danville, Ill., assignor to General Electric Company, a corporation of New York
Filed Mar. 23, 1965, Ser. No. 442,068
10 Claims. (Cl. 315—240)

Apparatus for starting and operating electric discharge lamps which during operation supplies a current having a more nearly square wave shape. This is achieved by a saturable reactor or switching device in the output circuit to effect a controlled reversal of the voltage across



the discharge lamp by discharging a capacitor when a preselected voltage level is reached in each half cycle.

3,371,246
FLUORESCENT LAMP CIRCUIT WITH A VOLTAGE BOOSTING TRANSFORMER CONVERTIBLE TO A VARIABLE INDUCTANCE FOR CURRENT REGULATION
Akihiro Kawauchi, 15 1-chome, Tsurumaki-cho, Setagaya-ku, Tokyo, Japan; Makoto Harada, 8–15 6-chome, Ohi, Shinagawa-ku, Tokyo, Japan; and Akio Tachihara, 7 3-chome, Shiomidai-cho, Isogo-ku, Yokohama-shi, Japan
Filed Feb. 18, 1965, Ser. No. 433,618
Claims priority, application Japan, Feb. 28, 1964, 39/15,287; Feb. 22, 1964, 39/12,664; Dec. 11, 1964, 39/69,802
9 Claims. (Cl. 315—262)

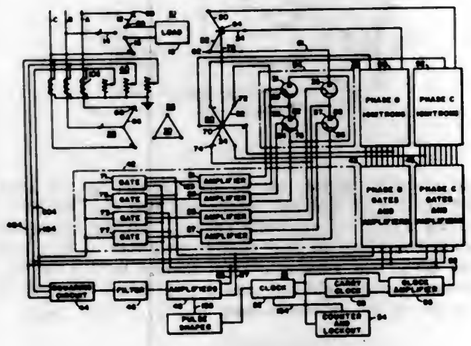


A starting device for a discharge lamp having a boosting transformer with a primary coil and a secondary coil adapted to be connected in series with the discharge lamp across an electric source. A three position transfer switch is provided which in the first position connects the primary coil across the source, in the second position disconnects the primary coil from the source and in the third position connects the primary coil in parallel with the secondary coil.

3,371,247
ANTISTATIC CARPET AND METHOD OF FABRICATION
Keith E. Muilenger, 627 Claflin Ave., Mamaroneck, N.Y.
No Drawing. Filed May 12, 1966, Ser. No. 549,480
4 Claims. (Cl. 317—2)

An antistatic carpet fabricated from a blend of a first fiber material which is positive with respect to leather in the tribo-electric series and a second fiber material which is negative with respect to leather in tribo-electric series.

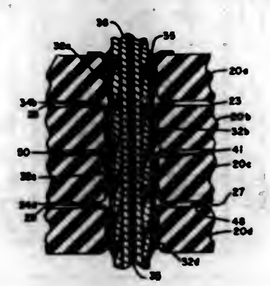
3,371,248
OVERCURRENT PROTECTION APPARATUS
Robert A. Schatz, Elizabeth, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Original application Aug. 13, 1962, Ser. No. 216,659, now Patent No. 3,244,938, dated Apr. 5, 1966. Divided and this application Oct. 13, 1965, Ser. No. 495,479
9 Claims. (Cl. 317—33)



1. In an alternating current regulating system, the combination of:
a plurality of input terminals;
a plurality of output terminals;
a transformer having at least one phase including first and second sets of windings and having each of its first set of windings respectively connected in series between said input and output terminals;
load current control means associated with said second set of windings to provide a voltage to the second set of windings of said transformer and hence by electromagnetic induction to the first set of windings of said transformer, which may be switched from opposing an input voltage to aiding said input voltage once each half cycle;
load current sensing and gating means connected between points representative of output current and said load current control means to automatically control the output current by varying the time in each half cycle of input voltage that said load current control means will switch said first set of transformer windings from opposing said input voltage to aiding said input voltage;
and over-current protection means connected between points representative of output current and said transformer secondary winding to provide a signal to said gating means to open circuit said second set of transformer windings upon a predetermined duration of excessive output current.

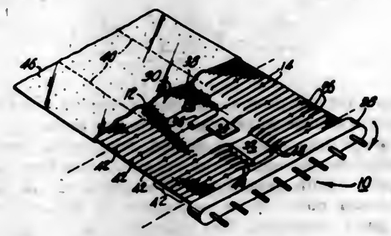
3,371,249
LAMINAR CIRCUIT ASSEMBLY
Le Roy A. Prohofsky, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Original application Mar. 19, 1962, Ser. No. 180,685, now Patent No. 3,187,426, dated June 8, 1965. Divided and this application Sept. 24, 1964, Ser. No. 398,969
7 Claims. (Cl. 317—101)

1. A multilayer circuit assembly comprising: a stacked plurality of circuit layers, each layer having an electrically insulating, solder repellent base, and each of the layers having a plurality of apertures coordinately arranged therein, the apertures of one of the layers being aligned with the apertures of any other of the layers; a plurality of conductive strips disposed on only one face of the base, the strips terminating at predetermined apertures; a solderable coating covering a portion of the wall of each aperture, that end of the aperture wall opening on



the nonconductor bearing face of the base being devoid of coating, the coating on the walls of the predetermined apertures being electrically connected to the strips terminating at the apertures; and an interconnecting wick member disposed through each aligned series of the apertures for causing capillary attraction of applied solder to form a continuous solder joint electrically connecting the member and the solderable coating on each wall of the series.

3,371,250
WOVEN CIRCUIT DEVICE
Edgar A. Ross., Greenville, S.C., and Stanley Rask, New York, N.Y., assignors to Southern Weaving Company, Greenville, S.C.
Filed Mar. 9, 1966, Ser. No. 532,940
7 Claims. (Cl. 317—101)

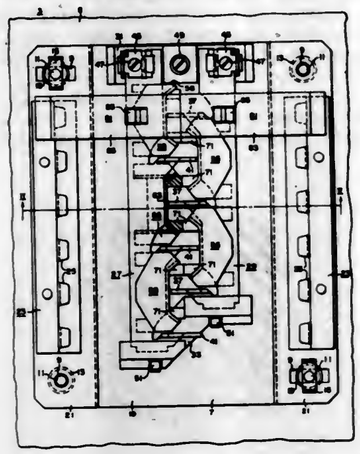


The woven circuit device is composed of insulating cloth with interwoven warp and fill wires which touch only at pre-selected crossings. The circuit device is fabricated so that one or more portions of the surface of the cloth have no wires on them and the ends of certain of the warp or fill wires abut the wire-free portions. Electrical circuit components are mounted on the wire-free portions, and the terminals of the components are connected to the adjacent wire ends, thus forming a compact electrical circuit device and flexible mounting structure.

3,371,251
PANEL ASSEMBLY WITH IMPROVED INSULATING MEANS
Willis A. Speck, Trumbull, Conn., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 16, 1965, Ser. No. 480,011
7 Claims. (Cl. 317—119)

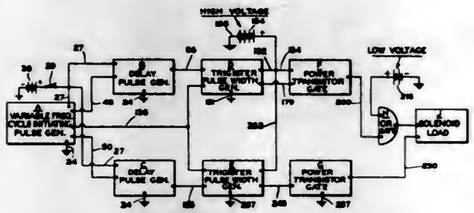
A panel assembly comprising a pair of elongated bus

bars and insulating means supporting the bus bars in a



spaced relationship and insulating the bus bars from each other.

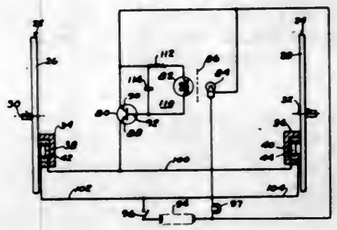
3,371,252
SOLENOID DRIVE SYSTEM
Robert L. James, Bloomfield, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed Oct. 12, 1964, Ser. No. 403,239
12 Claims. (Cl. 317—123)



Means for effecting a solenoid operating pulse having a staircase voltage waveform, said means including a main pulse generator, first and second delay pulse generators controlled by the main pulse generator and first and second pulse width generators. The operation of the first and second pulse width generators is initiated by the main pulse generator. The operation of the first pulse width generator is terminated after a first predetermined delay period by the first delay pulse generator and the operation of the second pulse width generator is terminated after a greater second predetermined delay period by the second delay pulse generator. A first gating means is controlled by the first pulse width generator and a second gating means is controlled by the second pulse width generator. An electrical network is controlled by the first and second gating means for effecting the pulse of said staircase voltage waveform.

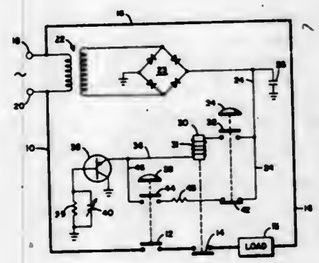
3,371,253
CONTROL FOR ELECTRICALLY OPERATED BRAKE
Harold C. Hubbard, Lansing, Mich., assignor to Motor Wheel Corporation, Lansing, Mich., a corporation of Ohio
Filed Aug. 30, 1965, Ser. No. 483,673
21 Claims. (Cl. 317—130)

1. A circuit for controlling electrically operated brakes adapted for use in connection with an automotive vehicle having a source of electrical energy, said circuit comprising at least one amplifying electron device having a charge-emitting electrode, a charge-collecting electrode and a control electrode, coil means for actuating the brakes, means connecting said coil means in series with the charge-emitting and charge-collecting electrodes of



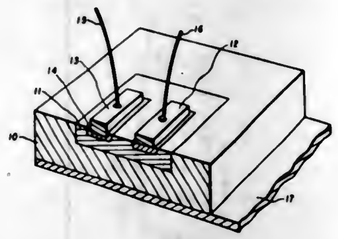
said electron device, means for connecting the series combination of said coil means and said electron device to said source of electrical energy, variable impedance means connected to said control electrode of said electron device for varying current therein to thereby vary current through said coil means and means operable by a driver of the vehicle to vary said impedance means.

3,371,254
SAFETY CONTROL SYSTEM
Harold T. Hagfors, 701 58th Ave. NE., Fridley, Minn. 55432
Filed Oct. 1, 1965, Ser. No. 492,177
6 Claims. (Cl. 317—135)



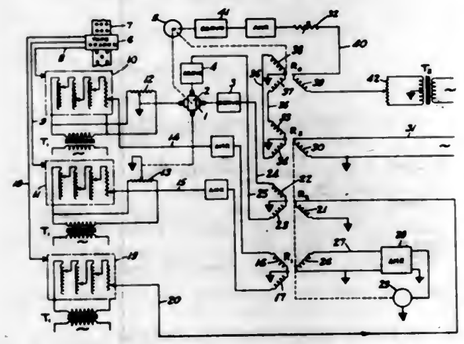
1. A safety control system comprising
a main circuit and a control circuit therefor,
switch means in said main circuit for actuating a load, said switch means including a first manually operated switch and a control relay having its coil connected in said control circuit,
a second manually operated switch in said control circuit for energizing said control relay,
a transistor connected in series with the coil of said control relay to permit current to flow therein when said transistor conducts, and
means for biasing said transistor to conduct upon actuation of either of said manually operated switches and for biasing said transistor out of conduction upon the expiration of a predetermined time interval thereafter.

3,371,255
GALLIUM ARSENIDE SEMICONDUCTOR DEVICE AND CONTACT ALLOY THEREFOR
Melvin Belasco, Bobby W. Howeth, and David D. Martin, Dallas, and Price T. Wende, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed June 9, 1965, Ser. No. 462,583
7 Claims. (Cl. 317—237)



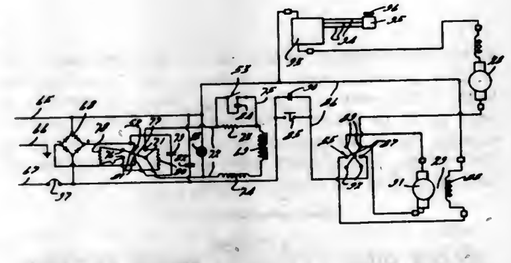
Disclosed is a gallium arsenide transistor and contact alloy, the contact alloy comprising by weight 25–35% gold, 60–70% germanium and 3–10% donor impurity selected from the group consisting of sulfur, tin, selenium and tellurium by weight.

3,371,256
MACHINE CONTROL SYSTEM INCLUDING CONTROL IN TWO DIRECTIONS AND ABOUT A THIRD AXIS
Robert H. Elsengrein, Skaneateles, and Francis O. Blackwell III, Seneca Falls, N.Y., assignors to Seneca Falls Machine Company, Seneca Falls, N.Y.
Continuation-in-part of application Ser. No. 374,759, June 12, 1964. This application Dec. 7, 1964, Ser. No. 416,411
7 Claims. (Cl. 318—18)



1. A machine control system comprising a machine part movable along first and second axes and about a third axis, means defining a desired position of said part along said first and second axes, means generating first and second signals corresponding to the displacement of said part from said desired position thereof along said first and second axes, first resolver means resolving said first and second signals into the direction from said part to said desired position, means generating a third signal corresponding to the rate of feed of said part along said first and second axes, second resolver means resolving said third signal into components corresponding to said first and second axes, means responsive to said third signal components for driving said part along said first and second axes, direction correcting means responsive to said first resolver means and arranged in controlling relation to said second resolver means, index resolver means coupled to said part for positioning in accordance with the position thereof about said third axis, means comparing said index and second resolver means independently of variations in said third signal and generating a fifth signal corresponding to the displacement of said part from a desired position thereof about said third axis, and drive means responsive to said fifth signal for indexing said part about said third axis.

3,371,257
MOTOR CONTROLS FOR ELECTRO-MAGNETIC BASE TOOL
Wesley S. Warren, Kalamazoo, and Ertman L. Kessler, Plymouth, Mich., assignors to General Automation Manufacturing, Incorporated, Troy, Mich., a corporation of Michigan
Filed Jan. 30, 1964, Ser. No. 341,363
11 Claims. (Cl. 318—39)

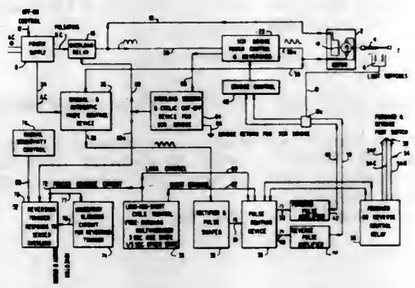


1. In a machine tool having a magnetic base, a magnetic coil for said base, a hollow housing having horizontal and vertical portions supported on said base, a movable slide on the vertical portion of said housing, a motor for supporting a tool on said slide, said horizontal portion having an elongated aperture through a wall thereof, a removable panel for enclosing said aperture, a double pole double throw switch on said panel, a rectifying diode unit supported by said panel and connectible to a source of AC current and in circuit with said switch and said magnetic coil for applying the DC current for magnetizing and demagnetizing the coil when the switch is in the one or the other position, a relay supported by said panel having its coil in series with the magnetizable coil and its contacts in the motor circuit which can be operated only when the magnetizable coil is energized, a double throw double pole switch on said panel in the circuit from said relay contacts for reversing the drive of the motor, a resistor in series with magnetizable coil, a single pole single throw switch on said panel for shunting said resistor to permit the coil to be fully magnetized, a potentiometer on said panel, and a power unit in the circuit from the relay contacts controlled by said potentiometer for regulating the speed of operation of the motor.

3,371,258
AUTOMATIC TAPPING MACHINE CONTROL SYSTEM
Harry B. Brown, Alexandria, Va., assignor to Applied Electro Mechanics, Inc., Alexandria, Va., a corporation of Virginia
Filed Sept. 10, 1965, Ser. No. 486,419
12 Claims. (Cl. 318—294)

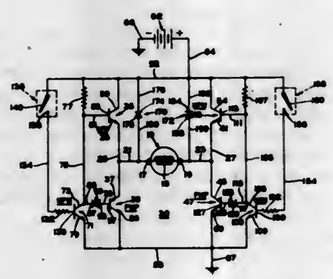
In combination with a direct current electric motor which drives a thread tapping tool there is a power control system which governs the action of the motor so as to effect periodic reversals of the motor at arbitrary

intervals and momentary reversals in response to motor overload. Pulsating D.C. is fed to the input terminals of an SCR bridge circuit whose output terminals are connected to the motor winding; and A.C. synchronized with the pulsating D.C. is phase controlled, shaped and routed to provide on-turning pulses for one or the other opposed pairs of the SCR's in the bridge so as to control the



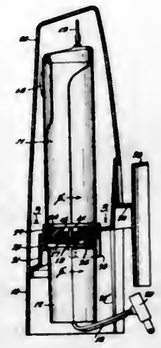
power and direction of the current through the motor winding. A switch opens the pulsating D.C. supply circuit to the bridge each time the voltage drops substantially to zero so as to prevent continuation of flow of current through the SCR's beyond the duration of the individual D.C. pulses which might otherwise result from the inductive load of the motor winding.

3,371,259
ON-OFF DIRECT CURRENT MOTOR CONTROL NETWORK WITH DYNAMIC BRAKING
Robert L. James, Bloomfield, and Michael T. Krivak, Woodridge, N.J., assignors to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed May 26, 1965, Ser. No. 458,893
4 Claims. (Cl. 318—380)



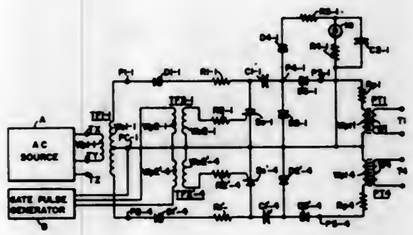
A solid state bridge control network having opposite transistor arms to supply on-off reversible direct current power to a direct current motor armature winding. Unidirectional current flow control means are connected to terminals of brushes of the motor and in relation to a direct current source so that the unidirectional current flow control means is conductive only upon transient energy and back electromotive force being present after current flow to the armature winding is effected and then suddenly stopped. The unidirectional current flow control means provide low resistance paths to dissipate the transient energy and in an opposite sense to dissipate back electromotive force producing a torque opposing motion of the motor armature by effective dynamic braking.

3,371,260
TOOTHBRUSH SUPPORT WITH RECHARGER STAND
Wilbur C. Jackson, Wheaton, and John E. Jensen, Des Plaines, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed June 15, 1965, Ser. No. 464,089
5 Claims. (Cl. 320—2)



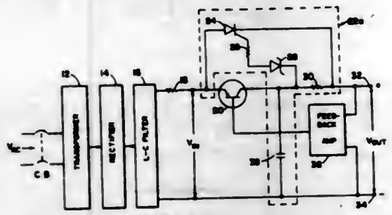
The recharger of the support and recharging stand for an electric toothbrush is a self-contained and quickly removable unit for travel purposes.

3,371,261
POWER SUPPLY CONTROL USING GATE PULSE AMPLIFIERS
Robert E. Hull, Buffalo, and Emil T. Schonholzer, Depew, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 17, 1965, Ser. No. 514,462
8 Claims. (Cl. 321—5)



1. In power supply control circuitry including controlled switching devices, the combination of: a pulse amplifier circuit responsive to alternating input and switching signals for generating amplifier pulses, said pulse amplifier circuit including a capacitive element to be charged during predetermined times with respect to said input alternating signals, a unidirectional device operatively connected to said capacitive element to maintain the charge thereon while desired, and a switching device operatively connected to said capacitive element for discharging said capacitive element in response to said switching signals being applied thereto and thereby generate said amplifier pulses; and a pulse transformer for receiving the amplifier pulses generated by said pulse amplifier circuit and applying in response thereto gating pulses to said controlled switching devices, said pulse transformer being of such a design to develop gating pulses having a fast rise time and to saturate after a predetermined time to determine the time duration of said gating pulses.

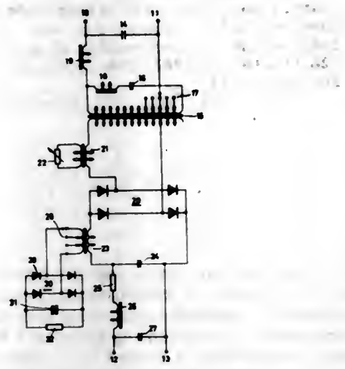
3,371,262
PROTECTION CIRCUITS FOR TRANSISTORIZED REGULATOR CIRCUITRY
Lester F. Bird, Baltimore, Md., and Carl W. Green, Emmaus, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Dec. 22, 1965, Ser. No. 515,785
11 Claims. (Cl. 321—11)



1. A regulating power supply comprising: an alternating current input source; a transformer connected to said input source; a rectifier connected to said transformer; a filter network having an input connected to said rectifier and having first and second output terminals; an output circuit having first and second terminals; a regulating transistor having an emitter connected to said first filter output terminal and a collector connected to said first output terminal; a controlled rectifier including a cathode, an anode and a gate; said cathode being connected to said second rectifier output terminal and said anode connected to said emitter; a resistor connected to said filter cathode and to said second output terminal; a capacitor connected between said filter cathode and said collector; and a diode having a cathode connected to said gate and an anode connected to said second output terminal; and a means for firing said control rectifier when said output terminals are short circuited.

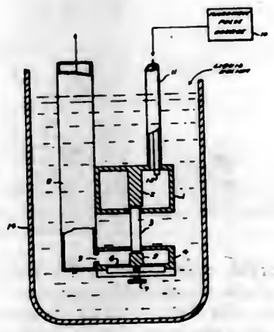
3,371,263
STABILIZED MAINS RECTIFYING CIRCUIT ARRANGEMENT
Alfred Walz, Emmendingen, Baden, and Robert Östreicher, Teningen, Baden, Germany, assignors to Messrs. Frako Kondensatoren- und Apparatebau G.m.b.H., Teningen, Baden, Germany, a corporation of Germany
Filed Sept. 21, 1962, Ser. No. 225,282
Claims priority, application Germany, Sept. 21, 1961, F 34,969
6 Claims. (Cl. 321—25)

1. An output voltage stabilizing arrangement comprising, in combination, a pair of input terminals for connection to a source of fluctuating A.C. potential; a transformer having a primary winding, a core and a secondary winding; an input circuit connecting said primary winding to said input terminals; a pair of output terminals for connection to a load; an output circuit connecting said secondary winding to said output terminals; said transformer operating in the supersaturated range at no-load; a capacitor connected in parallel with one transformer winding; a choke having a winding connected in said output circuit and having an iron core; and adjusting means operatively connected to said choke and selectively operable to adjust the effective inductance thereof to compensate for the effects of load variation, said adjusting means including a second winding on the iron core of said choke, a rectifier bridge having its input connected



across said second winding, and a condenser and a variable resistance connected in parallel across the output of said rectifier bridge.

3,371,264
TUNED CAVITY ASSEMBLY FOR HARMONIC GENERATION OF ACOUSTIC AND ELECTROMAGNETIC WAVES OF GIGACYCLE FREQUENCIES
Paul H. Carr, Bedford, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Sept. 1, 1965, Ser. No. 484,484
1 Claim. (Cl. 321—69)

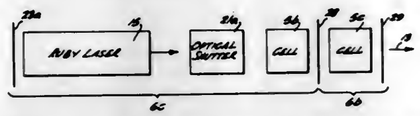


Apparatus for generating electromagnetic waves in the gigahertz frequency range from microwave energy at a lower fundamental frequency comprising a first resonant cavity tuned to the fundamental frequency and energized by the microwave energy, a second resonant cavity tuned to a harmonic of the fundamental frequency and coupled to an output circuit, and a rod of acoustic material having one end at a location of high electric field intensity in one cavity and the other end at a similar location in the other cavity. The acoustic material may be piezoelectric, such as X-cut quartz, or nonpiezoelectric, such as Z-cut quartz. In the latter case, however, a piezoelectric transducer must be attached to the rod end located in the output cavity.

3,371,265
APPARATUS PRODUCING STIMULATED RAMAN EMISSION

Eric J. Woodbury, Tarzana, and Gisela M. Eckhardt, Malibu, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Continuation of application Ser. No. 508,632, Oct. 22, 1965, which is a continuation of application Ser. No. 228,343, Oct. 4, 1962. This application Dec. 28, 1966, Ser. No. 632,117
14 Claims. (Cl. 321—69)

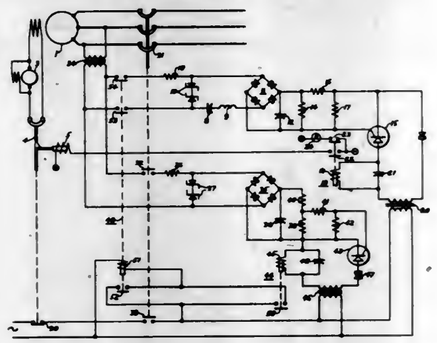


1. Apparatus for producing stimulated Raman emission, comprising in combination: means substantially transparent to monochromatic light and including Raman active material for producing stimulated Raman emission when said material is excited to a nonstationary energy level from which a transition takes place to a Raman active stationary level, and means coupled to said first mentioned means including a source of monochromatic light energy for exciting said material to a nonstationary level.

3,371,266
FIELD CIRCUIT CONTROL FOR ALTERNATING CURRENT GENERATORS

John D. Davidson, Irwin, and Franklin J. Murphy, Jr., Delmont, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 14, 1964, Ser. No. 396,280
11 Claims. (Cl. 322—69)



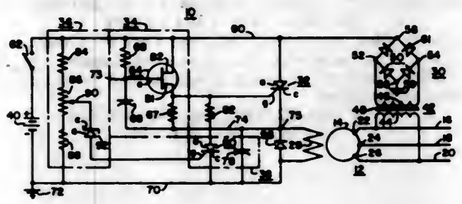
A field circuit control system for alternating current generators which automatically removes field excitation when the generator slows down to a predetermined speed, thus preventing damage to the slip rings by flow of field current at low speed or at standstill when the generator is being shut down. The system includes means for distinguishing between acceleration and deceleration of the generator so that field excitation is maintained when the generator is being started.

3,371,267
SEMICONDUCTOR REGULATOR FOR DYNAMOELECTRIC MACHINES

John W. Motto, Jr., Greensburg, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 9, 1965, Ser. No. 438,267
7 Claims. (Cl. 322—28)

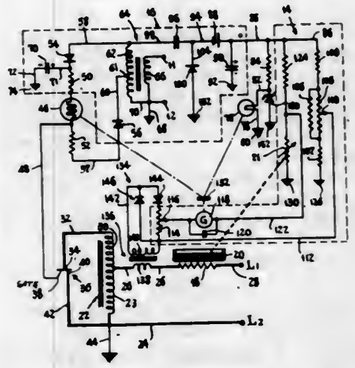
A regulating system for a dynamoelectric machine having a semiconductor gate controlled switch connected in series with the field winding of the dynamoelectric machine and a source of electrical potential. Means responsive to the electrical quantity of the dynamoelectric machine to be regulated provides turn-off signals to the gate controlled switch. Turn-on signals for the gate controlled switch are provided a predetermined fixed time after the gate controlled switch is turned off. The regulating action is obtained by ratioing the variable "on" time of the gate controlled switch against the constant "off" time.



3,371,268
ALTERNATING CURRENT POWER CONTROL

Knud J. Knudsen, Daytona Beach, Fla., assignor to Lewis Engineering Company, New Haven, Conn., a corporation of Connecticut

Filed Feb. 8, 1965, Ser. No. 431,040
9 Claims. (Cl. 323—21)



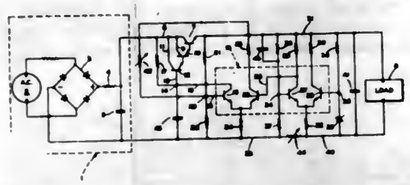
An alternating current power control comprising a bridge circuit which responds to the power output of an electrical load. The bridge circuit in turn controls a photosensitive device having a variable output voltage which, through a gated SCR and suitable transformer, controls the power to the load. A lamp of the photo-sensitive device is energized from the source that provides the electrical power, and the light output of the lamp is kept steady by a voltage control which utilizes a Zener diode.

3,371,269
VOLTAGE REGULATOR INCLUDING MEANS FOR ELIMINATING RIPPLE OUTPUT VOLTAGES

Harry B. Wattson, Rutherford, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware

Filed May 18, 1964, Ser. No. 368,263
4 Claims. (Cl. 323—22)

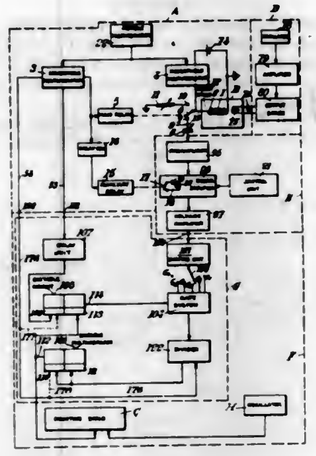
A voltage regulator including a control transistor connected between a load and a supply source. A network is provided for controlling the current flow through the control transistor to maintain a constant voltage across the load. The network includes a differential amplifier and means are connected between the control transistor and the differential amplifier for introducing into said network a signal for eliminating ripple output voltages.



3,371,270
DEVICES FOR THE MEASUREMENT OF WEAK MAGNETIC FIELDS BY NUCLEAR INDUCTION

André Rochet, Meylan, and Pierre Servoz-Gavin, Grenoble, France, assignors to The Commissariat à l'Energie Atomique, Paris, France

Filed Aug. 21, 1964, Ser. No. 391,141
Claims priority, application France, Sept. 4, 1963, 946,573
9 Claims. (Cl. 324—.5)

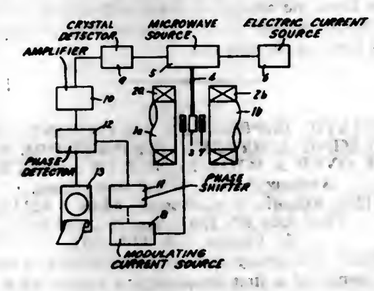


1. A device for the measurement of weak magnetic fields by nuclear induction which comprises, in combination, a vessel, in said vessel a solution wherein the solvent contains a sample having atomic nuclei with an angular momentum and a magnetic moment both different from zero and the solute contains a paramagnetic substance displaying, when one of its electronic resonance lines is saturated, the Overhauser-Abragam effect, at least one first coil surrounding said sample to create therein, for every measurement operation, during a first period, an auxiliary magnetic field making an angle different from zero with the magnetic field to be measured, at least one second coil and a source of radio-frequency power for exciting said second coil for creating in said sample an electromagnetic field capable of saturating such an electronic resonance line, in order to ensure, during a second period, free precession of said atomic nuclei about the magnetic field to be measured with a Larmor frequency proportional to the intensity of said magnetic field to be measured, this precession creating an electromotive force at the same frequency in said first coil, two monostable multivibrators, a first one and a second one, for the switching and the feed of unidirectional current to said first coil surrounding said sample, an adjustable capacitor mounted in series with said first coil to form therewith a first oscillatory circuit at the Larmor frequency of the atomic nuclei in precession about the magnetic field to be measured, a period-meter, an amplifier system electrically connected between said first oscillatory circuit and said period-meter, a connecting cable leading to said first coil, a second oscillatory circuit constituted by the inductance of said first coil and the parasitic capacities of said first coil and of said cable, a damping resistor arranged to perform the critical damping of the oscillations that can be created in said second oscillatory circuit, a main relay having a position of rest and a working position, said main relay being adapted, in its position of rest, to connect said first coil via said connecting cable with said adjustable capacitor and hence with said period-meter, and, in its working position, to connect said first coil with said damping resistor, said first monostable multivibrator being adapted, when it is triggered at the beginning of every measurement cycle, to control the switching of said main relay from its rest position to its working position for damping oscillations occurring in said first coil, and a unidirectional current source, said second monostable multivibrator being mounted to be triggered after said first monostable multivibrator on every measurement cycle and being adapted, when triggered, to connect said first coil with said unidirectional current source for creating said oscillatory magnetic field, the times for which each of the two monostable multivibrators remains in its unstable state being adjusted in such manner that the second monostable multivibrator returns to its initial stable state before the first monostable multivibrator returns to its initial stable state, said second monostable multivibrator being adapted, when it returns to its initial state, to disconnect said unidirectional current source from said first coil, and said first monostable multivibrator being adapted, when it returns to its initial state, to control the switching of said main relay from its working position to its rest position thus connecting said first coil with said period meter for measuring the Larmor frequency of the free precession of said atomic nuclei about the magnetic field to be measured.

3,371,271
MEASUREMENT OF UNPAIRED ELECTRON DENSITY

Makoto Takenchi and Seishiro Yoshioka, Tokyo, Japan, assignors to Nihon Denshi Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed Feb. 4, 1965, Ser. No. 430,376
Claims priority, application Japan, Feb. 8, 1964, 39/6,459
5 Claims. (Cl. 324—.5)



An apparatus and method for determining unpaired electron density of a first sample by positioning a standard sample and the first sample in a cavity resonator

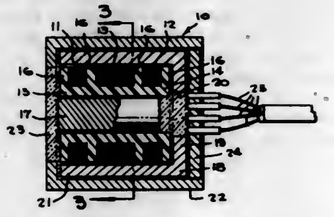
simultaneously and modulating a polarizing magnetic field applied to the cavity with a frequency and intensity that are the same at both samples in order that the resonance absorption curves may be integrated where the modulation is in-phase and out-of-phase by 180°.

3,371,272

ELECTROMAGNETIC SENSING PROBE STRUCTURE AND SYSTEM FOR GAGING PROXIMITY OF METALS AND THE LIKE UTILIZING A LINEAR VARIABLE DIFFERENTIAL TRANSFORMER

Joshua Clarke Stanton, 359 Buena Vista Ave., Arnold, Md. 21012

Filed Sept. 9, 1964, Ser. No. 395,186
8 Claims. (Cl. 324—34)



An electromagnetic sensing probe structure and system for gaging the proximity of electrically conductive materials and the like, wherein the sensing probe is in a generally cylindrical configuration including a centrally disposed, axially elongated inner magnetic core member having three separate coils including an exciter coil and a pair of secondary coils arranged in axially spaced relation along a common axis on the inner core member. The probe also includes an outer, cup-shaped core member of magnetic material formed of an annular cylindrical outer wall concentrically surrounding and radially spaced from the inner core member and the coils thereon and a disk-like end wall integral with the cylindrical outer wall closing one end of the probe, the open end of the cup-shaped core defining the sensing end of the probe. A non-magnetic shield of generally cup-shaped configuration concentric with the axis of the probe encloses the cup-shaped core. Electric connections are made to the coils for applying an alternating current signal of selected frequency to the exciter coil and for coupling from the secondary coils to external apparatus voltage conditions related to the distance between the target material and the sensing end of the probe, the outer cup-shaped core being configurated and related to the inner core to produce a concentrated projected field adjacent the sensing end of the probe shaped to provide a linear change in output voltage from the secondary coils with change in distance of the target surface from a selected distance spaced outwardly from the sensing end.

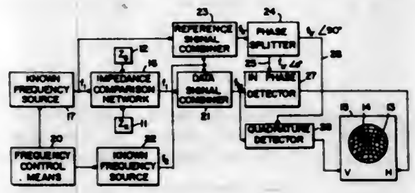
3,371,273

AUTOMATIC IMPEDANCE MEASURING SYSTEM UTILIZING A HYBRID-LIKE NETWORK OPERATIVE OVER A WIDE RANGE OF FREQUENCIES

Andrew Alford, Winchester, Mass.
(299 Atlantic Ave., Boston, Mass. 02110)

Filed July 17, 1961, Ser. No. 124,612
11 Claims. (Cl. 324—57)

1. Signal processing apparatus comprising, a source of a first signal of a first frequency, a source of a second signal of a second frequency, a network having a standard impedance, another impedance, an input and an output, said network being responsive to an input signal applied at its input for providing an output signal of the same frequency as said input signal representative of the vector difference in impedance between said standard and said another impedances, means for coupling said first source to said network input, first means for combining said first and second signals to provide a reference signal of a predetermined frequency, means for maintaining the



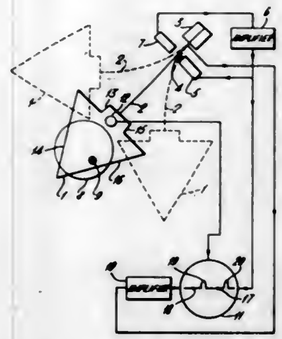
amplitude of said reference signal substantially constant in the presence of changes in said first frequency, and second means for combining said second signal with the output signal of said network to provide a data signal of said predetermined frequency, the magnitude and phase of said data signal with respect to that of said reference signal being representative of said vector difference in impedance at said first frequency.

3,371,274

BEAM SCANNER FOR INDICATING THE POSITION OF A BEAM OF NUCLEAR PARTICLES

Cyril Norman Davey, Newbury, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed July 10, 1964, Ser. No. 381,845
Claims priority, application Great Britain, July 19, 1963, 28,791/63
2 Claims. (Cl. 324—71)



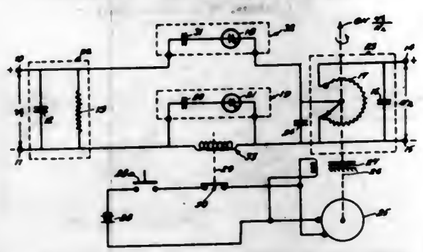
1. A beam scanner for indicating the position of a beam of nuclear particles, comprising a probe arranged to oscillate through the beam, said probe comprising a single conductor having two coplanar conducting portions both of which pass through the desired position of the beam as the probe oscillates, said conducting portions in passing the desired position of the beam being generally parallel to two directions at right angles respectively, means to cause the probe to oscillate through the desired position of the beam, a single amplifier channel connected to the probe wherein current derived from said probe is amplified, and a single trace oscilloscope connected with the amplifier channel whereon variations in the magnitude of the amplified current are displayed visually to show the position of the beam relative to said two directions.

3,371,275

DC VOLTAGE COMPARATOR

Donald R. Hamerla, King of Prussia, Pa., assignor to the United States of America as represented by the Secretary of the Army

Filed Aug. 3, 1964, Ser. No. 387,558
2 Claims. (Cl. 324—140)



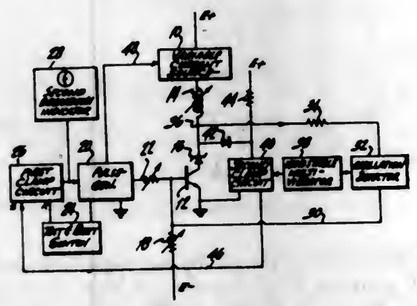
A DC voltage comparator consisting of a first RC circuit to which a test voltage is applied and a second RC circuit to which a reference voltage is applied and wherein the resistance element thereof comprises a potentiometer, the rotating arm of which is mechanically coupled to motor. A Ruehlemann comparator couples one terminal of the first RC network to the potentiometer arm. A second Ruehlemann comparator couples another terminal of the first RC network and has in shunt therewith a relay adapted to disconnect a power source from the motor when the first mentioned Ruehlemann comparator discharges through a capacitor to trigger the second Ruehlemann comparator, whereupon the potentiometer arm and motor cease rotating, the degree of rotation of the potentiometer arm being indicative of the ratio of the aforementioned voltages.

3,371,276

APPARATUS RESPONSIVE TO RADIO FREQUENCY NOISE FOR NON-DESTRUCTIVELY TESTING A REVERSELY BIASED TRANSISTOR FOR SECOND BREAKDOWN

Peter Schiff, White House Station, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Dec. 28, 1964, Ser. No. 421,440
17 Claims. (Cl. 324—158)



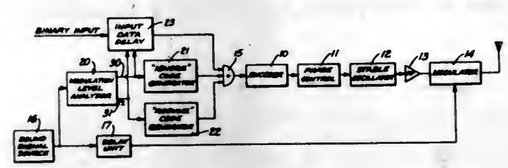
A test device is described for non-destructively testing a transistor for reverse biased second breakdown. The test device applies an increasing voltage across the collector and emitter of a reversely biased transistor until second breakdown occurs, at which time radio frequency noise appears at the control electrode of the transistor. Responsive to this radio frequency noise, the voltage is removed by short-circuiting the collector and emitter of the transistor quickly enough to prevent damage to the transistor.

3,371,277

NOISE CONTROL IN COMPOSITE TRANSMISSION SYSTEMS

John R. Scantlin, Los Angeles, Calif., assignor to Scantlin Electronics, Inc., Los Angeles, Calif., a corporation of Delaware

Filed July 26, 1965, Ser. No. 474,595
14 Claims. (Cl. 325—42)



11. In a system for transmitting information in binary form from a binary source and audio frequency information from an audio source on a single carrier, the combination of:

means for generating a radio frequency carrier;

means for varying the phase of the carrier as a function of the binary information;

means for amplitude modulating the carrier as a function of the audio frequency information;

means for determining when the modulation exceeds predetermined limits;

means for delaying transmission of the binary information; and

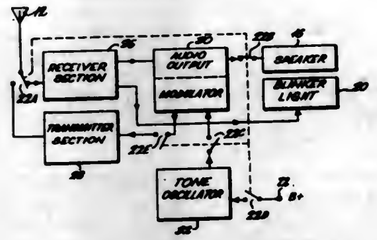
means for transmitting control instructions in binary form in place of the binary information.

3,371,278

ELECTRONIC WARNING SYSTEM FOR VEHICLES

Warren G. Gelushia, Marlin, Tex. (113 N. Emberwood, Robinson, Tex. 76706); Gilbert A. Ilbery, 3300 Lyle St., Waco, Tex. 76708; and Dalton L. Smith, 310 Live Oak St., Marlin, Tex. 76661

Filed Sept. 9, 1966, Ser. No. 578,308
6 Claims. (Cl. 325—64)



An electronic warning system for vehicles wherein each vehicle is equipped with a transceiver apparatus whereby the operators of said vehicles can both warn and be warned by other vehicles of approaching or ensuing danger.

3,371,279

COHERENT RECOVERY OF PHASE-MODULATED DIBITS

Adam Lender, Palo Alto, Calif., assignor, by mesne assignments, to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

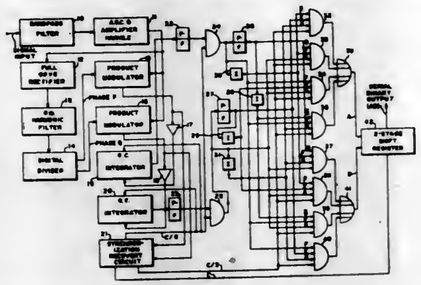
Filed Sept. 3, 1963, Ser. No. 306,082
8 Claims. (Cl. 325—320)

This invention relates to method and apparatus for recovering original binary data from a carrier which has been quaternary phase modulated with the data by converting a frequency component of the carrier obtained

from the phase-modulated carrier into two reference carriers having the same frequency as the carrier and differing in phase from the original carrier by an integral number of degrees defined by the relationship

$$-135° \pm 90n$$

where n may be an integer from 0 to 3, and the second reference carrier is 90° out-of-phase with the first. Each of these reference carriers is multiplied by the quaternary

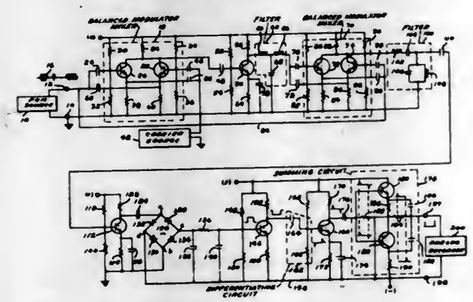


phase-modulated carrier and the two resultant signals are converted to corresponding first and second binary digital signals. Each of these two binary digital signals is delayed by one binary bit to obtain third and fourth binary digital signals, and the four binary digital signals are logically combined to produce a binary output signal corresponding to the original binary data. Coherent recovery of phase-modulated data is herein obtained without the requirement of deriving a separate synchronous demodulating signal.

3,371,280
PRECISION SIGNAL PROCESSOR FOR PULSE DURATION MODULATION TELEMETRY

John L. Gill, Jr., 7977 Blackshear Drive, Dayton, Ohio 45424

Filed Aug. 18, 1964, Ser. No. 390,486
4 Claims. (Cl. 325—323)

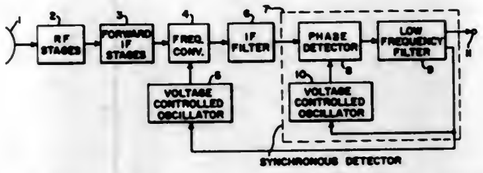


Receiver for removing frequency variations in a received pulse duration modulated carrier wave signal. The received signal is mixed with a locally generated sinusoidal signal, and all but the lower sideband of the mixed signal is removed. The lower sideband signal is then mixed with the received pulse duration modulated carrier wave signal and all but the upper sideband is removed. The resulting signal is a pulse duration modulated carrier wave signal with the frequency of the carrier wave now unvarying and equal to the frequency of the locally generated signal. The resulting signal is then converted into a pulse train representing the leading and trailing edges of the original pulses.

3,371,281
FREQUENCY MODULATION RECEIVER COMBINING FREQUENCY FEEDBACK AND SYNCHRONOUS DETECTION

Noble R. Powell, North Syracuse, N.Y., assignor to General Electric Company, a corporation of New York

Filed Oct. 24, 1963, Ser. No. 318,569
5 Claims. (Cl. 325—346)

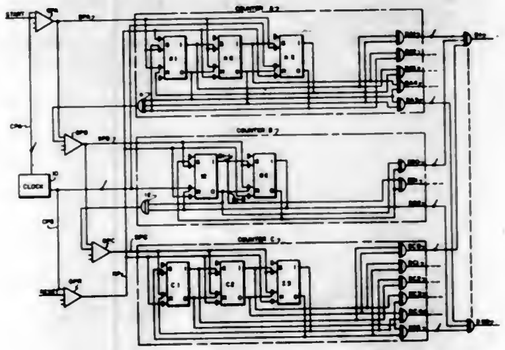


A frequency modulation receiver particularly suitable for long range communications, employing feedback techniques in the IF and demodulator stages which exhibits good signal to noise ratio and improved threshold performance. The demodulated signal is fed back to control an IF local oscillator frequency for compressing the modulation index of the IF signal, and to control a further local oscillator frequency that is multiplied with said IF signal in a phase detector from the output of which said demodulated signal is derived.

3,371,282
PLURAL, MODIFIED RING COUNTERS WHEREIN EACH SUCCEEDING COUNTER ADVANCES ONE STAGE UPON COMPLETION OF ONE CYCLE OF PRECEDING COUNTER

John R. Vande Wege, Glen Ellyn, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Oct. 5, 1965, Ser. No. 493,131
8 Claims. (Cl. 328—43)

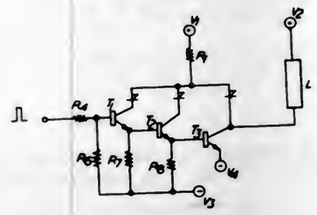


A plurality of re-entrant flip-flop counters driven by a clock providing two interlaced pulse trains are interconnected so that as the first counter cycles from its last count the second counter is caused to advance one count, etc. One clock pulse train supplies the principal shift pulses for the counters. The first counter is arranged to be advanced from its next-to-last step to its last step responsive to a pulse from the other clock pulse train, these last two steps being combined by the decoding logic to constitute a single count. The output from the last step of the first counter is used to control the supply of shift pulses to the other counters so that all counters advance simultaneously as the first counter recycles from its last step to its first step.

3,371,283
ELECTRICAL CIRCUITS

Frederick Henry Rees, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 5, 1963, Ser. No. 328,267
Claims priority, application Great Britain, Dec. 20, 1962, 48,147/62
3 Claims. (Cl. 330—20)

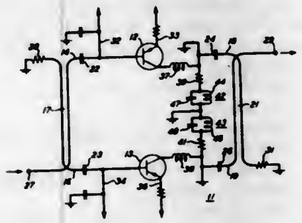


A transistorized amplifier circuit arrangement in which all stages but the final stage are connected in emitter follower configurations having their collectors connected together and to a bias source through a resistor. The collector of the final stage is connected to the common collector connection thru a diode. In this circuit arrangement only the first stage can saturate in response to an input pulse.

3,371,284
HIGH FREQUENCY BALANCED AMPLIFIER

Rudolf S. Engelbrecht, Bernardsville, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 30, 1964, Ser. No. 407,745
10 Claims. (Cl. 330—31)



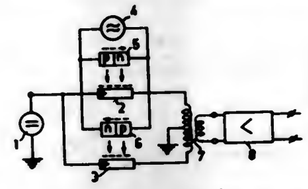
A balanced four-terminal amplifier utilizes a pair of matched amplifying devices and input and output couplers which divide the input signal equally between the amplifiers and which combine equally the signals from the amplifiers. Such a configuration results in improved impedance matching, gain flatness, phase linearity, and reduces to a minimum critical tuning adjustments.

3,371,285
CIRCUIT ARRANGEMENT FOR AMPLIFYING ELECTRIC SIGNALS

Hermann Georg Grimmeiss, Aachen, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 11, 1964, Ser. No. 351,163
Claims priority, application Germany, Mar. 14, 1963, N 22,880
5 Claims. (Cl. 330—59)

A circuit for converting a D.C. voltage to an A.C. voltage, or for amplifying low frequency or D.C. signals, comprises first and second photosensitive resistors connected in a push-pull arrangement with the signal source and the input circuit of the electrical load. First and second semiconductor p-n recombination radiation elements are optically coupled to the first and second photosensitive resistors, respectively. The first and second p-n radiation elements are connected in parallel across a source of A.C.

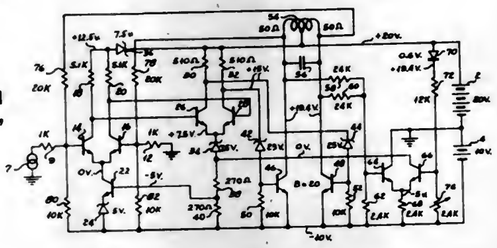


voltage and with opposite polarities so that they are rendered conductive during alternate half cycles of the A.C. voltage and thereby alternately illuminate the photoresistors to produce a chopper action.

3,371,286
STABILIZED DIRECT-COUPLED PUSH-PULL AMPLIFIER

Ralph E. Lovelace, East Norwalk, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Aug. 27, 1964, Ser. No. 392,457
12 Claims. (Cl. 330—123)



In general my invention contemplates the provision of a push-pull output stage comprising a pair of transistors having grounded emitters. The output transistors are connected to a center-tapped load winding having some inherent resistance in each of its two halves. I provide a control voltage in accordance with the sum of the voltages at the collectors of the output transistors. Since the winding does have some resistance a net voltage appears proportional to the total flow of direct current through the output transistors. The output transistors are normally biased at cut-off for Class B operation. If the control voltage, indicative of the total collector current of the two output transistors, decreases below a certain minimum value, then both output transistors are biased into conduction sufficiently that the control voltage is maintained at such minimum value. Effectively my circuit linearizes the cut-off characteristics of the output transistors over an extended range of currents so that the crossover gain has the proper value.

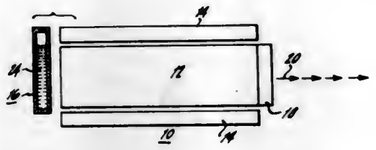
3,371,287
HIGH POWER LASER INCORPORATING SELF-HEALING MIRROR MEANS

Theodore A. Haddad, Lexington, Mass., assignor to Radio Corporation of America, a corporation of Delaware

Filed Mar. 15, 1963, Ser. No. 265,521
3 Claims. (Cl. 331—94.5)

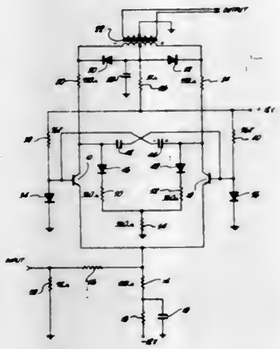
1. In a laser, means incorporating mirror means for producing a high power beam of coherent light which impinges on and is reflected from the mirror surface of said mirror means, said high power beam being capable of having an intensity sufficient to destroy on contact that

portion of said mirror means on which it impinges, and wherein said mirror means comprises a container transparent to said beam and containing a liquid having mirror-



like reflection characteristics, whereby said mirror means upon exposure to a high power beam which has said intensity is self-healing.

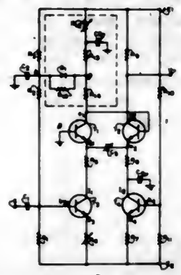
3,371,288
PERIOD MODULATION MULTIVIBRATOR CIRCUIT
Bert H. Dann, Altadena, Calif., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed July 19, 1965, Ser. No. 473,100
5 Claims. (Cl. 332—14)



There is described a modulation circuit which generates a periodic or alternating output signal in which the duration of each semi-period is directly proportional to the amplitude of a modulating input signal at the end of the semi-period, and in which the duration of each semi-period is independent of the preceding semi-period.

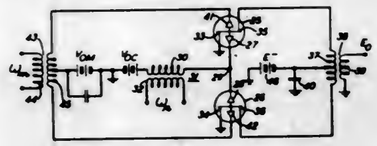
3,371,289
WIDE BAND FREQUENCY MODULATOR, OF THE SOLID STATE TYPE, WITH LINEAR CHARACTERISTICS
Agostino Luna and Roberto Cafissi, Milan, Italy, assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 407,964, Nov. 2, 1964. This application July 30, 1965, Ser. No. 475,983
2 Claims. (Cl. 332—14)

A frequency modulator employs a free-running, astable multivibrator as a variable frequency oscillator. Linear charging and discharging of the emitter coupling capacitor of the multivibrator is insured by a pair of constant current generators connected thereacross, the output of one of the generators being variable in response to the modulating signal. A variable load circuit connected to the collector of one transistor of the multivibrator and to the base of the other transistor includes a diode which is conductive with the said one transistor to define one trigger level and a reactive circuit connected to the diode



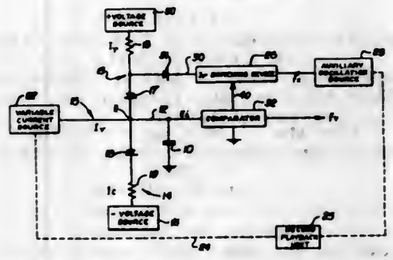
and said one transistor provides a second trigger level across the diode when the diode becomes non-conductive.

3,371,290
FIELD EFFECT TRANSISTOR PRODUCT MODULATOR
Lynden U. Kibler, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 30, 1965, Ser. No. 452,227
6 Claims. (Cl. 332—23)



1. Apparatus for shifting the frequency spectrum of a given signal to a different frequency range comprising first and second tetrode field effect devices each having a source connection, a drain connection, and first and second gate connections;
means for applying a carrier wave to one of the gates of each of said devices;
means for applying said given signal to the other of the gates of each of said devices;
means for maintaining said source connections at a common reference potential;
and means for extracting an output signal across said drains.

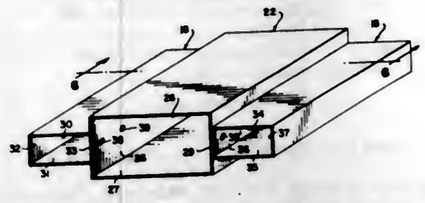
3,371,291
CURRENT CONTROL OF OSCILLATOR FREQUENCY
Stanley C. Forrest, Jr., Santa Ana, and Leonard Schupak, Tustin, Calif., assignors to Astrodata, Inc., Anaheim, Calif., a corporation of California
Filed Jan. 11, 1965, Ser. No. 424,558
7 Claims. (Cl. 332—30)



The disclosed oscillator produces an output frequency that is linearly related to the instantaneous amplitude of variable input current. It incorporates a charge storing

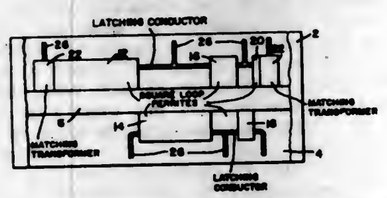
device connected via a summing junction with multiple current paths one of which supplies the variable input current and others of which provide charge and discharge current. Charge current is controlled to produce cycling of the stored charge.

3,371,292
FUNDAMENTAL MODE COUPLER
Jacobus A. Hammer, Clarence, N.Y., assignor to Cornell Aeronautical Laboratory, Inc., Buffalo, N.Y., a corporation of New York
Filed Feb. 23, 1965, Ser. No. 434,376
7 Claims. (Cl. 333—10)



A fundamental mode coupler including a waveguide having opposite narrow sides and dimensioned so that modes higher than a fundamental mode are possible therein, and exciting waveguides arranged on said opposite narrow sides and providing common walls therewith, these walls being provided with similar coupling holes, whereby only the fundamental mode will be excited in the central waveguide.

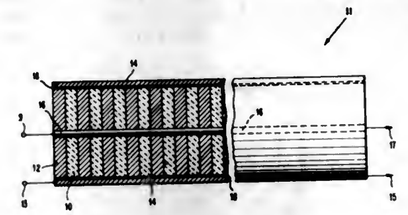
3,371,293
NON-RECIPROCAL STRIP TRANSMISSION LINE PHASE SHIFTER
Raymond R. Jones, Baltimore, and Lawrence R. Whicker, Severna Park, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 24, 1965, Ser. No. 482,074
1 Claim. (Cl. 333—24.1)



A strip transmission line phase shifter containing therein at least one ferrite, each ferrite being of a closed loop geometry. One wall of each ferrite is positioned immediately adjacent the center strip conductor and provides dielectric loading to distort the uniform transverse field for obtaining the planes of circular polarization. In such a manner the dielectric properties as well as the magnetic properties of the ferrite are used.

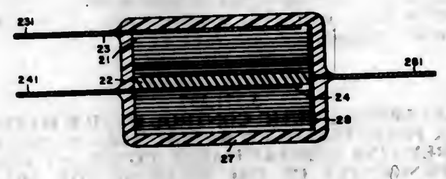
3,371,294
LUMPED CONSTANT DELAY LINE
Mark Naiman, South Lincoln, Mass., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 21, 1963, Ser. No. 260,195
11 Claims. (Cl. 333—31)

1. In a lumped constant delay line, a coaxial transmission line means having inner and outer conductors with a space therebetween and adapted to be connected to input and output means, said outer conductor having an inner and an outer surface, insulating means covering said inner surface of said outer conductor, means comprising high resistivity sections arranged within said space provided between the inner conductor and said insulation on said outer conductor of said coaxial transmission line means, said high resistivity sections providing a lumped element of inductance, means comprising low resistivity



sections arranged in juxtaposition to said high resistivity sections and connected to said inner conductor to provide a lumped element of capacitance, whereby when an input signal is applied by said input means to said coaxial transmission line, the input signal is delayed before arriving at said output means.

3,371,295
DISTRIBUTED RESISTANCE-CAPACITANCE UNIT
Pierre L. Bourgault, Etobicoke, Ontario, and Joost Batelaan, Toronto, Ontario, Canada, assignors to Johnson, Matthey and Mallory, Ltd., Toronto, Ontario, Canada, a corporation and private company of Canada
Filed Nov. 27, 1964, Ser. No. 414,223
4 Claims. (Cl. 333—70)

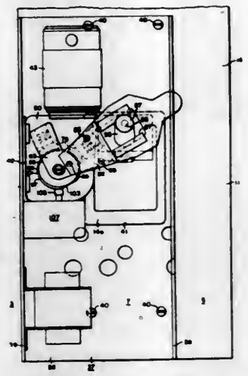


A multiple terminal device constituting an R-C network comprising a resistive path interposed between electrically conductive terminal strip means and capacitance defined between one of the terminal strip means and terminal lead means.

3,371,296
CIRCUIT BREAKER AND MOTOR OPERATOR
John G. Salvati, Patterson Township, Beaver Falls, and Louis N. Ricci, Chippewa Township, Beaver Falls, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 14, 1965, Ser. No. 471,825
6 Claims. (Cl. 335—74)

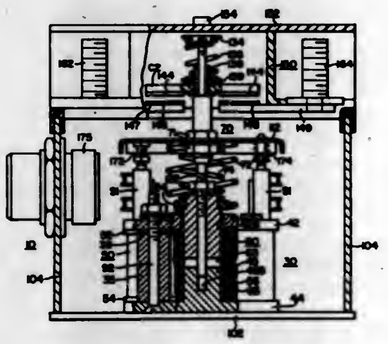
1. A motor-operating mechanism for operating a circuit breaker of the type comprising an insulating housing having a generally planar front with an operating handle structure extending from the front of said housing and movable between two operating positions to open and close a pair of contacts that are disposed within the housing, said motor-operating mechanism comprising support means adapted to be supported at the front of said housing, said support means comprising a base plate having an opening therein for receiving said operating handle, a motor structure supported on said support means, an operating shaft geared to said motor and operable by operation of said motor structure and rotatable about an axis that is generally normal to the plane

of said planar front, a driving friction member mounted on said operating shaft for rotation with said operating shaft, a driven friction device mounted on said operating shaft and rotatable about said axis relative to said operating shaft, said driven friction device comprising a pair of spaced handle-engaging surfaces for receiving said handle structure therebetween to provide an operative connection between said driven friction device and said operating handle structure, said driving friction member



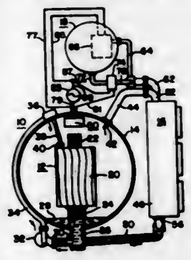
and driven friction device comprising friction surfaces engageable to provide a friction clutch structure between said operating shaft and said operating handle structure, and upon energization of said motor said operating shaft operating through said friction clutch structure to operate said driven friction device to thereby operate said operating handle structure when said motor-operating mechanism is mounted on said housing with said driven friction device operatively connected with said operating handle structure.

3,371,297
ELECTROMAGNETIC CONTROL DEVICE HAVING A PREDETERMINED RADIAL AIR GAP WHICH REMAINS SUBSTANTIALLY CONSTANT INDEPENDENTLY OF THE WEAR OF THE ARMATURE AND ASSOCIATED STATIONARY MAGNETIC STRUCTURE
James L. Ridings, Lima, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 10, 1966, Ser. No. 571,583
6 Claims. (Cl. 335—170)



1. An electrical control device comprising stationary and movable contact means, and means for actuating the movable contact means between open and closed positions with respect to the stationary contact means, said actuating means including a stationary magnetic structure and a generally T-shaped armature coupled to the movable contact means and comprising a generally cylindrical magnetic member movable between a first position spaced away from and a second position adjacent to a first portion of the stationary magnetic structure and a generally annular magnetic member resiliently disposed around and adjacent to one end of the generally cylindrical magnetic member with a radial gap therebetween to engage a second portion of the stationary magnetic structure in the second position of the generally cylindrical magnetic member and to be spaced away from the second portion of the stationary magnetic member in the first position of the generally cylindrical magnetic member, the first and second portions of the stationary magnetic structure being spaced axially from one another with respect to the generally cylindrical magnetic member.

3,371,298
COOLING SYSTEM FOR ELECTRICAL APPARATUS
Paul Narbut, Hickory Township, Sharpsville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 3, 1966, Ser. No. 524,676
9 Claims. (Cl. 336—57)

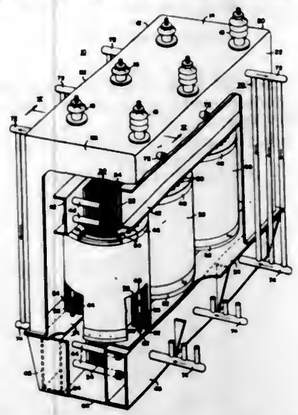


An electrical transformer which is cooled and electrically insulated by a vaporizable liquid and a non-condensable gas. Temperature and pressure responsive sensor means is disposed to control the amount of non-condensable gas in the transformer tank. When the transformer temperature is below that which is required to evaporate a sufficient quantity of the liquid to fill the tank with vapor, the windings of the transformer are insulated with the non-condensable gas at a predetermined elevated pressure. As the transformer temperature increases towards its normal operating temperature, the non-condensable gas is removed from the tank at a predetermined rate which is responsive to the temperature and pressure within the tank, to reduce the total tank pressure with increasing temperature along a predetermined curve. Once the operating temperature is reached, the sensor means regulates the tank pressure. When the temperature of the transformer starts to drop, the sensor means adds non-condensable gas to the tank in response to the temperature and pressure within the tank.

3,371,299
TRANSFORMER APPARATUS COOLING SYSTEM
Paul Radkowski, Pulaski, and Leo Radkowski, Sharon, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 10, 1966, Ser. No. 526,623
5 Claims. (Cl. 336—57)

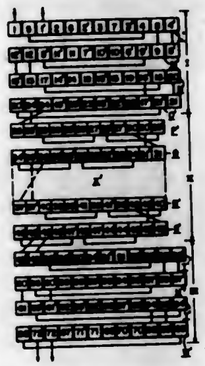
1. A transformer comprising a magnetic core having a winding leg, concentric windings on said winding leg, said concentric windings having a duct therebetween, a housing enclosing said core and said windings, said housing

including a bottom wall for supporting said windings, manifold means below said bottom wall, fluid coolant in said housing for cooling said windings, means for conduct-



ing said fluid coolant from said housing to said manifold means, and means for directing said fluid coolant from said manifold means through said duct between said concentric windings.

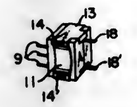
3,371,300
INTERLEAVED TYPE WINDINGS FOR ELECTRICAL INDUCTIVE APPARATUS
Gerhard M. Stein, Sharon, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Original application Sept. 10, 1962, Ser. No. 222,559, now Patent No. 3,246,270, dated Sept. 12, 1966. Divided and this application Oct. 15, 1965, Ser. No. 496,409
11 Claims. (Cl. 336—70)



Interleaved type pancake coils and windings for electrical transformers, which places a predetermined number of turns from an electrically distant portion of the pancake coil or winding between series connected turns, to increase the series capacitance of the pancake coils and winding.

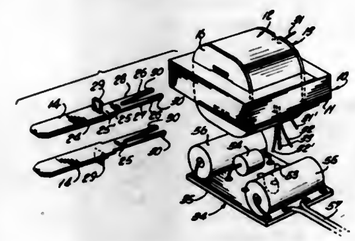
3,371,301
MAGNETIC CORE UNIT
Takao Hisano, Yokosuka-shi, Japan, assignor to TDK Electronics Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Nov. 7, 1966, Ser. No. 592,614
1 Claim. (Cl. 336—83)

1. A magnetic core unit comprising:
a bobbin having a tubular bobbin body having a cylindrical hole made within it, flanges provided at the respective ends of said bobbin body, terminal fixing bases provided in parallel with each other in the horizontal direction in the upper parts of said respective flanges and a plurality of connecting terminal rods erected on the upper surfaces of said respective terminal fixing bases;
a core formed of two core pieces jointed with each other on the contact surface so as to form a box having an opening in the upper part, having a space within it and provided with a columnar part projecting inward across said space from the side wall of each of said core pieces, said columnar parts of



the respective core pieces forming the core being inserted into the cylindrical hole of said bobbin body from both ends of said hole so that said core and bobbin may be integral to be an assembly;
a U-shaped case enclosing said assembly and having bent parts at the respective ends, projections provided on said respective bent parts and projecting parts provided to project inward for positioning; and
a plate spring inserted at both ends between the bent parts of the case and the core so that both ends of said plate spring engage with both ends of said case, said case being provided with a bent leg on each side wall.

3,371,302
POWER SUPPLY AND IMPROVED TRANSFORMER STRUCTURE THEREFOR
Joseph A. Maz, Woodbury, N.Y., assignor to Dynamic Instrument Corporation, Plainview, N.Y., a corporation of New York
Filed Apr. 23, 1965, Ser. No. 450,357
7 Claims. (Cl. 336—92)

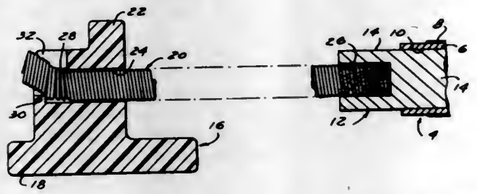


A transformer and coil construction therefor wherein the coil construction includes a spool having rigid prongs engaging the spool and extending therefrom for supporting and energizing the completed transformer.

3,371,303
ADJUSTABLE MOUNTING FOR TUNING MEMBER
Gerald S. Fay, Springfield, Mass., assignor to General Instrument Corporation, a corporation of Delaware
Filed Apr. 22, 1966, Ser. No. 544,421
19 Claims. (Cl. 336—130)

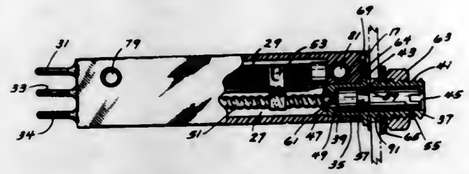
1. In a tuner comprising a support, a tuned member mounted thereon, a tuning member movable relative to said tuned member to tune the latter, a part operatively connected to said support and movable relative thereto, and means connecting said tuning member to said part for movement therewith; the improvement which comprises said part having an aperture with front and rear ends respectively operatively facing toward and away

from said tuning member, an element on said part rearwardly spaced from and at least partially overlapping said rear end of said aperture, and said connecting means



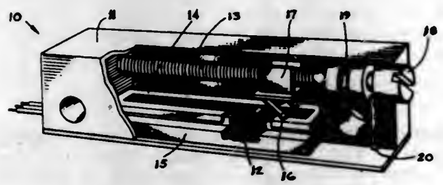
comprising a resilient member the outer surface of which defines an external threaded configuration, said resilient member passing through said aperture and engaging and being deflected by said element.

3,371,304
PANEL MOUNTED POTENTIOMETER
Louis W. Scheel, Columbus, Iowa, assignor to Dale Electronics, Inc., Columbus, Nebr., a corporation of Nebraska
Filed Oct. 22, 1965, Ser. No. 510,732
7 Claims. (Cl. 338—180)



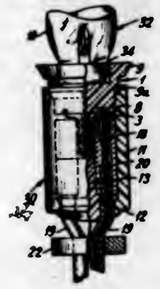
A potentiometer including a body portion having a mounting stud extending from one end thereof, a one-piece leadscrew is mounted in the body portion and has a head portion received by a longitudinal bore formed in the mounting stud. The mounting stud is maintained in the body portion by a mounting bracket which embraces opposite sides of the body portion.

3,371,305
MOVABLE ELECTRICAL CONTACT CARRIER BLOCK FOR POTENTIOMETERS
Robert J. De Long, Temple City, Robert D. Johnson, Pomona, and Bud A. Paine, Monterey Park, Calif., assignors to Spectrol Electronics Corporation, City of Industry, Calif., a corporation of Delaware
Filed Feb. 21, 1966, Ser. No. 528,925
2 Claims. (Cl. 338—202)



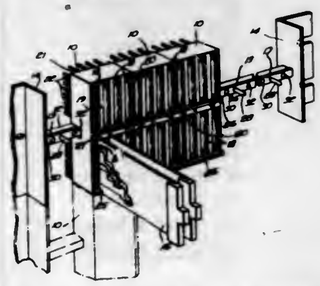
Disclosed is a trimmer type potentiometer having a resistance element and a lead screw disposed in parallel relationship therein. A slider block engages the lead screw and moves in such a manner to carry electrical contact along the resistance element. The slider block is constructed of a molded integral unit having a flat base member with arms extending from one major phase thereof. The arms have inwardly directed ridges defining threads thereon which engage the threads in the lead screw so as to carry the slider block in the attached contacts along the resistance element. The arms are resiliently deformable in such a manner that the slider block can be snapped in place over the lead screw.

3,371,306
LAMP SOCKET AND BULB ASSEMBLY
Dario Moranduzzo, Via Aretina 161, Florence, Italy
Filed Mar. 8, 1966, Ser. No. 532,714
Claims priority, application Italy, June 18, 1965, 14,253/65
3 Claims. (Cl. 339—59)



A lamp socket comprises two spaced contact ferrules held between a resilient sleeve and a plug element which is snap-fitted in the sleeve, each ferrule receiving a cable conductor which extends through the plug. Lead wires of a lamp extend through and are positioned along sides of a lamp base portion to make electrical contact with the ferrules when inserted in the sleeve.

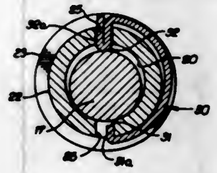
3,371,307
CONNECTOR BLOCK ASSEMBLY
Philip G. Backholm, Northboro, and Loren B. Prentice, West Acton, Mass., assignors to Digital Equipment Corporation, Maynard, Mass.
Filed Dec. 30, 1965, Ser. No. 517,583
10 Claims. (Cl. 339—121)



A connector block assembly includes a plurality of individual blocks. Each block is located longitudinally on a positioning bar by means of a pin extending from the bar to the block. The block is positioned traversely to the bar by welding together interfitting portions of the bar and block.

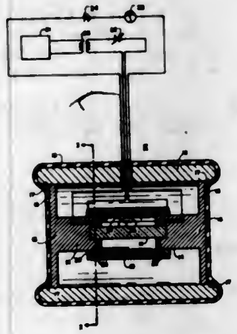
3,371,308
SOCKET CONTACT C SPRING
James W. Maston, Altadena, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Dec. 30, 1965, Ser. No. 517,641
4 Claims. (Cl. 339—256)

A tubular connector for receiving a male connector therein has a pair of longitudinally extending slits located at opposite sides of the connector and passing completely through the connector body. An elongated spring of generally C-shape cross section fits over the tubular connector with its longitudinal edges received within the



slits, one of the edges extending into the tubular cavity for resiliently urging the male connector into contact with the tube wall.

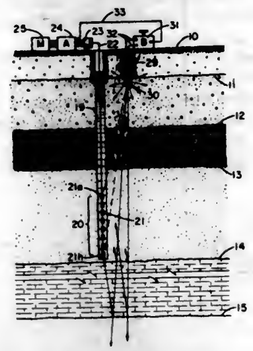
3,371,309
THERMO-MECHANICAL TRANSDUCER
Alan H. Rich, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 10, 1965, Ser. No. 463,058
3 Claims. (Cl. 340—8)



A thermo-mechanical transducer utilizing chromium modified manganese antimonide as the driver element wherein the chromium modified manganese antimonide is characterized by the property of expanding in a sharp, step-like manner as the temperature of the material passes upward through an interval of a very few degrees about a given temperature and of contracting in a similar manner as the temperature passes downward through this interval so as to create mechanical motion which can be used to create compressional waves.

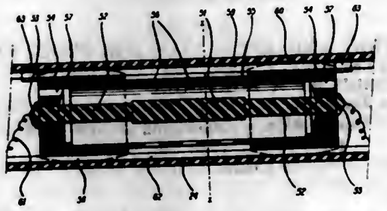
3,371,310
DISCRIMINATING BETWEEN PRIMARY AND MULTIPLE SEISMIC REFLECTIONS
Daniel Silverman, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Mar. 14, 1966, Ser. No. 534,047
12 Claims. (Cl. 340—15.5)

In distinguishing primary and multiple seismic reflections, seismic waves are generated near or below the ground surface, and two traces of the resulting seismic waves, corresponding respectively to the up- and the down-going waves passing a vertical spread or directional detector in a borehole and below the generator and near-surface down-reflecting interfaces, are convolved after removing first breaks. The resulting convolution trace shows events at the times of multiple, but not primary,



reflections, and may therefore be used to identify or cancel the multiples in the trace corresponding to up-traveling waves.

3,371,311
TOWED PRESSURE TRANSDUCERS WITH VIBRATION ISOLATION
Jacques Cholet, Rueil-Malmaison, Michel Dubesset, Clermont-Ferrand, and Michel Lavergne, Le Vesinet, France, assignors to Institut Francais du Petrole, des Carburants et Lubrifiants, Rueil-Malmaison, France
Filed May 23, 1966, Ser. No. 552,165
Claims priority, application France, May 22, 1965, 18,075; Dec. 14, 1965, 42,280; Dec. 30, 1965, 44,440
11 Claims. (Cl. 340—17)

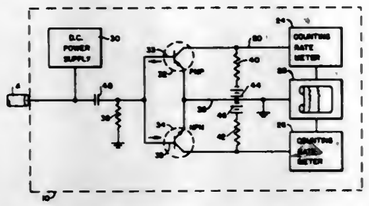


Apparatus for use in seismic prospecting and including towing means in the form of a deformable tube, at least one pressure sensor, and connecting means forming a vibration insulating connection between the sensor and the towing means, the connecting means essentially including a sheath of deformable material enclosing the sensor, two elastic arms connected to respective ends of the sheath, a rigid perforated cage surrounding the sheath, and elastic support means supporting the free ends of the arms and the ends of the cage and tightly inserted in the deformable tube constituting the towing means.

3,371,312
PULSE SEPARATION CIRCUIT
Eric C. Hopkinson, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Continuation of application Ser. No. 774,253, Nov. 17, 1958. This application Nov. 23, 1964, Ser. No. 414,518
3 Claims. (Cl. 340—18)

1. Apparatus for radioactivity well logging comprising a subsurface instrument; a transformerless surface unit; and a cable suspending said subsurface instrument in a borehole to be logged; said cable including at least one electrical conductor connecting said subsurface instrument to said surface unit; said subsurface instrument including a source of low level negative pulses having positive overshoots, a source of low level positive pulses

having negative overshoots, and means for impressing pulses from both of said sources on the conductor of said cable for transmission to the surface of the earth; said transformerless surface unit including an NPN transistor, means maintaining substantially zero bias between the base and emitter of said NPN transistor, a PNP transistor, means maintaining substantially zero bias between the base and emitter of said PNP transistor means maintaining the respective emitters of said transistors at a fixed potential, means connecting the bases of said transistors directly together and capacitively to the conduc-

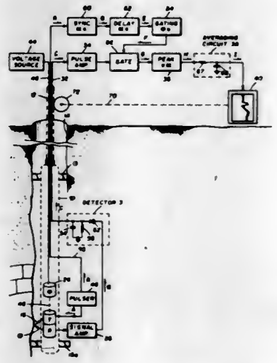


tor of said cable, the base-to-emitter diode being such as to conduct on the application of pulses and to be nonconductive on the application of overshoots whereby the pulses are separated into two channels and amplified without appreciable amplification of the overshoots thereby substantially improving the pulse to overshoot ratio, the first signal receiving means connected to receive signals from said NPN transistor indicative of the pulses emitted by said source of positive pulses, and second signal receiving means connected to receive signals from said PNP transistor indicative of the pulses emitted by said source of negative pulses.

3,371,313
METHOD AND APPARATUS FOR PRODUCING A REFLECTIVITY LOG OF FORMATIONS TRAVERSED BY A BOREHOLE

Joseph Zemanek, Jr., Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York

Filed Feb. 3, 1966, Ser. No. 524,740
8 Claims. (Cl. 340—18)

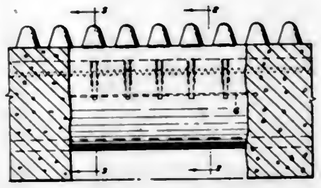


The specification discloses a method of obtaining a log of the reflection coefficient of formations adjacent a borehole. A beam of ultrasonic pulses is directed toward the borehole wall in a circular scanning pattern and the direct reflections from the wall are received. The received signal is applied to a peak reading voltmeter circuit and then to an averaging circuit. The output of the averaging circuit is recorded on a strip chart recorder as a function of depth in the borehole.

3,371,314
TRAFFIC SIGNAL DEVICE

Thomas G. Wright, 4365 Chase Ave., Los Angeles, Calif. 90066

Filed July 26, 1965, Ser. No. 474,857
6 Claims. (Cl. 340—39)

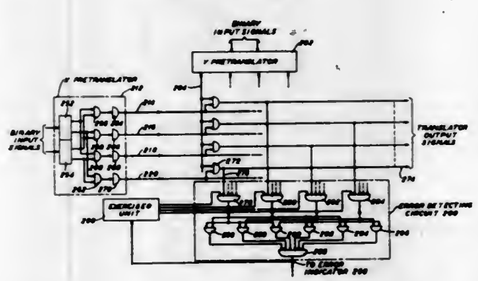


1. In a warning system for a moving object: first flexible means extending above and below a roadway, first electrical contact means attached to said first flexible means and extending below said roadway, second electrical contact means lying adjacent said first contact means and adapted to be touched by said first contact means when a moving object passes across said first flexible means in one direction.

3,371,315
ERROR DETECTION CIRCUIT FOR TRANSLATION SYSTEM

Donald W. Huffman, Shrewsbury, and Wing N. Toy, Colts Neck, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 5, 1964, Ser. No. 387,644
2 Claims. (Cl. 340—146.1)



Circuitry for monitoring the operation of a crosspoint matrix decoder is proposed. When functioning properly such a decoder translates a binary input code into energization of one-out-of-N distinct output circuits, that is, only one crosspoint of the matrix should be energized at a time. However, decoder malfunctions frequently cause multiple outputs. The error-detection circuit checks the matrix and energizes an error indicator if multiple outputs are present. Circuitry has been included to test the operation of the error detection circuit.

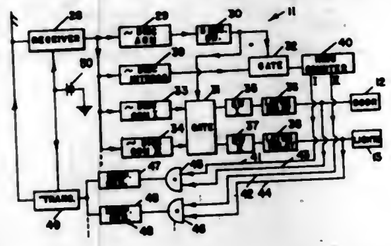
3,371,316
RADIO CONTROL SYSTEM

McVoy Johnson, Los Angeles, Calif. (1909 Prospect, Hermosa Beach, Calif. 90254)

Filed June 21, 1963, Ser. No. 289,647
2 Claims. (Cl. 340—171)

A radio control system is provided including a master unit for transmitting a coded arming signal and subsequently desired command signals to selected mechanisms

to be operated from a remote point. The system also includes a slave unit responsive only to the arming signal to pass the selected command signals to the selected mechanisms. Means are provided for transmitting an interrogat-

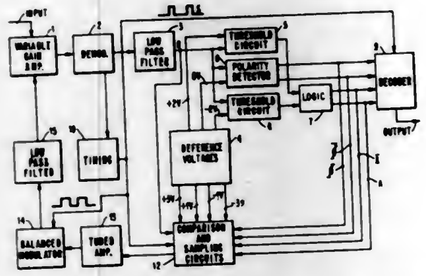


ing signal to the slave unit and transmitting back from the slave unit signals indicating whether or not the particular mechanisms such as garage doors, lights, windows, or the like have been actuated so that the operator can determine the state or condition of the mechanism.

3,371,317
AUTOMATIC GAIN CONTROL FOR SIGNAL HAVING PLURAL DISCRETE LEVELS

Dale L. Critchlow, Lincolndale, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 23, 1965, Ser. No. 474,384
8 Claims. (Cl. 340—172)

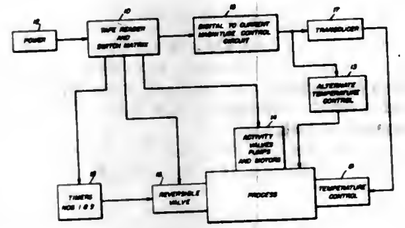


1. In a receiver for multi-level, digital data signals,
circuit means responsive to the received signal for indicating the discrete amplitude of the received signal during each time interval;
polarity detection means for determining the polarity of the received signal during each time interval; and
apparatus for adjusting the receiver to compensate for variations in the gain of the transmission channel, comprising:
means for generating a plurality of reference voltages, each reference voltage corresponding to one of the possible combinations of amplitude and polarity of the received signal;
means responsive to said threshold means and said polarity detection means for selecting one of said reference voltages during each time interval;
comparison means for comparing the selected reference voltage with the received signal during each time interval;
means responsive to said comparison means for producing an error signal corresponding to the difference between said selected reference voltage and said received digital data signal; and
means responsive to said error signal for adjusting said circuit means so as to reduce the difference between said selected reference voltage and said received signal.

3,371,318
AUTOMATIC CONTROL SYSTEM FOR PROCESS OF PACKAGE DYEING YARN

Jefferson L. Claiborne and Edwin T. Bohr, Chattanooga, Tenn., assignors to Dixie Yarns, Inc., a corporation of Tennessee

Filed June 8, 1964, Ser. No. 373,463
18 Claims. (Cl. 340—172.5)

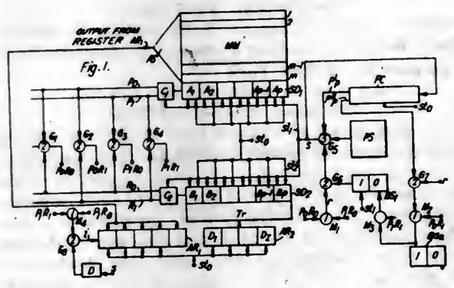


An automatic batch process sequence controller including a punched tape bearing programmed process sequence control information, a tape reader sequentially reading the programmed information on a fixed time basis and feeding a plurality of latching relays formed in an electrical scanning matrix each of which controls an effectuating switch of a particular activity for the process. A timer is provided to establish a time reference for the process but the timer can be interrupted in response to the programmed information and restarted manually to initiate the continuance of the process. A plurality of the latch relays controls switches of a digital to analog temperature control circuit having a high current amplification factor to assure linearity and which feeds a temperature controller for the process in accordance with the programmed information.

3,371,319
STORED PROGRAM, COMMON CONTROL, SELECTING SYSTEM

Jean Louis Masure, Wilrijk-Antwerp, Belgium, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 28, 1964, Ser. No. 407,120
Claims priority, application Netherlands, Nov. 6, 1963, 300,173
12 Claims. (Cl. 340—172.5)



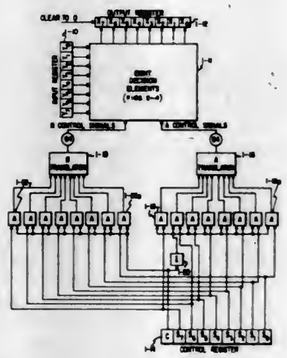
A centralized, electronic, data processing common control circuit has need for making reference to a particular stored program responsive to the receipt of signals representing the "address" of that program. Each address has two parts which are separately processed. One part

represents pieces of hardware, and the other part represents the function expected to be performed by (or for) the hardware. The two address parts are compared to be certain that the hardware identified by the one part of the address can perform (or requires) the function identified by the other part of the address. If there is no match, the hardware address is changed a bit at a time until there is a match. Then, the newly identified hardware may be selected by any suitable means.

3,371,320
MULTIPURPOSE MATRIX

Richard R. Lachenmayer, St. Paul, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 12, 1965, Ser. No. 439,378
14 Claims. (Cl. 340—172.5)



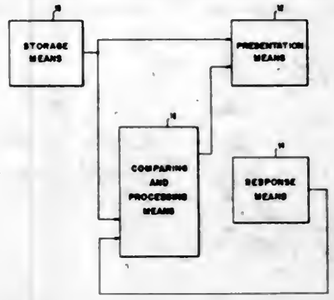
The disclosed device comprises an N-bit data input register, an N-bit data output register, a transformer-diode matrix, first and second translators, and an $N+1$ bit control register. One bit of a control word entered into the control register determines whether the remaining bits of the control word are applied to the first or second translator. The translators control the matrix to determine the function performed on a data word entered into the input register. The device performs the functions of circular shift, pattern location, coincidence detection, and permutation.

3,371,321
TUTORIAL SYSTEM

Edward N. Adams, Mahopac, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Apr. 15, 1965, Ser. No. 448,469
13 Claims. (Cl. 340—172.5)

A teaching machine wherein there is not required the providing therein of pre-synthesized and pre-stored presentations. Instead, control is exercised in part by a student's responses and respective portions of such responses are employed to synthesize further presentations. Thus, machine responses do not exist until they are synthesized in part from student responses after the reception of such responses. This is in contrast to having prepared stored machine responses which are brought from memory by controlled selection. Since it cannot be predicted as to how any one student will respond to a chosen machine presentation, the machine response to a student response is undetermined until it is actually produced as a function of such chosen machine presentation and the student's response thereto. Thus, in the machine whereas the overall discipline governing the production of machine responses is predetermined, the machine responses

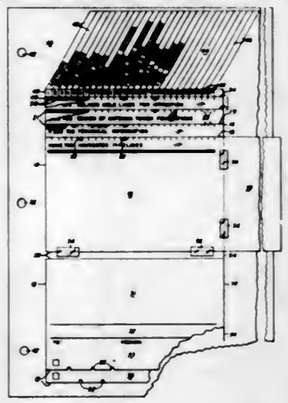


themselves are not predetermined. Consequently, there is provided a genuinely dynamic tutorial machine.

3,371,322
SHINGLE FILING AND RETRIEVAL SYSTEM

Jack W. Hilf, Bethesda, Md., and Maxine E. Woodruff, Lakewood, Colo., assignors to the United States of America as represented by the Secretary of the Interior

Filed Dec. 29, 1965, Ser. No. 517,492
7 Claims. (Cl. 340—172.5)

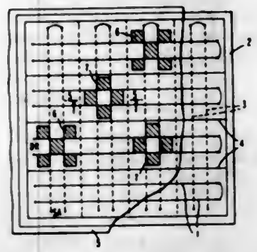


1. An information storage and retrieval file means comprising a base surface, an arrangement of guide and identification inscriptions on said surface including a grid of lines disposed across an upper part of said surface forming a horizontally extending row of enclosures framing individual ones of said identification inscriptions, a horizontally extending row of indicator figures immediately beneath said enclosures so as to relate a different one of said figures to each of said enclosures, a row of shaded markers uniformly spaced in a strip extending across said surface beneath said row of figures so as to center a separate one of said markers under each of said figures, and a said guide inscription extending away from a point adjacent to one side of said grid, and a multiplicity of storage elements which separately carry information relating to one of a multiplicity of concepts identified by said inscriptions, said elements being pivotally connected to said base and having side edges thereof aligned with said guide inscription, and an area on each said element defined contiguous to an upper edge thereof wherein said upper edge comprises concept designators which individually align with corresponding ones of said indicator figures related to said identification inscriptions.

3,371,323
BALANCED CAPACITIVE READ ONLY MEMORY

Daniel Matthew Taub, Winchester, England, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 20, 1963, Ser. No. 289,282
Claims priority, application Great Britain, Sept. 4, 1962, 33,825/62
11 Claims. (Cl. 340—173)

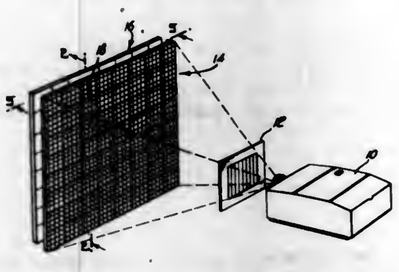


Read only matrix memory having selective coupling between input lines and output lines such that energizing a particular input line produces data signifying signals on the output lines. The selective coupling is either capacitive or has significant incidental capacitance. Output lines are formed in pairs that balance the capacitive load on each input line. Each input line is paired with a balancing line that equalizes the capacitive load on the output line pairs and also balances the effects of capacitive coupling between unselected input lines and the output lines in systems in which the input lines are arranged in a selection matrix.

3,371,324
LIGHT-MODULATING INFORMATION STORAGE AND RETRIEVAL SYSTEM AND METHOD

Nori Sinoto, 345 W. 58th St., New York, N.Y. 10019

Filed Nov. 25, 1964, Ser. No. 413,911
26 Claims. (Cl. 340—173)



Information is stored in arrays of light-modulating elements such as polarizers having their axes of polarization arranged in accordance with a predetermined code. The information is retrieved by projecting light beams polarized in a similarly coded pattern onto the storage arrays. Each beam strikes several polarizing elements simultaneously so that a large number of elements can be scanned at the same time. When the retrieval light beam arrangement matches that of a particular array, each of the elements in the array will have its polarization axis aligned with that of the light beam striking it. This condition in a particular array is detected by means such as a bank of photocells, and the array thus is identified as containing the desired information. In the method of the invention, the system is used to retrieve information on the basis of a key word used in the title or description of a subject being investigated. Each key word is encoded by preparing a projection slide or other storage means with a coded polarization pattern, and light is projected through each key word slide onto the storage arrays. Each array which has one or more of the key words is identified by the storage and retrieval system.

3,371,325
CO-ORDINATE ADDRESSED MATRIX MEMORY

Godfrey Newbold Hounsfield, South Muskham, near Newark, England, assignor to Electric & Musical Industries Limited, Middlesex, England, a company of Great Britain

Filed Oct. 22, 1962, Ser. No. 232,037
Claims priority, application Great Britain, Nov. 4, 1961, 39,564/61
21 Claims. (Cl. 340—174)



1. A data storage device comprising an array of magnetic storage elements in rows and columns, a set of row conductors each for a respective row of the array and magnetically coupled to the elements of that row, a set of column conductors each for a respective column of the array and coupled to the elements of that column, means for applying a first electrical pulse to a selected column conductor, means for applying a second concurrent electrical pulse to a selected row conductor, each said storage element and the magnitudes of said first and second electrical pulses being so chosen that only on the co-incident presence of said first and second pulses respectively on the row and column conductors magnetically coupled to a storage element can the magnetic flux due to the magnetisation of that storage element linking with the selected column conductor be substantially changed, and means connected to said column conductors to derive therefrom an output signal induced in the selected column conductor in response to a substantial change in the magnetic flux linking therewith due to the magnetisation of the element coupled to the selected conductors and produced by the presence of both pulses, the pulses being so timed that the leading edge of the second pulse is delayed relative to the leading edge of the first pulse so that the voltage on the selected column conductor can have attained its steady state when said change of magnetic flux occurs.

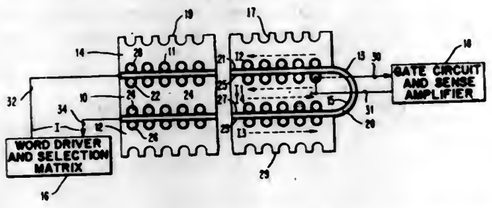
3,371,326
THIN FILM PLATED WIRE MEMORY

George A. Fedde, Norristown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

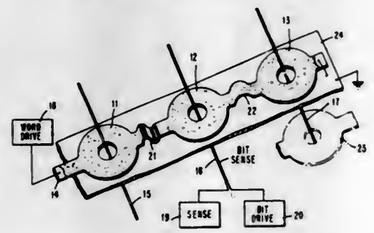
Filed June 18, 1963, Ser. No. 288,653
13 Claims. (Cl. 340—174)

1. A memory device comprising, a first ground plane having first and second surfaces, said ground plane having at least one groove formed along both said first and second surfaces, a second ground plane having first and second surfaces wherein said first surface has at least one groove formed on its first surface, said first surfaces of said first and second ground planes, respectively, being placed in juxtaposition and substantially parallel to one another, data storage means positioned in said spaced grooves of said ground plane, said data storage means comprising a thin film having the property of uniaxial

anisotropy formed on the surface of a signal conducting means, said uniaxial anisotropy establishing "easy" and "hard" directions of magnetization, the magnetization vectors of said film being normally oriented in one of two equilibrium positions along said "easy" direction of magnetization, a flux generator means positioned in close proximity to said first and second ground planes to generate an image current which flows in said first and second ground planes, a flux being thereby generated between said flux generator and said first and second surfaces of said first ground plane and between said flux generator and the first surface of said second ground plane, thereby rotating the magnetization vectors of said thin films of said data storage means from said "easy" axis to an angle less than 90° therefrom.



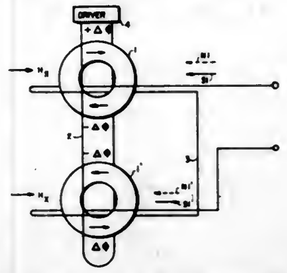
3,371,327
MAGNETIC CHAIN MEMORY
John L. Anderson and Hans-Otto G. Leilich, Poughkeepsie, and David H. Redfield, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 23, 1963, Ser. No. 332,746
5 Claims. (Cl. 340—174)



A magnetic storage device for a data processing system. The storage device has a strip of conductive material having a series of apertures that define storage locations. Because the strips are usually narrowed in the region between the apertures they somewhat resemble a chain and this device is called a chain memory. The conductive strips are coated with a magnetic material to form magnetic paths around the apertures and also around the conductors that form the sides of the apertures. The material is magnetized in one direction or the other around the aperture to represent data. During a read operation a current in the apertured conductor switches the magnetization toward the direction around the conductors that form the sides of the aperture. A bit-sense wire is positioned through the aperture to sense signals produced during a read operation. The bit-sense wire is energizable in a selected polarity to establish the selected direction of magnetization for a write operation.

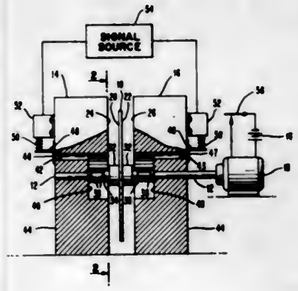
The disclosure also teaches different pulse patterns for reading and writing in the memory, and structural features for taking advantage of the magnetic configuration provided by the conductor and the magnetic coating on the conductor.

3,371,328
MAGNETIC MEMORY EMPLOYING CROSS-FIELD INTERROGATION
John E. Fulenwider, Glenview, and Hilary M. Winters, Chicago, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Jan. 30, 1964, Ser. No. 341,237
6 Claims. (Cl. 340—174)



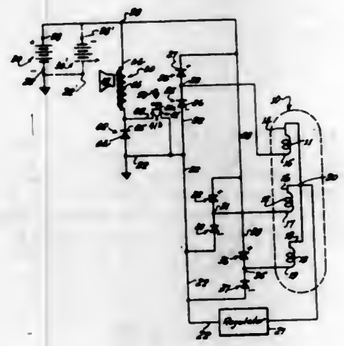
The sense conductors of a core memory are displaced a predetermined distance from the axes of the cores to improve the signal to noise ratio when a transverse interrogation field is applied. The displacement of sense conductors is provided by utilizing a core array in which the cores associated with the same sense conductor are staggered with respect to each other. In a two-core-per-bit memory plane, a similar configuration employs noise to enhance rather than degrade the output signal.

3,371,329
AIR BEARING MAGNETIC MEMORY DEVICE
David G. Adler, Drexel Hill, and Raymond J. Stankiewicz, Philadelphia, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed July 13, 1965, Ser. No. 471,636
4 Claims. (Cl. 340—174.1)



1. A self-adjusting magnetic memory device comprising:
(A) first and second members mounted in closely spaced relation and having opposing planar faces;
(B) a third member mounted between said first and second members and having opposite planar faces opposing those of said first and second member;
(C) means for effecting relative rotational and translational movement between said first and second members and said third member;
(D) means biasing said members translationally to inoperative positions whereby an interspace is provided between each of said first and second members and said third member;
(E) magnetic transducer means mounted in one of said opposing planar faces at each interspace with their pole faces substantially co-planar with said faces, the other of said opposing planar faces being magnetic;
(F) fluid conduit means extending through at least one of said members from each interspace to ambient air;
(G) valve means for opening and closing each of said conduit means selectively; and
(H) means for controlling said valve means in a manner whereby a pressure differential is selectively effected in one of said interspaces by said relative rotational movement to cause relative translational movement between one of said first and second members and said third member, one toward the other, whereby the relative rotational movement in the operative position relative to the transducer means and the magnetic face in the selected interspace is on a cushion of air.

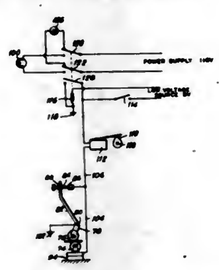
3,371,330
POLARITY REVERSAL WARNING DEVICE
Samuel Dale Howard, Hawthorne, Billy D. Gray, Torrance, and Howard G. Corlett, Gardena, Calif., assignors to Handebois, Inc., Hawthorne, Calif., a corporation of California
Filed Jan. 18, 1965, Ser. No. 426,064
2 Claims. (Cl. 340—249)



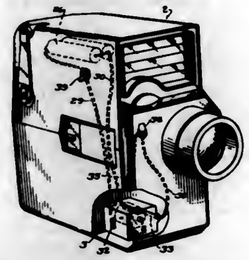
This invention relates to automotive electrical systems employing an alternator as the current operating source and, more particularly, to an alarm circuit to warn of the insertion of a battery therein with reversed polarity. In such alternator circuits it is possible to burn out the diode associated with the alternator circuit by improperly reconnecting the system such that the positive terminal is connected to the negative terminal of the battery and vice-versa after a replacement has been made. The provision of a diode between ground and the junction of the relay coil and the horn in an automobile prevents the burning out of the diodes ordinarily associated with the alternator.

3,371,331
DETECTION SYSTEM FOR SHEETS OF PAPER OR THE LIKE
Ronald Buckholz, Bay Shore, N.Y., assignor to Mailmen Incorporated, Syosset, N.Y., a corporation of New York
Filed July 12, 1965, Ser. No. 471,222
7 Claims. (Cl. 340—259)

1. A no-sheet and multiple-sheet detector comprising a voltage source, a fixed metal roller mounted in the path of a sheet, a movable metal roller carried on a pivoted lever, means urging the movable roller into contact with the fixed roller, a contact carried and moved by the pivoted lever, a fixed contact engaged by said movable contact when said movable roller is moved away from the fixed roller by multiple sheets passing therebetween, said fixed roller being electrically connected to said fixed contact and both to said voltage source, the movable roller and movable contact both being electrically connected to the other side of the voltage source, and an alarm responsive to contact either of said rollers, or of said contacts.



3,371,332
PANNING RATE INDICATOR
Daniel D. Call, Elk Grove Village, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 13, 1965, Ser. No. 447,816
14 Claims. (Cl. 340—263)

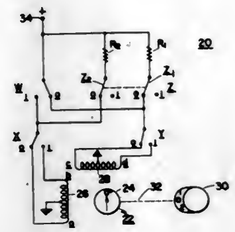


There is herein disclosed a panning rate indicator for a moving picture camera wherein a motor is mounted within a non-conductive housing so that it is pivotable against a spring bias about an axis which is orthogonal to the spin axis of the motor's rotor. A reed switch is mounted in the housing and adapted to be actuated by the magnetic field of the motor's stator when the motor pivots a predetermined amount about the orthogonal axis. Closure of the reed switch permits power to be directed to a lamp which, when lit, indicates that the camera is being panned more rapidly than a predetermined desired rate.

3,371,333
BINARY-TO-DIGITAL CONVERSION SYSTEM
Arthur F. Naylor, Fort Wayne, Ind., assignor to Bowmar Instrument Corporation, Fort Wayne, Ind., a corporation of Indiana
Filed Nov. 12, 1963, Ser. No. 322,678
13 Claims. (Cl. 340—347)

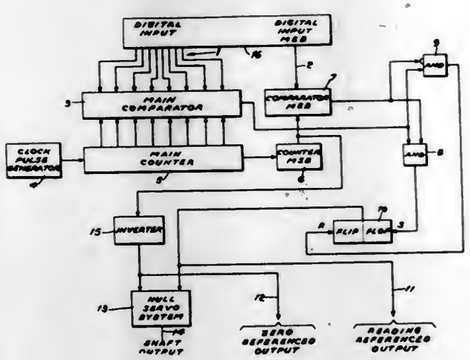
A code converter for use in a binary-to-decimal converting system comprising a magnetic multiple position indicator having a magnetic rotor and a magnetic stator structure cooperating therewith. Either three or four selectively energizable field winding parts are annularly and symmetrically disposed on the stator structure for selectively positioning the rotor at twelve different discrete rotor positions. Means are provided for selectively coupling predetermined ones of the field winding parts to direct current potential supply means for energization thereby with predetermined positive or negative polarity

in accordance with a prearranged code which has a plurality of characters no greater than twelve. The coupling means and the field winding parts are arranged so that



predetermined groups of the windings are energized with predetermined polarities and are jointly effective to provide a corresponding number of different discrete rotor positions.

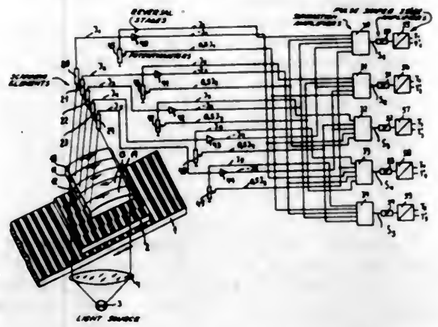
3,371,334
DIGITAL TO PHASE ANALOG CONVERTER
Ralph L. Asher, New York, N.Y., and John B. Kennedy, Montville, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed May 18, 1964, Ser. No. 367,992
9 Claims. (Cl. 340—347)



A digital to phase analog conversion system which provides two analog output signals such as two sine waves or two square waves, for example. The phase difference between the two analog output signals is proportional to a digital input signal which represents a digital number.

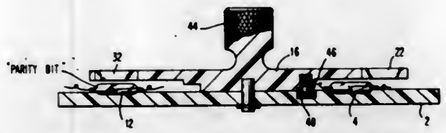
3,371,335
SYSTEM FOR MEASURING OF LENGTHS BY MEANS OF IMPULSE COUNTING
Gerhard Seewald, Altenmarkt (Alz), Germany, assignor to Firma Wenczler & Heidenhain, Traunstein, Germany, a corporation of Germany
Filed June 5, 1964, Ser. No. 372,749
Claims priority, application Germany, Apr. 22, 1964, W 36,634
5 Claims. (Cl. 340—347)

A system for measuring of lengths, the value to be determined as to its size and direction by impulse counting comprising a grid module, a line plate slidably disposed above and for movement parallel to the grid module, a plurality of scanning means disposed above the line plate, and a light source creating a light beam passing through the grid module and the line plate to the scanning means. The plurality of scanning means produces a plurality of output signals, respectively, with corresponding phase displacements relative to each other and a plurality of means are provided for applying coefficients to the plurality of output signals, respectively,



to form coefficient modified output signals. A plurality of summation amplifier means each produces a summation signal from at least one of the coefficient modified signals from every scanning means and the number of the summation signals is equal to the number of the plurality of scanning means.

3,371,336
HERMETICALLY SEALED CODED ROTARY SWITCH
Richard W. Bennett, Yorktown Heights, Morris Krakinowski, Ossining, and George R. Stilwell, Jr., West Nyack, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 2, 1964, Ser. No. 379,792
2 Claims. (Cl. 340—347)

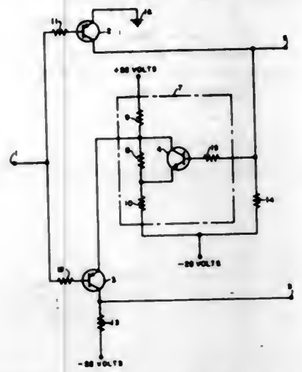


A hermetically sealed coded rotary switch is provided by employing a single magnet on a rotary member to service a plurality of reed switches on a stator element. A plurality of magnets are in different tracks and the switches are in different tracks, both magnets and switches being radially offset to reduce the number of switches and magnets needed to generate a binary code. The binary code is generated in an ordered manner for each successive number of the code generated.

3,371,337
HIGH SPEED ANALOG TO BINARY CONVERTER
Roy M. Williams, Jr., Laurel, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 23, 1964, Ser. No. 384,685
3 Claims. (Cl. 340—347)

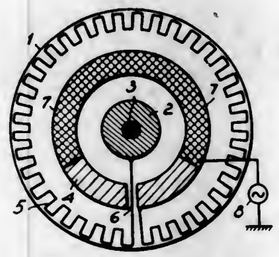
This invention comprises a one stage analog to binary converter, including two switching devices and a voltage divider network including a third switching device, each switching device having three terminals and being capable of two distinct conduction levels, an analog input means, and a most significant and a least significant bit output means; the first switching device being operable to supply

at the most significant bit output, one of two distinct voltage levels in accordance with a comparison of the analog input with a fixed reference; the second switching device and voltage dividing network being operable to supply one of two distinct reference potentials in accordance with the



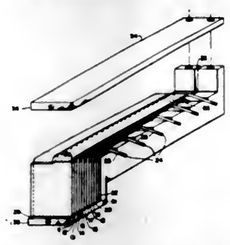
output voltage of the first switching device; and the third switching device supplying one of two distinct voltage levels at the least significant bit output in response to a comparison of the analog input and the reference potential supplied by the second switching device and voltage divider.

3,371,338
APPARATUS FOR CONTINUOUSLY DETECTING INCREMENTS OF MOVEMENT OF A MOVABLE MEMBER BY MEANS OF INSTANTANEOUS ANALOG-DIGITAL CONVERSION
Giovanni Ippolito and Gianni Colombo, both of Via per Castelletto, Borgo Ticino, Italy
Filed Aug. 25, 1964, Ser. No. 391,874
Claims priority, application Italy, Aug. 29, 1963, 17,786/63, Patent 703,990
10 Claims. (Cl. 340—347)



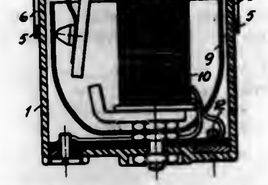
This invention relates to an apparatus for continuously detecting increments of movements of the indicating member of measuring instrument, comprising a movable plate of dielectric material, receiving movement from said indicating member and having a printed circuit including a fret ring. Spaced from said plate and arranged in a plane facing said printed circuit a stationary electrode member is arranged connected with an oscillating current supplying source and electrically cooperating with a portion of said printed circuit, thereby inducing a current flow in said fret ring. Provided in the vicinity of said fret ring are stationary detecting elements in the form of rod-like electrodes having pulse signals induced therein during rotation of said disc, which are delivered to storage members transmitting said pulse signals to a differential counter summing-up or subtracting the pulse signals depending on the signal sequence.

3,371,339
READOUT DEVICE
Carl L. Isborn, San Pablo, and Elbert L. Warren, Richmond, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Jan. 15, 1965, Ser. No. 425,784
10 Claims. (Cl. 340—378)



A stack of translucent plates are adapted to be illuminated along one edge for visual display of characters etched thereon. The light sources selectively energized for display of the characters are disposed in a supporting member extending rearwardly from the stack. A tab extends rearwardly from each plate to a groove in the supporting member to pipe light from an associated source to the edge of the plate.

3,371,340
ELECTRIC BELLS OF REDUCED SIZE FIXED ON THE SUPPORTING FRAME FOR SETTING IN COMBINATION WITH COMMON ELECTRIC CONTROLLING DEVICES UNDER THE WALL PLASTER
Ermanno Bassani, Corso di Porta Vittoria 9, Milan, Italy
Filed Apr. 1, 1965, Ser. No. 444,711
Claims priority, application Italy, Apr. 11, 1964, 46,028/64
6 Claims. (Cl. 340—396)

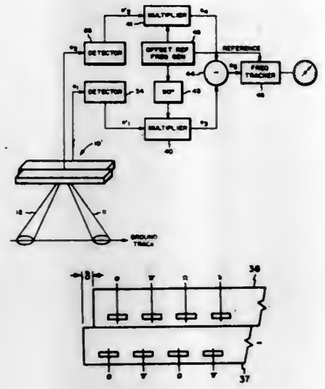


A housing defines an interior chamber having an open end. A hollow sounding member is arranged in the chamber. An electromagnetic actuating arrangement is accommodated within the sounding member and is energizable to strike the latter so as to effect sounding thereof. A supporting collar is provided with a cutout which accommodates the housing. An apertured cover overlies the open end of the housing. Coupling means is provided which couples the cover to the housing as well as to the supporting collar.

3,371,341
METHOD AND MEANS FOR EXTRACTING VELOCITY SENSE FROM A NON-COHERENT JANUS DOPPLER RADAR SYSTEM
Gus Stavis, Briarcliff Manor, N.Y., assignor to General Precision Systems Inc., a corporation of Delaware
Filed May 1, 1967, Ser. No. 637,615
8 Claims. (Cl. 343—9)

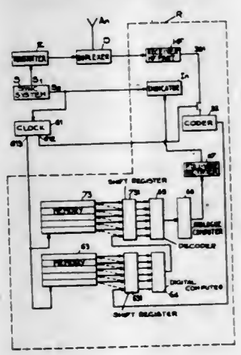
Method and means for deriving the sense of the velocity vector in Janus-type navigational radars. Two separate

signals are derived from the antenna as though there had been two receiving systems mutually displaced along the line of travel by a distance equivalent to an eighth of a wavelength or $\pi/4$ radians in phase. Final detection of these signals yields a two phase voltage pair in quadrature whose phase rotation sense varies in relation to the sign of the quantity $(\nu_f-\nu_a)$; where ν_f is the Doppler shift from the forward looking beam and ν_a the Doppler shift from the rearward looking beam. Means are provided for



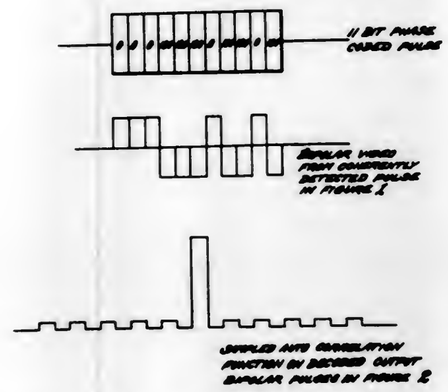
introducing an offset reference frequency ρ so that when motion is forward, the frequency of the receiver output voltage is equal to $\rho+(\nu_f-\nu_a)$ and when motion is backward, this frequency is equal to $\rho-(\nu_f-\nu_a)$. The receiver output voltage is then processed in a SINE-COSINE frequency tracker which includes a subtracting circuit to produce positive velocity digital information on one output line and negative velocity digital information on another line.

3,371,342
FILTERING DEVICE
Roland Carré, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Jan. 17, 1967, Ser. No. 610,719
Claims priority, application France, Jan. 18, 1966, 46,298, Patent 1,471,219
3 Claims. Cl. 343—17.1)



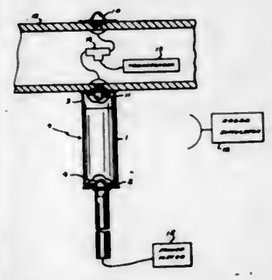
A method for filtering a signal with a periodical fluctuation, consisting in a first, entirely digital, filtering, with weighting coefficients corresponding to a simple shifting of the radix in the considered code so that the digital filtering does not involve any waste of time, and a second filtering, comprising digital transfer steps and an analogue type weighted summation.

3,371,343
AUTO COHERENT PHASE CODING APPARATUS
William K. Sones, Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed Jan. 10, 1967, Ser. No. 608,453
2 Claims. (Cl. 343—17.2)



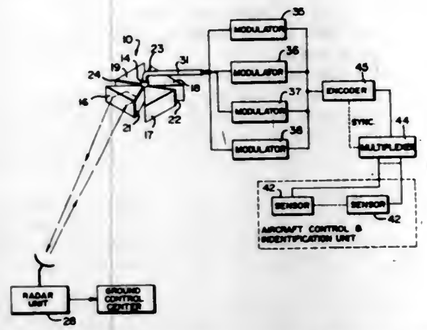
An auto coherent phase coding circuit for connecting a source of received echo signals from radar transmission consisting of a series of wide coded pulses, to a decoder unit, including means for modifying coded pulses, a phase detector and delay means wherein the pulses from the output of said phase detector means are decoded and the original wide pulse is collapsed into a narrow pulse with an accompanying increase in effective peak signal.

3,371,344
MICROWAVE COUPLER
Charles S. Daggy, North Edwards, Calif. (P.O. Box 373, Edwards, Calif. 93523)
Filed Apr. 28, 1967, Ser. No. 635,959
4 Claims. (Cl. 343—17.7)



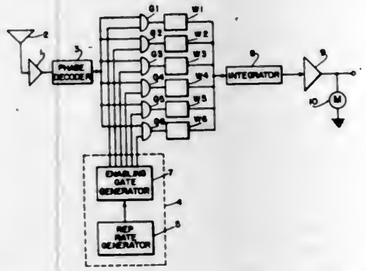
For use in testing the operating characteristics of a transponder unit located within an aircraft, a microwave coupler that transmits the transponder signal from the aircraft antenna to the testing apparatus and transmits an interrogating signal coming from outside the aircraft to the aircraft antenna. The coupler consists of a circular waveguide section that is terminated at each end with a dielectric cylindrical insert. It is the dielectric inserts that permit reception of an interrogating signal from free space.

3,371,345
RADAR AUGMENTOR
Bernard L. Lewis, Satellite Beach, Fla., assignor to Radiation Incorporated, Melbourne, Fla., a corporation of Florida
Filed May 26, 1966, Ser. No. 553,130
3 Claims. (Cl. 343—18)



An array of retrodirective corner reflectors mounted on an aircraft, each reflector being modulated at a different modulating frequency on which coded information is impressed. Modulation is accomplished by providing an ionizable gas filled tube adjacent one of the reflecting surfaces of each reflector and applying ionizing voltages to the tube in accordance with the information to be transmitted. The reflection coefficients of the reflectors are varied in accordance with the state of ionization of the gas.

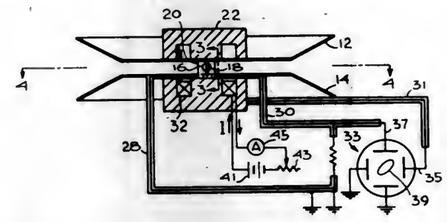
3,371,346
PULSE SEGMENT IDENTIFIER
Lloyd Robert Schissler, Boston, Mass., assignor to Aerospace Research, Inc., Boston, Mass., a corporation of Massachusetts
Filed Aug. 31, 1966, Ser. No. 576,472
3 Claims. (Cl. 343—103)



Apparatus for identifying a segment of a recurring pulse. A selected segment of the pulse is identified by sequentially sampling the incoming signal, weighting each sample in accordance with its position in the sequence, and integrating the weighted samples.

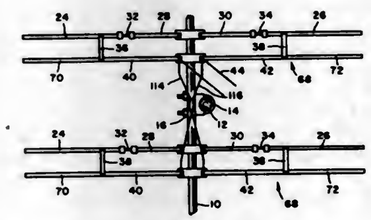
3,371,347
DIRECTION FINDING ANTENNA SYSTEM
Philip S. Carter, Palo Alto, Calif., assignor to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Apr. 6, 1966, Ser. No. 540,675
10 Claims. (Cl. 343—113)

An arrangement for determining the angle of arrival and/or the frequency of electromagnetic waves is determined by the combination of an omni-directional antenna, such as a biconical horn antenna, with a dipole element placed at its center, together with a ferrite resonator and a loop element. The biconical horn antenna receives electromagnetic waves from all directions and transmits any received waves to its center. The dipole element detects these waves and its output has a phase which is independent of the direction from which the waves come. The ferrite element resonates in response to the received waves and generates a circularly polarized wave. The magnetic field of the circularly polarized wave rotates but has a direction at any instant which is dependent upon the angle of arrival of the original wave. The resonator-



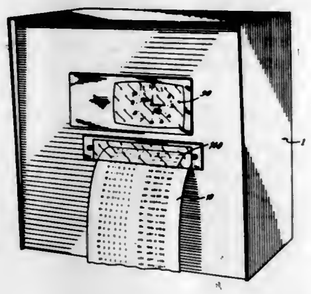
generated wave induces a current in the loop element which has a phase delay proportional to the angle of arrival of the arrival of the original wave incident on the horn antenna. By comparing the reference phase obtained from the output of the dipole element with the phase of the signal from the loop element the direction from which the waves arrive is determined. The strength of a magnetic field in which the ferrite element is placed can be varied until the element resonates in the received electromagnetic field. The magnet field strength may thus be used to provide an accurate indication of the frequency of the detected microwaves.

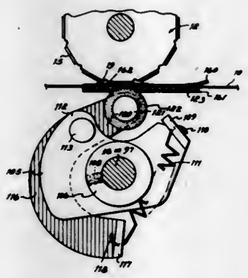
3,371,348
DUAL BAND DIPOLE ANTENNA WITH COLLINEAR DIRECTOR
Sylvan Simons, Angelus Drive, Glenville, Greenwich, Conn. 06830
Continuation-in-part of application Ser. No. 103,004, Apr. 14, 1961. This application Feb. 10, 1965, Ser. No. 433,843
14 Claims. (Cl. 343—807)



1. A wide-band antenna for responding to two widely spaced frequencies comprising a full wave dipole tuned to the higher of the two frequencies including two spaced conductors, connecting means being positioned substantially perpendicular to said conductors and of a length approximately 0.1 wavelength of the higher of said two frequencies, a pair of additional conductors, said connecting means connecting corresponding spaced conductors and additional conductors, the total length of each spaced conductor together with the corresponding connecting means and additional conductor defining a dipole tuned to the lower of said two frequencies.

3,371,349
REMOTELY CONTROLLED RECORDER
Thomas J. Schinner, Cincinnati, Ohio, Godfrey P. Goode, Park Hills, Ky., and Carl K. Gieringer, Cincinnati, Ohio, assignors to The Cincinnati Time Recorder Company, Cincinnati, Ohio, a corporation of Ohio
Filed Aug. 30, 1965, Ser. No. 483,730
13 Claims. (Cl. 346—60)

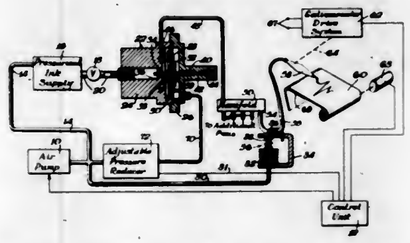




1. A remotely controlled printing apparatus comprising:
- a plurality of print heads each having a plurality of characters thereon;
- a plurality of signal receivers each having a plurality of channels for receiving one of a plurality of transmitted character signals, each of said channels corresponding to a different one of said characters on said print head;
- drive means coupled to said print heads for moving said characters past a print station;
- a plurality of channel scanners associated with said receivers for sensing the recept of character signals by said receivers, each of said scanners sensing the channels of its associated receiver in synchronism with the movement of the characters of its associated print head past said print station; and
- a plurality of braking means responsive to the outputs of said channel scanners for stopping the motion of said print heads when the characters corresponding to the channels which have received character signals are at said print station.

2. In a printer which includes a frame member;
- a plurality of print heads mounted to said frame member, each of said print heads having a plurality of characters thereon; a print station; and means for moving said print head relative to said print station to selectively position different ones of said characters at said print station; the improvement comprising:
  - a plurality of concentric drive members rotatably mounted to said frame opposite said plurality of print heads;
  - a plurality of platen wheels;
  - a plurality of support elements for rotatably supporting said plurality of platen wheels, each of said elements being pivotally and eccentrically mounted on a different one of said drive members;
  - a plurality of biasing means respectively connected between said support elements and said drive members for biasing said platen wheels against said print heads when said drive members rotate; and
  - means for rotating said drive members for bringing said platen wheels into rolling pressure relationship with their associated print heads to print the characters located at said print station onto a record sheet interposed therebetween.

3,371,350
INK SUPPLY SYSTEM WITH PRESSURE REGULATING DIAPHRAGM
Robert A. Sanderson, Wayland, and Robert G. Graves, Marblehead, Mass., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Sept. 9, 1966, Ser. No. 578,213
11 Claims. (Cl. 346—140)

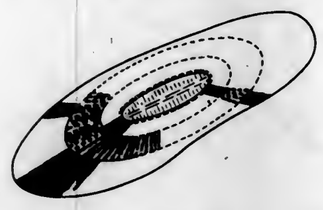


The ink pressure supplied to an oscillographic type recorder is regulated by the use of a pressure regulating diaphragm having a stiffener plate. The pressure regulating diaphragm is positioned in a housing to form two chambers—one being connected to a source of air pressure and the second communicating through a valve controlled by the diaphragm position to a pressurized ink supply. In this manner, when the air pressure exceeds the ink pressure in the second diaphragm chamber, the valve opens to admit the ink. The stiffener plate functions when the air pressure is reduced to relieve the ink pressure throughout the system by distending the diaphragm slightly.

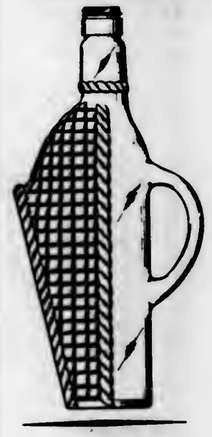
DESIGNS

FEBRUARY 27, 1968

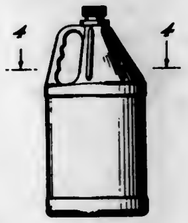
210,268
SLIPPER SOCK
Harold E. Clayton, Jr., 2 Fairbanks Road, Chelmsford, Mass. 01824
Filed Feb. 2, 1967, Ser. No. 5,666
Term of patent 14 years
(Cl. D2—266)



210,269
JUG
Ernest L. Du Pree, New York, N.Y., assignor to Scheuley Industries, Inc.
Filed Jan. 31, 1967, Ser. No. 5,623
Term of patent 14 years
(Cl. D9—38)



210,270
JUG
William H. Smith III, Victoria, Tex., assignor to South Texas Plasti-Pak, Inc., Corpus Christi, Tex., a corporation of Texas
Filed June 16, 1967, Ser. No. 7,501
Term of patent 7 years
(Cl. D9—39)



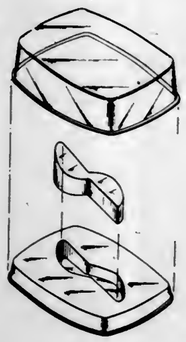
210,271
BOTTLE
Alfred D. Sterges, Los Angeles, Calif., assignor to The Drackett Company, Cincinnati, Ohio, a corporation of Delaware
Filed June 23, 1967, Ser. No. 7,569
Term of patent 14 years
(Cl. D9—60)



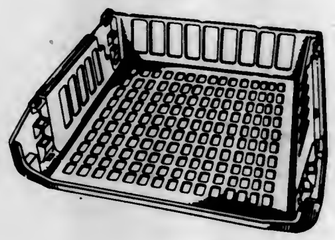
210,272
ORAL LIQUID DISPENSING PACKAGE
Joseph L. Arcudi, Elizabeth, N.J., assignor to Ivers-Lee Company, Newark, N.J., a corporation of Delaware
Filed Aug. 25, 1967, Ser. No. 8,395
Term of patent 14 years
(Cl. D9—192)



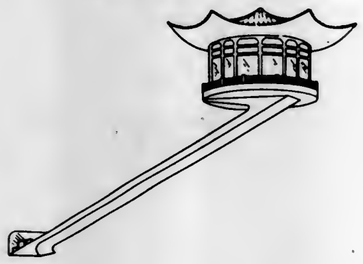
210,273
ARTIFICIAL EYELASH CONTAINER
Douglas S. Rhee, Long Island City, N.Y., assignor to Rheemont Enterprises, Inc., Brooklyn, N.Y., a corporation of New York
Filed Oct. 19, 1965, Ser. No. 87,604
Term of patent 3½ years
(Cl. D9—223)



210,274
NESTABLE STACKABLE TOTE TRAY OR SIMILAR ARTICLE
James D. Wilson, Long Beach, Calif., assignor to Banner Metals, Inc., Compton, Calif., a corporation of Ohio
Filed Aug. 24, 1965, Ser. No. 86,728
Term of patent 14 years
(Cl. D9—242)



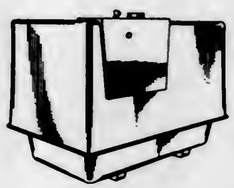
210,275
ELEVATED BUILDING
Shelby Johnson and Ernest S. Johnson, both of 660 62nd St., San Diego, Calif. 92114
Filed June 30, 1967, Ser. No. 7,657
Term of patent 14 years
(Cl. D13—1)



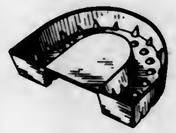
210,276
INFANT CHAIR
John J. Hamilton and James F. Sellars, Jr., Columbus, Ind., assignors to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Nov. 21, 1966, Ser. No. 4,764
Term of patent 14 years
(Cl. D15—1)



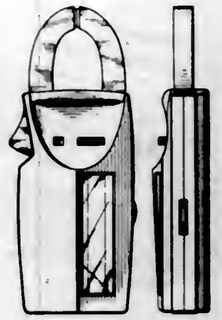
210,277
HUMIDIFIER
Timothy C. Murphy, Columbus, Ind., assignor to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana
Filed May 31, 1967, Ser. No. 7,311
Term of patent 14 years
(Cl. D23—146)



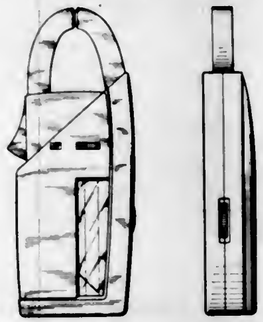
210,278
DENTAL DIE TRAY
Arthur J. White, 6117 Elm St., Raytown, Mo. 64133
Filed Sept. 13, 1967, Ser. No. 8,579
Term of patent 14 years
(Cl. D24—1)



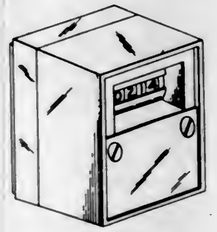
210,279
SPLIT-CORE VOLT-AMMETER
Harvey A. Schwartz, Merrick, and Franklyn Jacoby, New York, N.Y., and Ernest Calafano, Maywood, N.J., assignors to Soss Manufacturing Company, Detroit, Mich., a corporation of Nevada
Filed Aug. 29, 1966, Ser. No. 3,637
Term of patent 14 years
(Cl. D26—1)



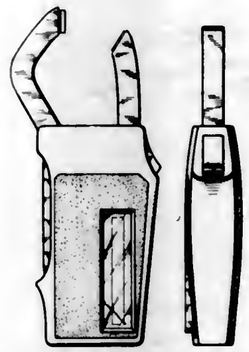
210,280
CLAMP-AROUND AMMETER-VOLTMETER
Harvey A. Schwartz, Merrick, and Franklyn Jacoby, New York, N.Y., and Ernest Calafano, Maywood, N.J., assignors to Soss Manufacturing Company, Detroit, Mich., a corporation of Nevada
Filed Aug. 29, 1966, Ser. No. 3,638
Term of patent 14 years
(Cl. D26—1)



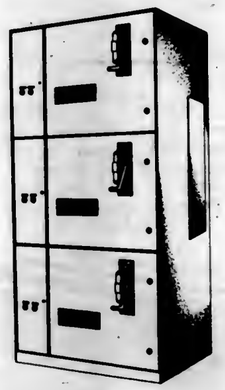
210,281
REMOTE EXTERNAL HOUSING FOR A READ-OUT DEVICE FOR METERS
Paul Specht, Chicago, Ill., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Oct. 26, 1966, Ser. No. 4,430
Term of patent 14 years
(Cl. D26—1)



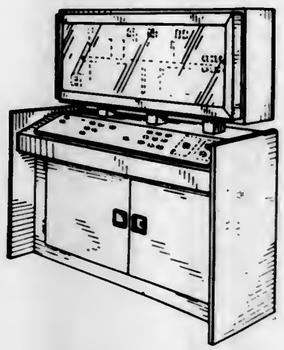
210,282
CLAMP-AROUND AMMETER-VOLTMETER
Harvey A. Schwartz, Merrick, N.Y., assignor to Soss Manufacturing Company, Detroit, Mich., a corporation of Nevada
Filed July 11, 1967, Ser. No. 7,767
Term of patent 14 years
(Cl. D26—1)



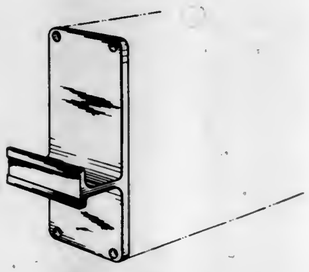
210,283
ELECTRICAL CONTROLS CABINET
William H. Wood, Roanoke, and Heinrich W. Huber, Salem, Va., assignors to General Electric Company, a corporation of New York
Filed Oct. 24, 1966, Ser. No. 4,412
Term of patent 14 years
(Cl. D26—5)



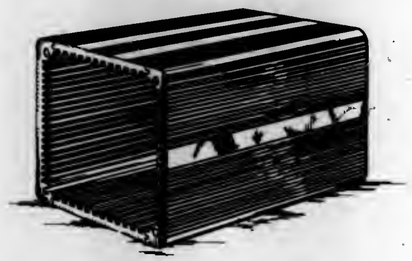
210,284
CONTROL CONSOLE FOR AN AUTOMATED MACHINE TOOL LINE
Richard C. Kerwin, Southfield, Mich., assignor to F. Jos. Lamb Company, Inc., Detroit, Mich., a corporation of Michigan
Filed Mar. 23, 1967, Ser. No. 6,363
Term of patent 14 years
(Cl. D26—5)



210,285
INTEGRAL COVER AND HANDLE FOR A PRINTED CIRCUIT BOARD MODULE
William Venema, North Haledon, N.J., assignor to Vemaline Products Company, Inc., Franklin Lakes, N.J., a corporation of New Jersey
Filed May 15, 1967, Ser. No. 7,121
Term of patent 14 years
(Cl. D26—5)



210,286
PRINTED CIRCUIT BOARD MODULE
William Venema, North Haledon, N.J., assignor to Vemaline Products Company, Inc., Franklin Lakes, N.J., a corporation of New Jersey
Filed May 15, 1967, Ser. No. 7,122
Term of patent 14 years
(Cl. D26—5)



210,287
PRINTED CIRCUIT BOARD MODULE
William Venema, North Haledon, N.J., assignor to Vemaline Products Company, Inc., Franklin Lakes, N.J., a corporation of New Jersey
Filed May 23, 1967, Ser. No. 7,230
Term of patent 14 years
(Cl. D26—5)



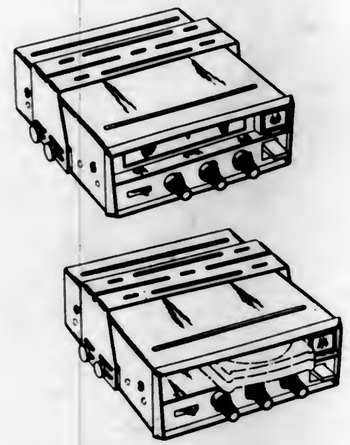
210,288
FLUORESCENT TUBE OR SIMILAR ARTICLE
Mike Tecton, 5101 45th St. NW., Washington, D.C. 20016
Filed Sept. 3, 1965, Ser. No. 86,824
Term of patent 14 years
(Cl. D26—8)



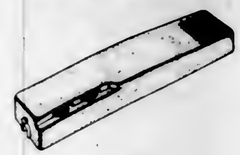
210,289
FLUORESCENT TUBE OR SIMILAR ARTICLE
Mike Tecton, 5101 45th St. NW., Washington, D.C. 20016
Filed Oct. 24, 1965, Ser. No. 87,888
Term of patent 14 years
(Cl. D26—8)



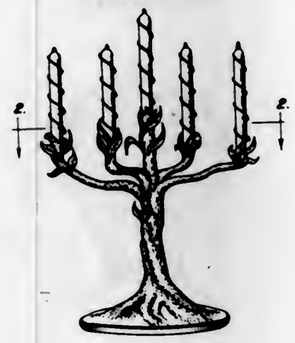
210,290
MAGNETIC TAPE PLAY-BACK UNIT
Yutaka Kigoshi, Fujisawa-shi, Japan, assignor to Pioneer Kabushiki Kaisha (also trading as Pioneer Electronic Corporation), Tokyo-to, Japan, a joint-stock company of Japan
Filed May 3, 1966, Ser. No. 2,153
Term of patent 3½ years
(Cl. D26—14)



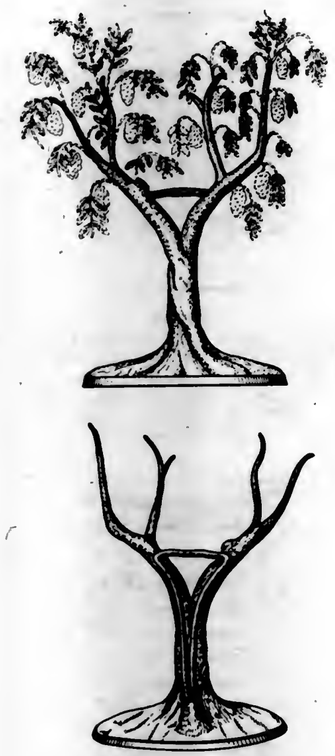
210,291
CASING FOR A TELEPHONE BELL SET
Marco Zanuso, Milan, Italy, and Richard Sapper, Stuttgart-Degerloch, Germany, assignors to Italiania Telecomunicazioni Siemens S.p.A., Milan, Italy
Filed Aug. 8, 1966, Ser. No. 3,544
Claims priority, application Italy, Mar. 10, 1966
Term of patent 14 years
(Cl. D26—14)



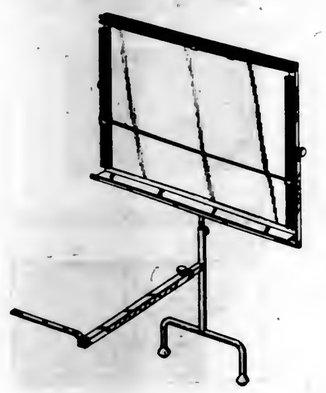
210,292
TELEVISION ANTENNA
Bernadine A. Deneen, 4504 W. Parker Ave., Chicago, Ill., 60639
Filed May 22, 1967, Ser. No. 7,221
Term of patent 14 years
(Cl. D26—14)



210,293
TELEVISION ANTENNA
Bernadine A. Deneen, 4504 W. Parker Ave., Chicago, Ill., 60639
Filed May 22, 1967, Ser. No. 7,222
Term of patent 14 years
(Cl. D26—14)



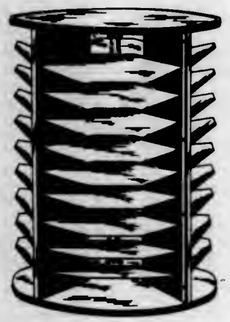
210,294
EASEL
Richard C. Bue and Julian Gutierrez, Minneapolis, Minn., assignors to Sico Incorporated, Minneapolis, Minn., a corporation of Minnesota
Filed July 5, 1966, Ser. No. 2,923
Term of patent 14 years
(Cl. D29—20)



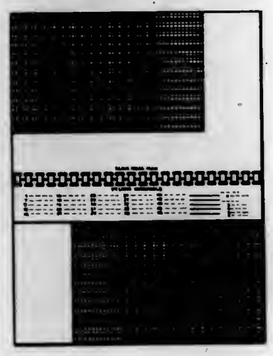
210,295
ROTATABLE RACK FOR STORING RECORD ALBUMS OR SIMILAR ARTICLES
Donald D. Treu, Box 299, Webster City, Iowa 50595
Filed Apr. 7, 1967, Ser. No. 6,572
Term of patent 14 years
(Cl. D33—3)



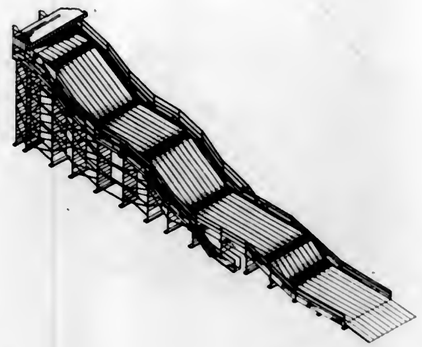
210,296
ROTATABLE RACK FOR STORING RECORD ALBUMS OR SIMILAR ARTICLES
Donald D. Treu, Box 299, Webster City, Iowa 50595
Filed Apr. 7, 1967, Ser. No. 6,575
Term of patent 14 years
(Cl. D33—3)



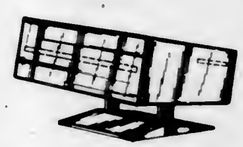
210,297
BASEBALL SCORE CARD
Arthur I. Katzif, St. Louis County, Mo., assignor to The Magic Score Card Co., St. Louis, Mo., a corporation of Missouri
Filed July 11, 1966, Ser. No. 3,025
Term of patent 14 years
(Cl. D34—5)



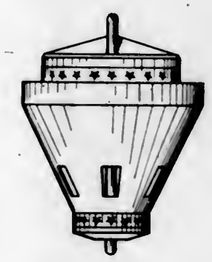
210,298
AMUSEMENT SLIDE
Lee A. Moulton, Fair Oaks, Calif., assignor to Super Slide Corporation, a corporation of Nevada
Filed Sept. 26, 1966, Ser. No. 4,036
Term of patent 14 years
(Cl. D34—5)



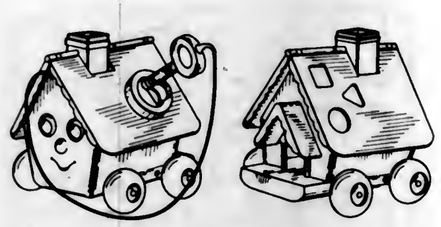
210,299
REGISTER COIN BANK
Harry J. Collins, Jr., Bayside, Wis., assignor to M. A. Gerett Inc., Menomonee Falls, Wis., a corporation of Wisconsin
Filed Jan. 3, 1967, Ser. No. 5,301
Term of patent 14 years
(Cl. D34—11)



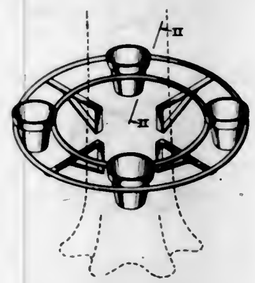
210,300
TOY GYROSCOPE TOP
Duane W. Miller, 246 Westfield St., Rochester, N.Y. 14619
Filed Dec. 9, 1966, Ser. No. 4,979
Term of patent 3½ years
(Cl. D34—15)



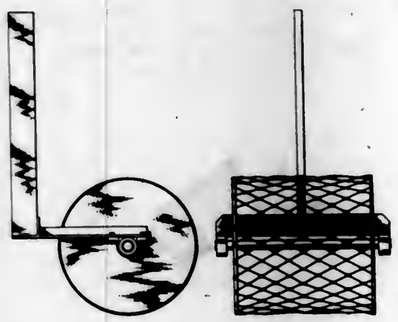
210,301
TRUNDLE TOY
Ernest L. Thornell, East Aurora, N.Y., assignor to Fisher-Price Toys, Inc., East Aurora, N.Y., a corporation of New York
Filed Mar. 6, 1967, Ser. No. 6,061
Term of patent 14 years
(Cl. D34—15)



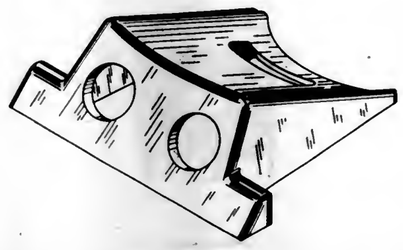
210,302
PLANTER
Horace M. Lansford, 2312 McKinley, Fort Worth, Tex. 76106
Filed July 5, 1967, Ser. No. 7,716
Term of patent 14 years
(Cl. D35—3)



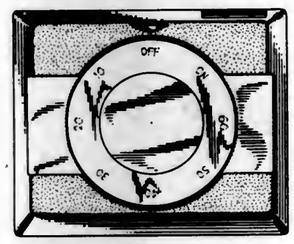
210,303
ROLLER FOR SEED BEDS
Jerry A. Taylor, P.O. Box 669, Dixon, Calif. 95620
Filed June 5, 1967, Ser. No. 7,359
Term of patent 14 years
(Cl. D39—1)



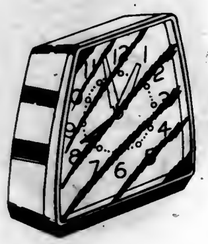
210,304
CHOCK
Carl B. Davis, 2333 S. Raleigh St., Denver, Colo. 80219
Filed Mar. 15, 1967, Ser. No. 6,229
Term of patent 14 years
(Cl. D41—1)



210,305
ELECTRICAL TIMER
Robert D. Kahn, Rockville Centre, N.Y., assignor to Fedtro, Inc., Rockville Centre, N.Y., a corporation of New York
Filed Aug. 18, 1967, Ser. No. 8,315
Term of patent 14 years
(Cl. D42—7)



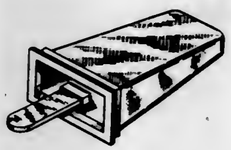
210,306
CLOCK
Donald Claussen, Lancaster, Pa., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed May 10, 1965, Ser. No. 85,208
Term of patent 14 years
(Cl. D42—7)



210,307
INSULATED JUG OR THE LIKE
Tony E. Branscum, % Gott Mfg. Co., Inc., P.O. Box 702, Winfield, Kans. 67156
Filed June 6, 1966, Ser. No. 2,571
Term of patent 14 years
(Cl. D44—1)



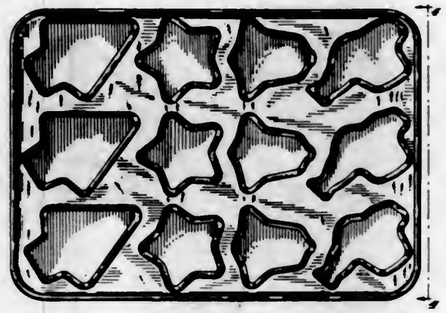
210,308
MOLD FOR FROZEN CONFECTION
Jacques Gaspard Honore Ollier, 17 Rue du General Henrion Bertier, Neuilly-sur-Seine, France; Georges Frederic Grosshans, 53 bis Rue de Boulainvilliers, Paris, France; and Robert Gaston Masson, 6 Blvd. de Courbevole, Neuilly-sur-Seine, France
Filed Sept. 19, 1966, Ser. No. 3,909
Claims priority, application France Mar. 21, 1966
Term of patent 14 years
(Cl. D44—1)



210,309
BAKING PAN
Myron M. Levin, Lincolnwood, Ill.
(4315 N. Lincoln Ave., Chicago, Ill. 60618)
Filed July 20, 1967, Ser. No. 7,894
Term of patent 14 years
(Cl. D44—1)



210,310
COOKIE MOLD
Myron M. Levin, Lincolnwood, Ill.
(4315 N. Lincoln Ave., Chicago, Ill. 60618)
Filed July 20, 1967, Ser. No. 7,895
Term of patent 14 years
(Cl. D44—1)



210,311
CANISTER
Edith E. Newman, 2805 Willing Ave., Fort Worth, Tex. 76110
Filed Feb. 28, 1967, Ser. No. 5,985
Term of patent 14 years
(Cl. D44—6)



210,312
MEASURING CUP
David H. Trott, % Crossbow, Inc., 5240 Wooster Road, Cincinnati, Ohio 45226
Filed July 26, 1967, Ser. No. 7,991
Term of patent 14 years
(Cl. D44—29)



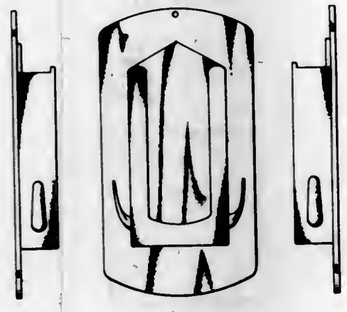
210,313
PORTABLE GUN FOR SPLICING SYNTHETIC YARN
Willie Vincent Williams, 708 Green St., Dalton, Ga. 30720
Filed Jan. 4, 1967, Ser. No. 5,307
Term of patent 14 years
(Cl. D47—5)



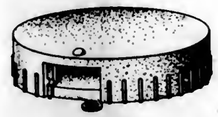
210,314
COMBINED PARTS CLEANER AND CONTAINER FOR A RECIRCULATING SOLVENT
Elmar K. Messinger, Huntington Station, N.Y., assignor to Avanel Industries Inc., Huntington Station, N.Y., a corporation of New York
Filed Dec. 28, 1966, Ser. No. 5,212
Term of patent 14 years
(Cl. D49—1)



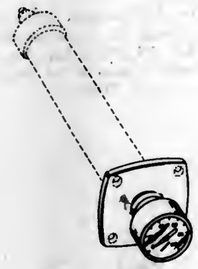
210,315
SAFETY HOT IRON HOLDER
Gladys E. Tarwater and William V. Tarwater, both of 12613 Home Park Drive, Whittier, Calif. 90606
Filed Jan. 6, 1967, Ser. No. 5,334
Term of patent 7 years
(Cl. D49—6)



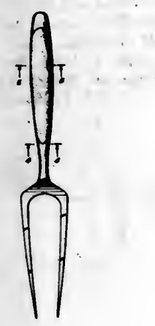
210,316
PILL DISPENSER
Ernest J. Wolski, 9927 Humphrey Road, Cincinnati, Ohio 45242
Filed Jan. 20, 1967, Ser. No. 5,502
Term of patent 14 years
(Cl. D52—2)



210,317
PRESSURE PUMP
Eugene L. Kilbourn, Marshall, Mich., assignor to Progressive Dynamics, Inc., Marshall, Mich.
Filed Oct. 14, 1966, Ser. No. 4,285
Term of patent 14 years
(Cl. D52—6)



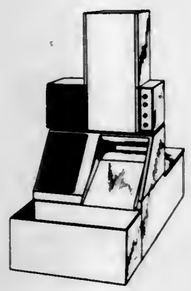
210,318
CARVING FORK
Donald A. Wallance, Croton-on-Hudson, N.Y., assignor to H. E. Lauffer Company, New York, N.Y., a corporation of New York
Filed Feb. 5, 1962, Ser. No. 68,657
Term of patent 14 years
(Cl. D54—12)



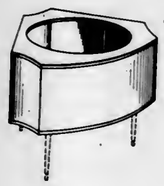
210,319
FORK
Donald A. Wallance, Croton-on-Hudson, N.Y., assignor to H. E. Lauffer Company, New York, N.Y., a corporation of New York
Filed Feb. 5, 1962, Ser. No. 68,658
Term of patent 14 years
(Cl. D54—12)



210,320
COMBINED MAGNETIC AND CYCLONE SEPARATOR FOR MACHINE TOOL COOLANTS AND THE LIKE
Harry J. Collins, Jr., Milwaukee, Wis., assignor to Barnes Drill Co., Rockford, Ill., a corporation of Illinois
Filed Dec. 19, 1966, Ser. No. 5,101
Term of patent 14 years
(Cl. D55—1)



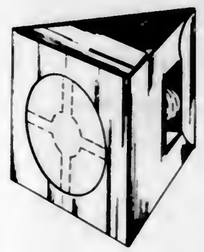
210,321
BASS DRUM CASE OR THE LIKE
Alfonso D. Samperi, 6853 Suva St., Bell Gardens, Calif. 90202
Filed Sept. 7, 1966, Ser. No. 3,760
Term of patent 14 years
(Cl. D56—1)



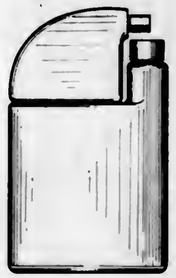
210,322
INSTRUMENT FOR INSERTING CORNEAL LENSES
Charles Batka, 592 Prospect Ave., West Orange, N.J. 07052
Filed May 26, 1967, Ser. No. 7,279
Term of patent 14 years
(Cl. D57—1)



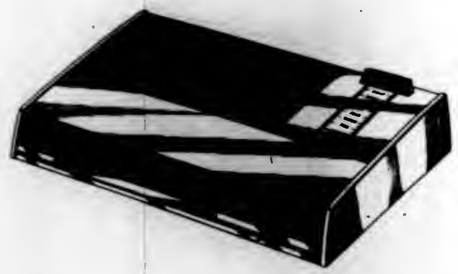
210,323
LAMP PACKAGE
Robert M. Hurley, Lexington, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed July 3, 1967, Ser. No. 7,675
Term of patent 14 years
(Cl. D9—224)



210,324
FLASK
Jean-Pierre Rapaz, Sion, Switzerland, assignor to Arval S.A., Sion, Switzerland
Filed Sept. 21, 1966, Ser. No. 3,949
Claims priority, application Switzerland Mar. 30, 1966
Term of patent 14 years
(Cl. D9—18)

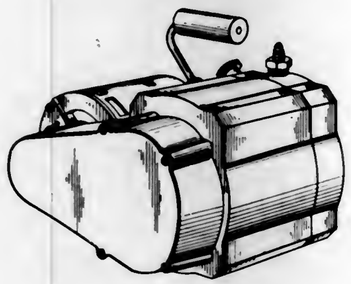


210,325
COPYING MACHINE
William G. Delp, Pasadena, and Robert J. Elder, Sierra Madre, Calif., assignors to Royal Industries, Inc., Pasadena, Calif., a corporation of California
Filed May 20, 1966, Ser. No. 2,373
Term of patent 14 years
(Cl. D61—1)

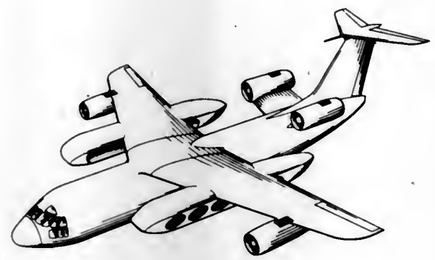


210,326
STEREOSCOPIC VIEWER
Harvey L. Ratliff, Jr., Oxon Hill, Md., assignor to Jetru Inc., Amarillo, Tex.
Filed July 15, 1966, Ser. No. 3,097
Term of patent 14 years
(Cl. D61—1)

210,327
PORTABLE VACUUM PUMP AND MOTOR COMBINATION
Walter V. Cropper, Joseph Kregzdys and Joseph A. Le Blanc, Jr., Chicago, Ill., assignors to Precision Scientific Company, Chicago, Ill., a corporation of Delaware
Filed Apr. 28, 1967, Ser. No. 6,883
Term of patent 14 years
(Cl. D65—1)



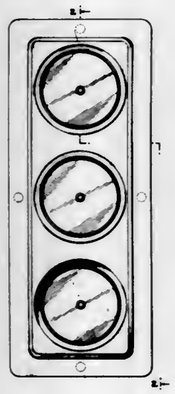
210,328
AIRPLANE
Thomas Gardner Hill, Atlanta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Dec. 30, 1966, Ser. No. 5,247
Term of patent 14 years
(Cl. D71—1)



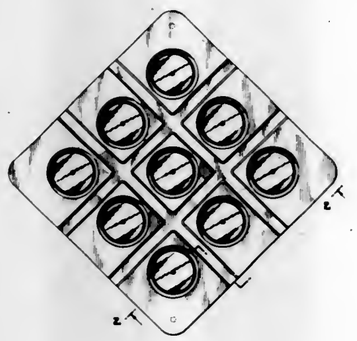
210,329
REFLECTING TRAFFIC GUIDE OR SIMILAR ARTICLE
John B. Keats, Marietta, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed May 31, 1966, Ser. No. 2,470
Term of patent 14 years
(Cl. D72—1)



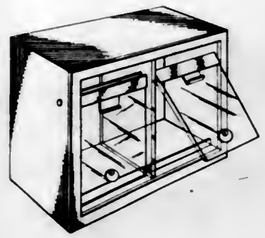
210,330
REFLECTOR
Jack F. Brady, Summit, and Michael Melack, Berkeley Heights, N.J., assignors to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey
Original design application Mar. 22, 1963, Ser. No. 74,088, now Patent No. 205,049, dated June 14, 1966. Divided and this application May 12, 1966, Ser. No. 3,607
Term of patent 14 years
(Cl. D72—1)



210,331
REFLECTOR
Jack F. Brady, Summit, and Michael Melack, Berkeley Heights, N.J., assignors to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey
Original design application Mar. 22, 1963, Ser. No. 74,088, now Patent No. 205,049, dated June 14, 1966. Divided and this application May 12, 1966, Ser. No. 3,608
Term of patent 14 years
(Cl. D72—1)



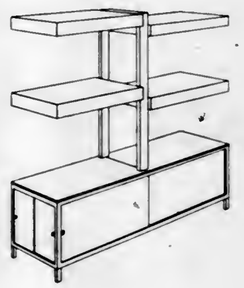
210,332
MAIL BOX UNIT
Alfonso Favaro, Via Pola 13, Turin, Italy
Filed Sept. 30, 1965, Ser. No. 87,241
Term of patent 14 years
(Cl. D74—9)



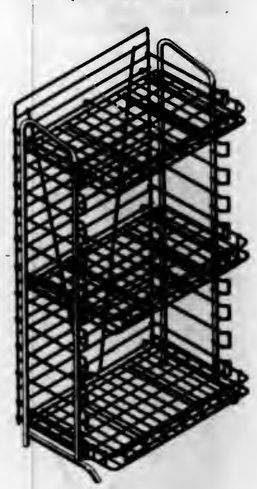
210,333
CLOTHES HANGER
Arthur G. Apy, 1308 Garden Drive, Asbury Park, N.J. 07712
Filed July 17, 1967, Ser. No. 7,824
Term of patent 14 years
(Cl. D80—8)



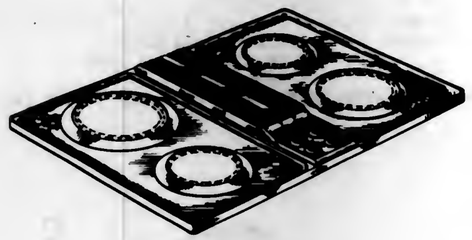
210,334
MERCHANDISE DISPLAY STAND
William S. Leath, Birmingham, Ala., assignor to EBSCO Industries, Inc., a corporation of Delaware
Filed Aug. 21, 1967, Ser. No. 8,336
Term of patent 3½ years
(Cl. D80—9)



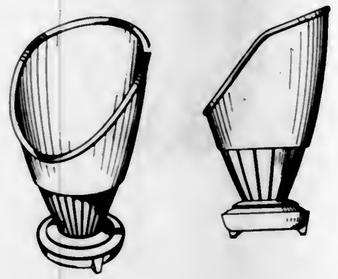
210,335
DISPLAY RACK
Clark B. Rollins, Jr., 1415 Elm Hill Road, Nashville, Tenn. 37210
Filed May 19, 1967, Ser. No. 7,209
Term of patent 14 years
(Cl. D80—10)



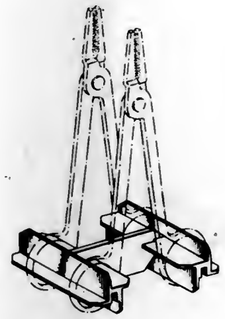
210,336
SELF-VENTILATING COOKING SURFACE UNIT
Louis J. Jenn and Thomas R. Field, Indianapolis, Ind., assignors to Jenn-Air Corporation, Indianapolis, Ind., a corporation of Indiana
Filed Dec. 19, 1966, Ser. No. 5,113
Term of patent 14 years
(Cl. D81—25)



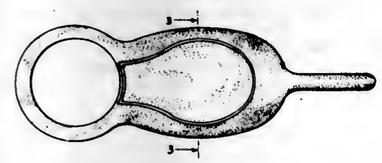
210,337
FACIAL VAPORIZER
Clifford E. Grube, Niles, Ill., assignor to Associated Mills, Inc., Chicago, Ill.
Filed June 5, 1967, Ser. No. 7,347
Term of patent 14 years
(Cl. D83—1)



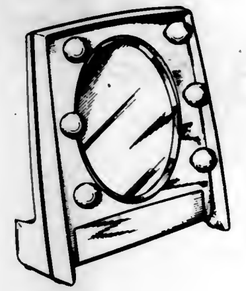
210,338
HOLDER FOR SURGICAL INSTRUMENTS OR SIMILAR ARTICLE
Norwood Claude Graeff, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Continuation-in-part of design application Ser. No. 4,057, Sept. 27, 1966. This application Aug. 25, 1967, Ser. No. 8,425
Term of patent 14 years
(Cl. D83—1)



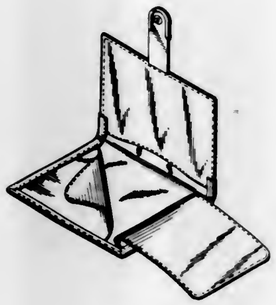
210,339
COMBINED HAND SHIELD AND SLEEVE GUIDE FOR DRESSING CHILDREN
Floyd A. Jones, 1835 Molino Ave., Long Beach, Calif. 90803
Filed Oct. 31, 1966, Ser. No. 4,486
Term of patent 14 years
(Cl. D86—10)



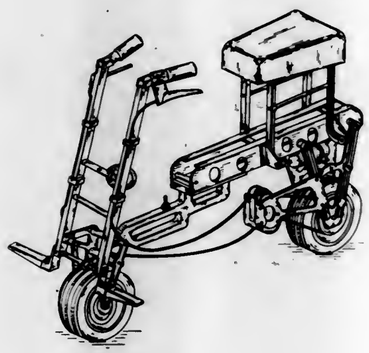
210,340
ILLUMINABLE MIRROR
Anthony N. D'Elia, Riverdale, and Edward M. Stolarz, Yorktown Heights, N.Y., assignors to Rayex Corporation, Flushing, N.Y., a corporation of New York
Filed May 9, 1967, Ser. No. 7,037
Term of patent 7 years
(Cl. D86—10)



210,341
PURSE
Ludwig S. Schlessinger, New York, N.Y., assignor to Bond Street Ltd.
Filed May 16, 1966, Ser. No. 2,309
Term of patent 7 years
(Cl. D87—3)



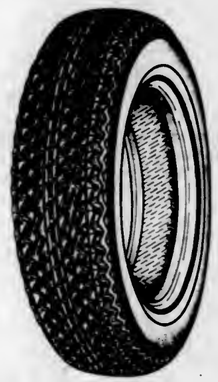
210,342
MOTORSCOOTER
Ernest D. Smith, 448 Blue Ridge Drive, Martinez, Calif. 94553
Filed Oct. 4, 1966, Ser. No. 4,157
Term of patent 14 years
(Cl. D90—8)



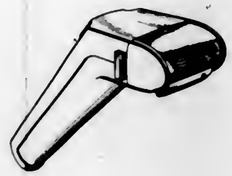
210,343
TIRE
Frank Bernard Jones, Coldfield, England, assignor to Dunlop Rubber Company Limited, Birmingham, England, a corporation of Great Britain
Filed Nov. 30, 1966, Ser. No. 4,862
Claims priority, application Great Britain June 7, 1966
Term of patent 14 years
(Cl. D90—20)



210,344
TIRE
Frank Bernard Jones, Coldfield, England, assignor to Dunlop Rubber Company Limited, Birmingham, England, a corporation of Great Britain
Filed Nov. 30, 1966, Ser. No. 4,867
Term of patent 14 years
Claims priority, application Great Britain June 7, 1966
(Cl. D90—20)



210,345
ELECTRIC SHAVER OR SIMILAR ARTICLE
David Eberhart, Bound Brook, N.J., assignor to Ronson Corporation, Woodbridge, N.J., a corporation of New Jersey
Filed Jan. 23, 1967, Ser. No. 5,532
Term of patent 14 years
(Cl. D95—3)



210,346
KNIFE
Donald A. Wallance, Croton-on-Hudson, N.Y., assignor to H. E. Lauffer Company, New York, N.Y., a corporation of New York
Filed Feb. 5, 1962, Ser. No. 68,656
Term of patent 14 years
(Cl. D95—3)



LIST OF DESIGN PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 27TH DAY OF FEBRUARY, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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Apy, Arthur G. Clothes hanger. 210,333, 2-27-68, Cl. D80—8.
Arcudi, Joseph L., to Ivers-Lee Co. Oral liquid dispensing package. 210,272, 2-27-68, Cl. D58—2.
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Murphy, Timothy C. 210,277.
Associated Mills, Inc.: *See*—
Grube, Clifford E. 210,337.
Avanel Industries, Inc.: *See*—
Messinger, Elmar K. 210,314.
Banner Metals, Inc.: *See*—
Wilson, James D. 210,274.
Barnes Drill Co.: *See*—
Collins, Harry J., Jr. 210,320.
Batka, Charles. Instrument for inserting corneal lenses. 210,322, 2-27-68, Cl. D57—1.
Bond Street Ltd.: *See*—
Schlessinger, Ludwig S. 210,341.
Borg-Warner Corp.: *See*—
Keats, John B. 210,329.
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Brady, Jack F., and M. Melack, to Elastic Stop Nut Corp. of America. Reflector. 210,331, 2-27-68, Cl. D72—1.
Branscum, Tony E. Insulated jug or the like. 210,307, 2-27-67, Cl. D44—1.
Bue, Richard C., and J. Gutierrez, to Sico Inc. Easel. 210,294, 2-27-68, Cl. D20—20.
Calafano, Ernest: *See*—
Schwartz, Harvey A., Jacoby, and Calafano. 210,279.
Schwartz, Harvey A., Jacoby, and Calafano. 210,280.
Claussen, Donald, to General Time Corp. Clock. 210,306, 2-27-68, Cl. D42—7.
Clayton, Harold E., Jr. Slipper sock. 210,268, 2-27-68, Cl. D2—266.
Collins, Harry J., Jr., to M. A. Gerett, Inc. Register coin bank. 210,299, 2-27-68, Cl. D34—11.
Collins, Harry J., Jr., to Barnes Drill Co. Combined magnetic and cyclone separator for machine tool coolants and the like. 210,320, 2-27-68, Cl. D55—1.
Cropper, Walter V., J. Kregzdys, and J. A. Le Blanc, to Precision Scientific Co. Portable vacuum pump and motor combination. 210,327, 2-27-68, Cl. D65—1.
Davis, Carl B. Chock. 210,304, 2-27-68, Cl. D41—1.
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Delp, William G., and R. J. Elder, to Royal Industries, Inc. Copying machine. 210,325, 2-27-68, Cl. D61—1.
Deneen, Bernadine A. Television antenna. 210,292, 2-27-68, Cl. D26—14.
Deneen, Bernadine A. Television antenna. 210,293, 2-27-68, Cl. D26—14.
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Jones, Frank B. 210,344.
Du Pree, Ernest L., to Schenley Industries, Inc. Jug. 210,269, 2-27-68, Cl. D9—38.
EBSCO Industries, Inc.: *See*—
Leath, William S, 210,334.
Eberhart, David, to Ronson Corp. Electric shaver or similar article. 210,345, 2-27-68, Cl. D95—3.
Elastic Stop Nut Corp. of America: *See*—
Brady, Jack F., and Melack. 210,330.
Brady, Jack F., and Melack. 210,331.
Elder, Robert J.: *See*—
Delp, William G., and Elder. 210,325.
Favaro, Alfonso. Mail box unit. 210,332, 2-27-68, Cl. D74—9.
Fedtro, Inc.: *See*—
Kahn, Robert D. 210,305.
Field, Thomas R.: *See*—
Jenn, Louis J., and Field. 210,336.
Fisher-Price Toys, Inc.: *See*—
Thornell, Ernest L. 210,301.
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Wood, William H., and Huber. 210,283.
General Time Corp.: *See*—
Claussen, Donald. 210,306.
Gerett, M. A., Inc.: *See*—
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Graeff, Norwood C., to AMP Inc. Holder for surgical instruments or similar article. 210,338, 2-27-68, Cl. D83—1.
Grosshans, Georges F.: *See*—
Ollier, Jacques G. H. Grosshans, and Masson. 210,308.
Grube, Clifford E., to Associated Mills, Inc. Facial vaporizer. 210,337, 2-27-68, Cl. D83—1.
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Bue, Richard C., and Gutierrez. 210,294.
Hamilton Cosco, Inc.: *See*—
Hamilton, John J., and Sellars. 210,276.
Hamilton, John J., and J. F. Sellars, Jr., to Hamilton Cosco, Inc. Infant chair. 210,276, 2-27-68, Cl. D15—1.
Hill, Thomas G., to Lockheed Aircraft Corp. Airplane. 210,328, 2-27-68, Cl. D71—1.
Huber, Heinrich W.: *See*—
Wood, William H., and Huber. 210,283.
Hurley, Robert M., to Sylvania Electric Products, Inc. Lamp package. 210,323, 2-27-68, Cl. D58—2.
Italiania Telecomunicazioni Siemens S.p.A.: *See*—
Zanuso, Marco, and Sapper. 210,291.
Ivers-Lee Co.: *See*—
Arcudi, Joseph L. 210,272.
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Jenn, Louis J., and Field. 210,336.
Jenn, Louis J., and T. R. Field, to Jenn-Air Corp. Self ventilating cooking surface unit. 210,336, 2-27-68, Cl. D81—25.
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Ratliff, Harvey L., Jr. 210,326.
Johnson, Ernest S.: *See*—
Johnson, Shelby and E. S. 210,275.
Johnson, Shelby and E. S. Elevated building. 210,275, 2-27-68, Cl. D13—1.
Jones, Floyd A. Combined hand shield and sleeve guide for dressing children. 210,339, 2-27-68, Cl. D86—10.
Jones, Frank B., to Dunlop Rubber Co. Ltd. Tire. 210,343, 2-27-68, Cl. D90—20.
Jones, Frank B., to Dunlop Rubber Co. Ltd. Tire. 210,344, 2-27-68, Cl. D90—20.
Kahn, Robert D., to Fedtro, Inc. Electrical timer. 210,305, 2-27-68, Cl. D47—7.
Katzif, Arthur I., to The Magic Score Card Co. Baseball score card. 210,297, 2-27-68, Cl. D34—5.
Keats, John B., to Borg-Warner Corp. Reflecting traffic guide or similar article. 210,329, 2-27-68, Cl. D72—1.
Kerwin, Richard C., to Jos. F. Lamb Co., Inc. Control console for an automated machine tool line. 210,284, 2-27-68, Cl. D26—5.
Kigoshi, Yutaka, to Pioneer Kabushiki Kaisha (also trading as Pioneer Electronic Corp.), Magnetic tape play-back unit. 210,290, 2-27-68, Cl. D26—14.
Kilbourn, Eugene L., to Progressive Dynamics, Inc. Pressure pump. 210,317, 2-27-68, Cl. D52—6.
Kregzdys, Joseph: *See*—
Cropper, Walter V., Kregzdys, and Le Blanc. 210,327.
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Kerwin, Richard C. 210,284.
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Wallance, Donald A. 210,319.
Wallance, Donald A. 210,346.
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Le Blanc, Joseph A., Jr.: *See*—
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Levin, Myron M. Baking pan. 210,309, 2-27-68, Cl. D44—1.
Levin, Myron M. Cookie mold. 210,310, 2-27-68, Cl. D44—1.
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Katzif, Arthur I. 210,297.
Masson, Robert G.: *See*—
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Candy, Charles J. N. 3,371,229.
Earle, Harold W., and Munson. 3,371,165.
Engelbrecht, Rudolf S. 3,371,284.
Fleury, Paul A. V., Patel, Slusher, and Wolff. 3,371,220.
Huffman, Donald W., and Toy. 3,371,315.
Kibler, Lynden U. 3,371,290.
Ortel, William C. G. 3,371,226.

Belle, Pierre, to S.A.T.A.M.-Societe Anonyme Pour Tous Appareillages Mecaniques and Sogreah-Societe Grenobloise d'Etudes et d'Applications Hydrauliques. Turbine-type flow meter. 3,370,465, 2–27–68, Cl. 73—230.

Beloit Corp.: *See*—
Beachler, Edward D. 3,370,359.

Bendix Corp., The: *See*—
Ditlinger, Richard J. 3,370,483.
James, Robert L. 3,371,252.
James, Robert L., and Krivak. 3,371,259.
Wattson, Harry B. 3,371,269.

Benedik, Fedor. Self adjusting thermally-responsive electric switch. 3,371,175, 2–27–68, Cl. 200—139.

Benjamin, Milton L., and D. D. Walker, to Erickson Tool Co. Chuck. 3,370,859, 2–27–68, Cl. 279—119.

Bennett, Richard W., M. Krakinowski, and G. R. Stilwell, Jr., to International Business Machines Corp. Hermetically sealed coded rotary switch. 3,371,336, 2–27–68, Cl. 340—347.

Benrus Watch Co., Inc.: *See*—
Lazros, Julian, Strauss, and Canning. 3,370,414.

Bentley, William, and R. Illood, to William Cotton Ltd. Straight bar knitting machine with electromagnetic selection. 3,370,443, 2–27–68, Cl. 66—82.

Berge, Sven E.: *See*—
Henstrom, Sten A., and Berge. 3,370,663.

Berlincourt, James E.: *See*—
Berlincourt, Richard J. and J. E. 3,370,867.

Berlincourt, Richard J. and J. E.; said R. J. Berlincourt assor. to said J. E. Berlincourt. Stressed support structures for trailer hitches. 3,370,867, 2–27–68, Cl. 280—406.

Berliner, Jordan P., and S. B. Richter, to Velsicol Chemical Corp. Acetyl substituted phenoxyacetamides and their use as herbicides. 3,371,106, 2–27–68, Cl. 260—453.

Berry, Clifford E., deceased (by J. R. Berry, executrix), to Consolidated Electrodynamics Corp. Multipole mass filter with a pulsed ionizing electron beam. 3,371,205, 2–27–68, Cl. 250—41.9.

Berry, Jean R.: *See*—
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Berrymann, Walter P., to George Richards & Co. Ltd. Reading head with light source, rotating shutter and switched photocells. 3,371,214, 2–27–68, Cl. 250—233.

Bertea, Octavian, S. R. Seagle, and R. R. Seeley, to Reactive Metals, Inc. Titanium alloy. 3,370,946, 2–27–68, Cl. 75—175.5.

Berwick, Albert G.: *See*—
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Berwick, William R. and A. G., to Gaskel & Chambers (Non-Drip Measure) Ltd. Devices for delivering measured quantities of liquid. 3,370,762, 2–27–68, Cl. 222—442.

Bethlehem Steel Corp.: *See*—
Bartlett, Turner C. 3,370,848.
Worthen, Eugene P., and Stelling. 3,370,741.

Betschel, Reinhold, to E. I. du Pont de Nemours and Co. Continuous process for the nitration of xylene. 3,371,122, 2–27–68, Cl. 260—645.

Beutnagel, Gerhard, and H. Weidner, to Voigtlander A.G. Photographic camera with a rear wall locking assembly. 3,370,876, 2–27–68, Cl. 292—67.

Beyers, Eugene F., to Jervis B. Webb Co. Carrier transfer device for conveyors. 3,370,547, 2–27–68, Cl. 104—172.

Bidrawn, John L.: *See*—
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Bigelow, Charles G., Jr., S. Bumble, J. C. Maginn, F. L. Schauermann, and C. R. Wilt, Jr., to Selas Corp. of America. Jet cooling of strip metal. 3,370,648, 2–27–68, Cl. 165—120.

Bilek, Jan: *See*—
Svaty, Vladimir, and Bilek. 3,370,618.

Billier, William F.: *See*—
Gross, George P., Billier, Greene, and Kearby. 3,370,914.

Bird, Lester F., and C. W. Green, to United States of America, Army. Protection circuits for transistorized regulator circuitry. 3,371,262, 2–27–68, Cl. 321—11.

Birse, Alexander L., to John G. Stein & Co. Ltd. Supports for roof and the like. 3,370,557, 2–27–68, Cl. 110—99.

Bishop, Charles R., deceased (by M. J. Bishop, executrix). Drive arrangement for vehicles with torsion-free articulated suspensions. 3,370,667, 2–27–68, Cl. 180—45.

Bishop Muriel J.: *See*—
Bishop Charles R. 3,370,667.

Blackwell Francis O., III: *See*—
Eisengrein, Robert H., and Blackwell. 3,371,256.

Blank, Hans G., and M. Fischman, to General Telephone and Electronics Laboratories, Inc. Switching circuits. 3,371 230, 2–27–68, Cl. 307—284.

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Rutland, David F., Lagerquist, and Blase. 3,371,209.

Blaw-Knox Co.: *See*—
Anderson, James P., and Vincent. 3,370,522.
Schuets, James W. 3,370,451.

Blickensaderfer, Philip S., A. E. Weinberg, W. F. Oliver, and R. J. Peres, to Champion Papers Inc. Formaldehyde-reactive acid bark and bark resins and method of forming same. 3,371,054, 2–27–68, Cl. 260—17.2.

Bloch, Herman S., to Universal Oil Products Co. Process for the preparation of halo-substituted polyhydrodialkanotricyclic dicarboxylic acids and carboxy derivatives thereof. 3,371,101, 2–27–68, Cl. 260—346.6.

Bloctube Controls Ltd.: *See*—
Stranks, Percy. 3,370,652.

Blood, Raymond: *See*—
Bentley, William, and Blood. 3,370,443.

Bluemle, Lewis W., Jr., to Research Corp. Compact blood dialyzer with a pleated membrane therein. 3,370,710, 2–27–68, Cl. 210—321.

Bodine, Albert G. Sonic tool for activating the flow of particulate material. 3,370,758, 2–27–68, Cl. 222—196.

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Claiborne, Jefferson, L., and Bohr. 3,371,318.

Boissier, Jacques R., and R. Ratouis, to Societe Anonyme dite: Societe Industrielle Pour La Fabrication des Antibiotiques (S.I.F.A.). Substituted 10-(1-piperazinyl alkyl)-phenothiazines, their salts. 3,371,091, 2–27–68, Cl. 260—243.

Boissonnas, Roger, and R. Huguenin, to Sandos Ltd. (a.k.a. Sandos A.G.) Phenylalanine²-ornithine⁸-vasopressin. 3,371,080, 2–27–68, Cl. 260—112.5.

Boland, Steven H., to Ultra-Violet Products, Inc. Ultraviolet lamp transformer. 3,371,244, 2–27–68, Cl. 315—219.

Bolt, Murray H., and H. H. Nick, to International Business Machines Corp. Parallel binary adder using transmission lines for carry handling. 3,371,195, 2–27–68, Cl. 235—175.

Bonner, William A., and L. G. Van Uitert, to Bell Telephone Laboratories, Inc. Growth of divalent metal aluminates. 3,370,963, 2–27–68, Cl. 106—42.

Bonney, Leo G., Jr.: *See*—
Shaffer, Robert A., and Bonney. 3,371,239.

Bonzo, Thompson K., and G. F. Sauers (deceased, by G. J. Sauers, administratrix), to Westinghouse Electric Corp. Electrical bus structure. 3,371,151, 2–27–68, SCl. 174—71.

Boody, Frederick J., to United States of America, Navy. Aircraft launching mechanism. 3,370,811, 2–27–68, Cl. 244—63.

Boston Machine Works Co.: *See*—
Heiseler, George W. 3,370,968.

Botnick, Irlin. Push-button mixing valve. 3,370,609, 2–27–68, Cl. 137—607.

Bottazzi, Henri, A. Renouprez, D. Weigel, and M. Prettre, to Centre National de La Recherche Scientifique. Apparatus for the study of the small angle scattering of X-rays using an angularly displaceable detector. 3,371,207, 2–27–68, Cl. 250—51.5.

Bourgault, Pierre L., and J. Batelaan, to Johnson, Matthey and Mallory, Ltd. Distributed resistance-capacitance unit. 3,371,295, 2–27–68, Cl. 333—70.

Bourne, Benjamin F.: *See*—
Cahal, Alfred V., and Bourne. 3,370,990.

Bovics, Jean: *See*—
Cambon, Theophile, and Bovics. 3,370,939.

Bowen, Willard L., III, to The Torrington Co. Roller radial thrust bearing. 3,370,898, 2–27–68, Cl. 308—179.

Bowles, Samuel V. Interchangable refuse truck body with self-loading mechanism. 3,370,525, 2–27–68, Cl. 100—48.

Bowmar Instrument Corp.: *See*—
Naylor, Arthur F. 3,371,333.

Boyne Products, Inc.: *See*—
McClure, Gerald. 3,371,172.

Brackett, Robert D., and H. E. Erikson, to Polaroid Corp. X-ray film cassette having means for removing the film while maintaining a light-tight condition. 3,371,208, 2–27–68 Cl. 250—68.

Bradbury, Peter, M. K. Russell, E. R. Kendall, and S. B. Newport, to S. Smith & Sons (England) Ltd. Aircraft instruments. 3,370,461, 2–27–68, Cl. 73—178.

Braendel, Helmuth G., to Gould-National Batteries, Inc. Piston ring assembly. 3,370,858, 2–27–68, Cl. 277—139.

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Bramley, Arthur: *See*—
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Bramley, Jenny and A. Electroluminescent voltage device. 3,371,243, 2–27–68, Cl. 315—169.

Branson, Henry E., to Stromberg Hydraulic Brake and Coupling Co. Auxiliary control for dual automotive brake systems. 3,370,427, 2–27–68, Cl. 60—54.5.

Branson, Henry E., to Stromberg Hydraulic Brake & Coupling Co. Hydraulic brake system for tractor trailer combination. 3,370,892, 2–27–68, Cl. 303—7.

Brau, Maurice J., and H. E. Jarman, to Texas Instruments Inc. Inorganic glass composition. 3,371,210, 2–27–68, Cl. 250—83.

Brau, Maurice J., to Texas Instruments Inc. Ge-S-Te glass compositions and infrared detection system. 3,371,211, 2–27–68, Cl. 250—83.

Braun, Robert A., to E. I. du Pont de Nemours and Co. Coating compositions containing air-drying fluorine containing compounds. 3,370,970, 2–27–68, Cl. 106—287.

Bray, Bruce G.: *See*—
Knutson, Carroll F., Bray, and Wahl. 3,370,887.

Brice, William A., to Ametek, Inc. Combined engines. 3,370,429, 2–27–68, Cl. 60—97.

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Brigman, Maurice C. 3,370,397.

Brigman, Maurice C., to Brigman Associates, Inc. Head lettuce packaging machine. 3,370,897, 2–27–68, Cl. 53—180.

Bristol Aeroplane Plastics Ltd.: *See*—
Cross, Ronald C. 3,370,491.

British Nylon Spinners Ltd.: *See*—
Cumbers, David C. 3,370,364.

Broeckel, Daniel. Chaff collector attachment for combines. 3,370,728, 2–27–68, Cl. 214—522.

Brohawn, Elwood A. Device for installation of bundling straps. 3,370,621, 2–27–68, Cl. 140—123.6.

Brooks, Berry A., and B. D. Jubilee, Jr., to National Starch and Chemical Corp. Pressure sensitive adhesive compositions. 3,371,071. 2–27–68, Cl. 260—78.5.

Brooks, James K.: *See*—
Jacobs, Joseph J., Krugman, and Brooks. 3,371,035.

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Brown Citrus Machinery Corp.: *See*—
Holbrook, Franklin K. 3,370,527.

Brown, Eugene: *See*—
Kahn, Samuel J., and Brown. 3,371,121.

Brown, Harry B., to Applied Electro Mechanics, Inc. Automatic tapping machine control system. 3,371,258, 2–27–68, Cl. 318—294.

Brown, Joe R. Well packer. 3,370,651, 2–27–68, Cl. 166—134.

Brown, Robert E.: *See*—
Tamny, Simon, and Brown. 3,370,312.

Brown and Williamson Tobacco Corp.: *See*—
Haslam, Fred. 3,370,594.
Rome, Matthew D. L. 3,370,514.

Brownlow, James M., and K. R. Grebe, to International Business Machines Corp. Process for preparing arrays of magnetic circuit elements. 3,370,348, 2–27–68, Cl. 29—604.

Brubaker, Wilson M., to Bell & Howell Co. Mass filter with one or more rod electrodes separated into a plurality of insulated segments. 3,371,204, 2–27–68, Cl. 250—41.9.

Brunel, Henri. Method for lubrication and for protection against corrosion and aqueous colloidal compositions for performing this method. 3,371,047, 2–27–68, Cl. 252—389.

Bruninghaus, Paul, to Rhewum Rheinische Werkzeug-und Maschinenfabrik G.m.b.H. Vibrating screen drive. 3,370,706, 2–27–68, Cl. 209—368.

Brunswick Corp.: *See*—
Sheridan, David S., and Liesmann. 3,370,589.

Bruss, Robert T.: *See*—
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Brust, Bernard, R. I. Fryer, and L. H. Sterbach, to Hoffmann-La Roche Inc. 4-Pyridylmethyl ketones and 4-pyridylmethyl carbinols. 3,371,096, 2–27–68, Cl. 260—294.8.

Bryan, Helen V. Panoramic picture exhibiting apparatus. 3,370,505, 2–27–68, Cl. 88—24.

Bryant, Bill J.: *See*—
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Buck, Willard E., and R. J. Sherman, to Technical Operations, Inc. High speed facsimile method and apparatus. 3,370,504, 2–27–68, Cl. 88—24.

Buckholz, Ronald, to Mailmen Inc. Detection system for sheets of paper or the like. 3,371,331, 2–27–68, Cl. 340—259.

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Bumbulis, Janis: *See*—
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Bunyan, Thomas W., to P & O Research and Development Co. Ltd. Barrel engine reciprocating to rotary movement mechanism. 3,370,510, 2–27–68, Cl. 91—175.

Burgoon, Jack L., to American-Lincoln Corp. Adjustable quick-acting clamp. 3,370,864, 2–27–68, Cl. 280—79.2.

Burke, George K., to Burron Medical Products, Inc. Hypodermic needle guard. 3,370,588, 2–27–68, Cl. 128—221.

Burley, Billy, to Johnson Service Co. Electronic control affording modulating control of a load current in accordance with a sensed condition. 3,371,231, 2–27–68, Cl. 307—308.

Burman, Joseph O., to Progressive Machinery Corp. Hinge assembly for box construction. 3,370,778, 2–27–68, Cl. 229—44.

Burnett, Arden L. Blocking system for dry docks. 3,370,433, 2–27–68, Cl. 61—64.

Burns, Hugh C., W. W. Smith, G. J. Coolidge, and C. E. Dean, to FMC Corp. Stack handling method. 3,370,724, 2–27–68, Cl. 214—152.

Burron Medical Products, Inc.: *See*—
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Burrus, Paul B., and J. C. Rill, Jr., to General Motors Corp. Refrigerating apparatus. 3,370,739, 2–27–68, Cl. 220—9.

Burt, Charles M.: *See*—
De Podesta, Innes, Burt, and Kuligren. 3,370,552.

Bushway, Vernon B., to Minnesota Mining and Mfg. Co. Frequency division multiple track recording of wideband signals. 3,371,157, 2–27–68, Cl. 178—6.6.

Buske, Gilbert E. to Textron Inc. Fluid seals for abrasive material. 3,370,856, 2–27–68, Cl. 277—89.

Busse, Clarence E. Cutting means for dispenser of sheet material. 3,370,497, 2–27–68, Cl. 83—455.

Busse, Robert F.: *See*—
Davis, Howard J., Busse, and George. 3,370,595.

Butler, Roger M., J. Bumbulis, and L. B. Simpson, to Esso Research and Engineering Co. Ice protective sleeve for pilings. 3,370,432, 2–27–68, Cl. 61—54.

Bynum, Edward B., Jr.: *See*—
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CSF-Compagnie Generale de Telegraphie Sans Fil: *See*—
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Cabanaw, Eldred J., and C. C. Chapman, to Phillips Petroleum Co. Alkylation process with improvement in phase separation. 3,371,127, 2–27–68, Cl. 260—683.43.

Cady, Walter G. Piezoelectric vibrators and systems embodying the same for converting the mechanical vibration thereof into electric energy. 3,371,234, 2–27–68, Cl. 310—9.5.

Cafissi, Roberto: *See*—
Luna, Agostino, and Cafissi. 3,371,289.

Cahal, Alfred V., and B. F. Bourne. Battery corrosion eliminator. 3,370,990, 2–27–68, Cl. 136—181.

Calfee, John D., to Monsanto Co. Polymerization of vinyl alkyl ethers and resulting product. 3,371,077, 2–27–68, Cl. 260—91.1.

Call, Daniel D., to Bell & Howell Co. Panning rate indicator. 3,371,332, 2–27–68, Cl. 340—263.

Campbell, Charles R., L. W. Plischke, and R. R. Spiegelhalter, to Monsanto Co. Process for preparing bis-quaternary ammonium sulfates. 3,371,117, 2–27–68, Cl. 260—567.6.

Cambon, Theophile F. L., and J. Bovics, to Office National Industriel de l'Azote. Method for homogeneous germination inoculation of cast iron and steel and product. 3,370,939, 2–27–68, Cl. 75—53.

Camenisch, Gian C., W. Engelmann, K. Rosskopf, and H. P. Poivet, to A. Raymond. Nut cage with plug-in nut. 3,370,633, 2–27–68, Cl. 151—41.74.

Camille, Richard J., Jr., to Avco Corp. Cryogenic heat exchanger electrical lead. 3.371,145, 2–27–68, Cl. 174—15.

Canadian Chemical Co. Ltd.: *See*—
Gunning, Harry E. 3,371,024.

Candy, Charles J. N., to Bell Telephone Laboratories, Inc. Frequency translator. 3,371,229, 2–27–68, Cl. 307—271.

Canning, William P.: *See*—
Lazrus, Julian, Strauss, and Canning. 3,370,414.

Capewell Mfg. Co., The: *See*—
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Caplan, Allen E. Motorized stair climbing shopping cart. 3,370,664, 2–27–68, Cl. 180—9.22.

Carawan, Clarence P., ¼ to J. P. Ballington, and J. W. Ballington, Jr. Variable speed transmissions. 3,370,485, 2–27–68, Cl. 74—689.

Carcano, Donato: *See*—
Ragazzini, Mario, and Carcano. 3,371,076.

Carla, Dieter: *See*—
Selfert, Friedrich, Baxmann, and Carla. 3,371,130.

Carliss, Oswald S., and E. A. Horton, to Eaton Yale & Towne, Inc. Carton clamps. 3,370,880, 2–27–68, Cl. 294—87.

Carlson, Robert L., and J. F. Marquardt, to International Harvester Co. Steering control system. 3,370,422, 2–27–68, Cl. 60—52.

Carlsson, Sven, to AB Recip. Method of combating angina pectoris and a pharmaceutical preparation suitable for this purpose. 3,371,014, 2–27–68, Cl. 167—65.

Caron Spinning Co.: *See*—
McKew, Marshall, and De Long. 3,370,410.

Carpco Research & Engineering, Inc.: *See*—
Carpenter, James H. 3,370,703.

Carpenter, James H., to Carpco Research & Engineering, Inc. High tension separator. 3,370,703, 2–27–68, Cl. 209—127.

Carpenter, Keith H., to General Motors Corp. Pump construction. 3,370,540, 2–27–68, Cl. 103—4.

Carpenter, Otis R., and G. N. Emmanuel, to The Babcock & Wilcox Co. Heat treatment of metals. 3,370,993, 2–27–68, Cl. 148—13.1.

Carr, George W., to Pullman Inc. Shiftable bumper with locking means. 3,370,878, 2–27–68, Cl. 293—64.

Carr, Paul H., to United States of America, Air Force. Tuned cavity assembly for harmonic generation of acoustic and electromagnetic waves of gigacycle frequencies. 3,371,264, 2–27–68, Cl. 321—69.

Carre, Roland, to CSF-Compagnie Generale de Telegraphie Sans Fil. Filtering device. 3,371,342, 2–27–68, Cl. 343—17.1.

Carrier Corp.: *See*—
Hopkinson, Harold H. 3,370,438.

Carson, Andrew, W. E. Feely, and M. J. Hurwitz, to Rohm & Haas Co. Addition phosphonate polymers and preparation thereof. 3,371,131, 2–27–68, Cl. 260—931.

Carson, Don B., to Universal Oil Products Co. Hydrocarbon conversion process, naphtha to aromatics and town gas. 3,371,126, 2–27–68, Cl. 260—672.

Carter, Philip S., to Control Data Corp. Direction finding antenna system. 3,371,347, 2–27–68, Cl. 343—113.

Carter, William, Co., The: *See*—
Martin, Francis G. 3,370,849.

Cason, George A., Jr., to Dresser Industries, Inc. Bearing seal for drilling bits. 3,370,895, 2–27–68, Cl. 308—8.2.

Cato, John B. Rosette spacer. 3,371,203, 2–27–68, Cl. 240—78.

Celanese Corp.: *See*—
Davis, Howard J., Busse, and George. 3,370,595.

Central Research, Inc.: *See*—
Pourchot, Melvin E. 3,370,894.

Centre National de la Recherche Scientifique: *See*—
Bottazzi, Henri, Renouprez, Weigel, and Prettre. 3,371,207.

Cescati, Arturo. Device for detecting pressure existing in pneumatic tires. 3,370,459, 2–27–68, Cl. 73—146.5.

Chalker, Oliver H., Jr.: *See*—
Reynolds, Andrew C., Jr., Chalker, and Lupkas. 3,371,193.

Challenge Machinery Co., The: *See*—
Westra, Dan P., and Arganbright. 3,370,533.

Champion Laboratories, Inc.: *See*—
Hultgren, William H., and Hall. 3,370,708.

Champion Papers Inc.: *See*—
Blickensderfer, Philip S., Weinberg, Oliver, and Perez. 3,371,054.

Chanaud, Robert C., to American Standard Inc. Mass flow meter. 3,370,463, 2–27–68, Cl. 73—194.

Chang, Robert, and H. B. Arnold, to General Mills, Inc. Polyanhydrides of polymeric fat acids as curing agents for epoxy resins. 3,371,070, 2–27–68, Cl. 260—78.4.

Chang, Yi-Chung, to United States Steel Corp. Method and apparatus for locating interfaces between fluids. 3,370,466, 2–27–68, Cl. 73—304.

Chapman, Charles C.: *See*—
Cabanaw, Eldred J., and Chapman. 3,371,127.

Chemical Bank New York Trust Co.: *See*—
Henderson, Norman M. 3,370,530.

Chemical Construction Corp.: *See*—
Cook, Lucien H., and Mavrovic. 3,371,115.

Chemische Werke Huls A.G.: *See*—
Hoffmann, Gunthard, and Striebeck. 3,370,400.
Seifert, Friedrich, Baxmann, and Carla. 3,371,130.

Chevron Research Co.: *See*—
Curry, Leonard L. 3,371,062.

Chicago Bridge & Iron Co.: *See*—
Fickett, William R., and Ricketts. 3,370,930.

Chilcote, Wilbur B. Conductor bars. 3,370,793, 2–27–68, Cl. 238—10.

Childs, Gordon E., to Westinghouse Electric Corp. Lamp sealing apparatus with double revolving and orienting sealing heads. 3,370,933, 2–27–68, Cl. 65—155.

Cholet, Jacques, M. Dubesset, and M. Lavergne, to Institut Francais du Petrole, des Carburants et Lubrifiants. Towed pressure transducers with vibration isolation. 3,371,311, 2–27–68, Cl. 340—17.

Chromy, Franz, to Dibotec A.G. Tools for driving anchor studs. 3,370,655. 2–27–68, Cl. 173—104.

Chronicle Publishing Co.: *See*—
Paschal, Don F. 3,370,368.

Chrysler Corp.: *See*—
Hamilton, Francis W. 3,370,488.

Ciaccio, Peter L., to Flexible, Inc. Sewer cleaning apparatus with rotary hydraulic cleaning tool. 3,370,599, 2–27–68, Cl. 134—167.

Cigarette Components Ltd.: *See*—
Davenport, Francis R., Ruback, and Smith. 3,371,000.

Cincinnati Time Recorder Co., The: *See*—
Schinner, Thomas J., Goode, and Gieringer. 3,371,349.

Claiborne, Jefferson L., and E. T. Bohr, to Dixie Yarns, Inc. Automatic control system for process of package dyeing yarn. 3,371,318, 2–27–68, Cl. 340—172.5.

Clark, J. L., Mfg. Co.: *See*—
Foster, John A. 3,370,757.

Clark, John B.: *See*—
Foerster, George S., and Clark. 3,370,945.

Clarke, Frederick J., to International Harvester Co. Tractor mounted loader linkage. 3,370,729, 2–27–68, Cl. 214—770.

Coal Industry (Patents) Ltd.: *See*—
Adcock, William J., and Sheppard. 3,370,431.

Coast, Geoffrey, G. E. Lockett, and R. F. McIver, to United Kingdom Atomic Energy Authority. Nuclear reactor having a prestressed concrete pressure vessel. 3,371,017, 2–27–68, Cl. 176—87.

Cochardt, Alexander W., to Westinghouse Electric Corp. Ferrite magnets. 3,371,044, 2–27–68, Cl. 252—62.54.

Coe, William H., to National Lock Co. Receptacle and follower assembly. 3,370,591, 2–27–68, Cl. 129—31.

Cole, Bernard M., to Stribbons, Ltd. Package tie with gift card. 3,370,779, 2–27–68, Cl. 229—46.

Cole, Michael E., to Harbison-Walker Refractories Co. Basic oxygen furnace construction. 3,370,840, 2–27–68, Cl. 266—43.

Colombo, Gianni: *See*—
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Commissariat a l'Energie Atomique: *See*—
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Compton, Dinsdale M. J., to United States of America, Army. Method of reducing secondary emission induced by radiation. 3.371,146, 2–27–68, Cl. 174—17.

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Consolidated Electrodynamics Corp.: *See*—
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Continental Oil Co.: *See*—
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Hamilton, Pat B., and Napier. 3,371,010.
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Cook, Edward G. Multifrequency ultrasonic cleaning equipment. 3,371,233, 2–27–68, Cl. 310—8.1.

Cook, Lucien H., and I. Mavrovic, to Chemical Construction Corp. Process for combined production of ammonia and urea. 3,371,115, 2–27–68, Cl. 260—555.

Cook, Ralph J., and J. M. Schumann, said Cook assor. to Products Research & Chemical Corp. Syringe for mixing and dispensing two ingredients. 3,370,754, 2–27–68, Cl. 222—132.

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Corning Glass Works: *See*—
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Cox, William H., and A. D. Winters, Jr. Coil winder. 3,370,808. 2–27–68, Cl. 242—158.4.

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Crowson, Albert L., to Commercial Welding Co., Inc. Adjustable working chute. 3,370,835, 2–27–68, Cl. 256—26.

Cumbers, David C., to British Nylon Spinners Ltd. Device for stretching fabric. 3,370,364, 2–27–68, Cl. 38—102.4.

Cunningham, Robert A., to Martin-Marietta Corp. Simplified particle containment device. 3,370,472, 2–27–68, Cl. 73—517.

Cupp, Jerry F. Applicator for prepared lather. 3,370,908, 2–27–68, Cl. 401—190.

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Cyba, Henryk A., to Universal Oil Products Co. Stabilization of organic substances by addition reaction product of phosphorus acid ester with polymer of polycarboxylic acid and alkanolamine. 3,371,039, 2–27–68, Cl. 252—82.7.

Cyba, Henryk A., to Universal Oil Products Co. Alkylphenol-alkylenepolyamine stabilizing composition. 3,371,048, 2–27–68, Cl. 252—403.

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Daubenberger, Charles J., and B. J. Bryant, to DA/Pro Rubber Co., Inc. High frequency shielding and sealing gasket. 3,371,147, 2–27–68, Cl. 174—35.

Daum, John L., and R. B. Spurgin, to Delta Manufacturing and Engineering Corp. Vehicle washing apparatus. 3,370,596. 2–27–68, Cl. 134—45.

Davenport, Francis R., S. Ruback, and B. Smith, to Cigarette Components Ltd. Method and apparatus for making integral multiple tobacco smoke filters. 3,371,000, 2–27–68, Cl. 156—180.

Davey, Cyril N., to United Kingdom Atomic Energy Authority. Beam scanner for indicating the position of a beam of nuclear particles. 3,371,274, 2–27–68, Cl. 324—71.

Davidson, John D., and F. J. Murphy, Jr., to Westinghouse Electric Corp. Field circuit control for alternating current generators. 3,371,266, 2–27–68, Cl. 322—69.

Davies, Harold, to Thiokol Chemical Corp. Rocket motor. 3,370,430, 2–27–68, Cl. 60—251.

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Dawson, George A., to E. I. du Pont de Nemours and Co. Color formers. 3,370,952, 2–27–68, Cl. 96—100.

Day, Ronald H., to Industrial Covers, Inc. Inflation aspirator. 3,370,784, 2–27–68, Cl. 230—95.

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De Gaetano, Joseph F., to Tenneco Chemicals, Inc. Pesticidal compounds and their use. 3,371,107, 2–27–68, Cl. 260—465.

Delafosse, Jacques, J. Herenguel, P. Lelong, and S. Silberman, to Commissariat A l'Energie Atomique. Process for electrolytic etching of zirconium and zirconium-base alloys. 3,371,021, 2–27–68, Cl. 204—140.

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D'Ella, Anthony N., and E. M. Stolars. Environmental control unit. 3,370,403, 2–27–68, Cl. 55—106.

Delius, Hermann, to Reichhold Chemicals, Inc. Thixotropic mixtures capable of being hardened resulting in the formation of synthetic materials. 3,371,056, 2–27–68, Cl. 260—22.

Deliaquila, Robert P., and J. L. Ingalls, to American Machine & Foundry Co. Cigar conveyor. 3,370,891, 2–27–68, Cl. 302—62.

De Long, Robert J., R. D. Johnson, and B. A. Paine, to Spectrol Electronics Corp. Movable electrical contact carrier block for potentiometers. 3,371,305, 2–27–68, Cl. 338—202.

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De Podesta, Frank B., G. T. Innes, C. M. Burt, and D. E. Kullgren, to Paragon Bridge & Steel Co. Railway carrier for automotive vehicles. 3,370,552, 2–27–68, Cl. 105—368.

De Shazor, James C., Jr. Clip for interconnecting cans to form a multiple can package. 3,370,700, 2–27–68, Cl. 206—65.

Desmond, John W. Return address label dispenser. 3,370,747, 2–27–68, Cl. 221—26.

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Deutch, Arthur. Dispensing spigot with counter. 3,370,750. 2–27–68, Cl. 222—30.

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Drewry, David G., and H. D. Harmoning, to United States of America, Navy. Annular plenum nozzle for controlling trajectory of rockets. 3,370,794, 2–27–68, Cl. 239—205.17.

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Braun, Robert A. 3,370,970.
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Ehrbar, John J. Safety closure device for a container. 3 370,731, 2–27–68, Cl. 215—9.

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Falk, Thomas B. Type bar setting and inking means in zip code printers. 3,370,532, 2–27–68, Cl. 101—98.

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Farhi, Carol, and N. E. Harris, to Union Carbide Corp. Maturation inhibitors for harvested produce. 3,370,962, 2–27–68, Cl. 99—154.

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Feldman, Marshall H. and H. W. Adjustable wrench. 3,370,490, 2–27–68, Cl. 81—125.

Fenzan, William R., to Amsted Industries, Inc. Method of casting in a plurality of molds. 3,370,640, 2–27–68, Cl. 164—136.

Fernandes, Wilbur E.: *See*—
Moore, Francis C., Fernandes, and Nicely. 3,370,959.

Ferri, Giampiero, and T. Marinai. Toy-gun designed to cause a caps-strip subsequent explosion, besides shearing and expulsion of said strip portions upon a cap explosion. 3,370,373, 2–27–68, Cl. 42—54.

Fert, Michel: *See*—
Soulet, Jean and Fert. 3,370,839.

Fesco, John J., to Studley Paper Co., Inc. Vacuum cleaner filter bags and method of manufacturing same. 3,370,405, 2–27–68, Cl. 55—368.

Fesco, John J., to Studley Paper Co., Inc. Vacuum cleaner filter bag. 3,370,406, 2–27–68, Cl. 55—877.

Fickett, William R., and W. F. Ricketts, to Chicago Bridge & Iron Co. Ring-cladding assembly. 3,370,930, 2–27–68, Cl. 29—191.

Fieldcrest Mills, Inc.: *See*—
Law, Marvin A. 3,370,326.

Fielding, Harry L., Mixermobile Manufacturers, Inc. Articulated vehicle. 3,370,730, 2–27–68, Cl. 214—778.

Findley, Thomas W.: *See*—
Powell, Berry O., and Findley. 3,370,969.

Fingerut, Boris M., and F. E. Kirby, to Portland Wire & Iron Works. Chaff and straw collecting and separating means for harvester combine. 3,370,722, 2–27–68, Cl. 214—42.

Firma Bohler & Weber KG: *See*—
Sieber, Johannes H. 3,370,380.

Firma Georg Fritzmeier KG: *See*—
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Firma Rheinmetall G.m.b.H.: *See*—
Fammler, Karl, and Domke. 3,370,507.

Firma Wenesler & Heidenhain: *See*—
Seewald, Gerhard. 3,371,335.

Firma Zinser Textilmaschinen G.m.b.H.: *See*—
Schulz, Günther, and Igel. 3,370,411.

Fischer, Robert M.: *See*—
Beisecker, Gerhard J., and Fischer. 3,370,499.

Fischman, Martin: *See*—
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Fish, William A., Jr., to Westinghouse Electric Corp. Gas-blast circuit breaker with separable movable and isolating contacts. 3,371,177, 2–27–68, Cl. 200—148.

Fisher, James A., to Westinghouse Electric Corp. Plural tuner assembly. 3,370,473, 2–27–68, Cl. 74—10.45.

Fitzgerald, Maurice J.: *See*—
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Flannery, William E., and T. J. Matcovich, to Sperry Rand Corp. Parametric information translating system. 3,371,217, 2–27–68, Cl. 307—88.

Fleury, Paul A. V., C. K. N. Patel, R. E. Slusher, and P. A. Wolff, to Bell Telephone Laboratories, Inc. Optical parametric device using third-order nonlinearity. 3,371,220, 2–27–68, Cl. 307—88.3.

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Ciaccio, Peter L. 3,370,599.

Flint, John C. E., to Dowty Hydraulic Units Ltd. Slide valves. 3,370,611, 2–27–68, Cl. 137—625.25.

Flores, Fernando E., to Tenney Engineering, Inc. Constant temperature bath for calibrating immersion type instruments. 3,370,454, 2–27–68, Cl. 73—1.

Foerster, George S., and J. B. Clark, to The Dow Chemical Co. Magnesium-base alloy. 3,370,945, 2–27–68, Cl. 75—168.

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Schwartzenberg, John W., and Foley. 3,371,199.

Ford Motor Co.: *See*—
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Forrest, Stanley C., Jr., and L. Schupak, to Astrodata, Inc. Current control of oscillator frequency. 3,371,291, 2–27–68, Cl. 332—30.

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Fox, Gerald B., to The Hobart Mfg. Co. Dishwashing machine with liquid sanitizer dispenser. 3,370,597, 2–27–68, Cl. 134—58.

Francis, Alex W., Jr., and C. O. Meyers, to Combustion Engineering, Inc. Apparatus for reconcentrating liquid desiccant. 3,370,636, 2–27–68. Cl. 159—16.

Francis, Gus, and W. H. Sustrich, to United States of America, Army. Incendiary projectile. 3,370,536, 2–27–68, Cl. 102—66.

Francis, Thomas H. Locking device for mobile transceivers and the like. 3,370,446, 2–27–68. Cl. 70—58.

Frangos, Everett W. Gyroscopic top. 3,370,377, 2–27–68, Cl. 46—50.

Frank, Stanley L., to Westinghouse Electric Corp. Means for foxedly positioning a switch on a panel. 3,371,180, 2–27–68, Cl. 200—168.

Franklin, John W., to Stacatrac Ltd. Steering means for self-propelled vehicles. 3,370,669, 2–27–68, Cl. 180—79.2.

Franzen, Gustav, H. Zeller, and K. Nimtz, to Palitex Project-Co. G.m.b.H. Apparatus for use in connection with two-for one twisting machines for automatically changing bobbin units. 3,370,412, 2–27–68, Cl. 57—53.

Frazer, John E., to Monsanto Co. Process and apparatus for producing self-texturing fibers. 3,371,139, 2–27–68, Cl. 264—171.

Fredelake, Edward A. Retractable wheel system for pontoon rafts. 3,370,309, 2–27–68, Cl. 9—1.

Freed, Jacob B., to The Duriron Co., Inc. Method of making a plug valve having a fluorocarbon sleeve. 3,370,335, 2–27–68, Cl. 29—157.1.

Freehauf, Eugene G., and W. P. Dugan, to General Dynamics Corp. Method of manufacturing electrical connectors. 3,370,351, 2–27–68, Cl. 29—625.

Freund, Ernest H., to National Dairy Products Corp. Compositions comprising succinyl half esters. 3,370,958, 2–27–68. Cl. 99—91.

Frohbach, Hugh F., and A. Macovski, to Minnesota Mining and Mfg. Co. Audio-video disk recording system with cross-talk prevention. 3,371,154, 2–27–68, Cl. 178—5.6.

Frohbach, Hugh F., and A. Macovski, to Minnesota Mining and Mfg. Co. Television recording system having audio signals recorded during horizontal blanking intervals. 3,371,156, 2-27-68, Cl. 178—6.6.

Frost, James D. Energy absorbing cushion. 3,370,886. 2-27-68. Cl. 297—384.

Fryer, Rodney I., E. E. Garcia, and L. H. Sternbach, to Hoffmann-La Roche Inc. Process for preparing therapeutically useful 3-substituted benzodiazepines. 3,371,083, 2-27-68, Cl. 260—239.3.

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Fukushima, Eiji: *See*—
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Furuhashi, Tamotsu, to Seikagaku Kogyo Co., Ltd. Preservative for eye graft material. 3,371,012, 2-27-68, Cl. 167—59.

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Gale, John A. 3,370,885.

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Gantt, James E.: *See*—
Witt, Paul A., and Gantt. 3,371,032.

Garcia, Edward E.: *See*—
Fryer, Rodney I., Garcia, and Sternbach. 3,371,083.
Fryer, Rodney I., Garcia, and Sternbach. 3,371,084.

Garcia, Thomas, L. G. Vance, Jr., and L. H. Maschhoff, to United States of America, Navy. Method and means for removing an opaque film of atmospheric particles from before the lens of a camera. 3,370,519, 2-27-68, Cl. 95—11.

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Garrison, Larry G.: *See*—
Eichhorn, Emil, and Garrison. 3,370,917.

Garwin, Richard L., A. S. Nowick, and D. P. Seraphim, to International Business Machines Corp. Method of making superconductor wires. 3,370,347, 2-27-68, Cl. 29—599.

Gaskel & Chambers (Non-Drip Measure) Ltd.: *See*—
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Gassino, Teresio, to Ing. C. Olivetti & C., S.p.A. Program control device for a calculating or like machine. 3,370,788, 2-27-68, Cl. 235—62.

Gatien, Paul G. Drill rod and bit including one-way valve structure therein. 3,370,659, 2-27-68, Cl. 175—318.

Gebroeders Stork & Co.'s Apparatenfabriek N.V.: *See*—
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Gedge, Seymour C., and W. H. Johns, to United States Steel Corp. Barbed-wire bundle. 3,370,699, 2-27-68, Cl. 206—59.

Geier, Beverly W., to Comdata Corp. Reel container. 3,370,698, 2-27-68, Cl. 206—52.

Geiser, Edward M., to Universal Oil Products Co. Hydroxyalkyl-substituted polyalkylenepoly-amino imides of polyhalopolyhydromethanonaphthalene dicarboxylic acid. 3,371,099. 2-27-68, Cl. 260—326.

Gelushia, Warren G., G. A. Ilbery, and D. L. Smith. Electronic warning system for vehicles. 3,371,287, 2-27-68. Cl. 325—64.

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General Dynamics Corp.: *See*—
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General Mills, Inc.: *See*—
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Burrus, Paul B., and Rill. 3,370,739.
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Gionet, Edmond R., and Rossl. 3,370,480.
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General Motors Corp.: *See*—Continued
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Lander, John J., Smith, and Weaver. 3,370,983.
Lohr, Thomas E. 3,371,179.
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Menk, Melvin A. 3,370,838.
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Nickles, Lawrence H., and Harper. 3,370,830.
Pasek, James E., and Rehfeld, 3,370,785.
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Gevaert Photo-Producten N.V.: *See*—
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Gibbs, Robert A., and T. A. Hosick. Steam engine. 3,370,511. 2-27-68, Cl. 91—175.

Gibson, Christian D., to The Raymond Corp. Ball bearing manufacturing method. 3,370,333, 2-27-68, Cl. 29—149.4.

Gibson, Christian D., to The Raymond Corp. Ball bearing manufacturing method. 3,370,337, 2-27-68, Cl. 29—201.

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Gilbert, Elmer G., to Applied Dynamics, Inc. Electronic switching apparatus. 3,371,223, 2-27-68, Cl. 307—88.5.

Gill, John L., Jr. Precision signal processor for pulse duration modulation telemetry. 3,371,280, 2-27-68, Cl. 325—323.

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Girard, Theodore A., to Tenneco Chemicals, Inc. Polyvinyl halide resin compositions. 3,371,063, 2-27-68, Cl. 260—45.8.

Girten, William. Apparatus for the stimulation of blood circulation in the feet and legs. 3,370 584, 2-27-68, Cl. 128—25.

Gleason, Gordon S. Hanging flower holder. 3,370,379, 2-27-68, Cl. 47—34.

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Gold, Heinrich, E. Lehmann, and W. Theuer, to Farbenfabriken Bayer Aktiengesellschaft. Bis-triazinylamino-stilbene sulphonic acid compounds. 3,371,089, 2-27-68, Cl. 260—240.

Goldman, Abe P. Process for making self-edged laminated panel. 3,371,003, 2-27-68, Cl. 156—267.

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Gondert, Theodore R., and J. G. Kuhn, to General Motors Corp. Automotive vehicle body. 3,370,883, 2-27-68, Cl. 296—1.

Gontar, Herbert. Can opener. 3,370 744, 2-27-68, Cl. 220—54.

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Gorin, Everett, R. T. Struck, and C. W. Zielke, ½ to Consolidation Coal Co., and ½ to United States of America, Interior. Regeneration of zinc halide catalyst used in hydrocracking of polynuclear hydrocarbons. 3,371,049, 2-27-68, Cl. 252—413.

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Gregory, Charles Q. Ignition cut-off device. 3,371,171, 2-27-68, Cl. 200—61.45.

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Griscom, Samuel B., to Westinghouse Electric Corp. Transmission-line lightning-proofing structures. 3,371,144, 2-27-68, Cl. 174—2.

Groe, Norris. Wrench carrier. 3,370,696, 2-27-68, Cl. 206—16.

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Guerci, Carl F., and M. W. Shafer, to International Business Machines Corp. Method of making crystals of rare earth chalcogenides. 3,370,924, 2-27-68, Cl. 23—301.

Guerrieri, Salvatore A., to The Lummus Co. Grid for fluidised solid vessels. 3,370,361, 2-27-68, Cl. 34—57.

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Guille, Joe D., to Icore Industries. Diverter unit for roller conveyor. 3,370,685, 2-27-68, Cl. 193—36.

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Guttman, Arnold L.: to Sinclair Research, Inc. Coating of improved "slip" characteristics composition. 3,371,057, 2-27-68 Cl. 260—28.5.

Guzzardo, Raymond W., to E. M. Melahn, d.b.a. Northern Illinois Machine Co. Container fabricating and orienting apparatus. 3,370,515. 2-27-68, Cl. 93—36.

Haake, Herbert B., F. V. Johnson, J. D. Welch, and R. E. Wilson, to General Electric Co. Optical-inertial navigation system. 3,370 460, 2-27-68, Cl. 73—178.

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Hafer, George E., and C. S. Willis, to Ibex Motor Truck Corp. Automotive vehicle door and method of making same. 3,370,384 2-27-68. Cl. 49—502.

Hagfors, Harold T. Safety control system. 3,371,254, 2-27-68, Cl. 317—135.

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Hammer, Jacobus A., to Cornell Aeronautical Laboratory, Inc. Fundamental mode coupler. 3,371,292, 2-27-68, Cl. 333—10.

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Kabushiki Kaisha Honda Gijutsu Kenkyusho: *See*—
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Kabushiki Kaisha Teranishi Denki Seisakusho: *See*—
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Kahn, Samuel J., and E. Brown, to Universal Oil Products Co. Process for producing saturated diols. 3,371,121, 2–27–68, Cl. 260—635.

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Kane, Albert J., to The Capewell Mfg. Co. Conical milling cutter. 3,370,332. 2–27–68, Cl. 29—103.

Kane, David. Mobile irrigation devices. 3,370,606, 2–27–68, Cl. 137—344.

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Kawasaki, Keimin, to Nippon Oilless Kogyo Kabushiki Kaisha. Porous bronze castings for bearing and the like uses. 3,370,944, 2–27–68, Cl. 75—156.5.

Kawauchi, Akihiro, M. Harada, and A. Tachihara. Fluorescent lamp circuit with a voltage boosting transformer convertible to a variable inductance for current regulation. 3,371,246, 2–27–68, Cl. 315—262.

Keahl, Gerald T., to Beckman Instruments, Inc. Radiation comparison system. 3,370,503. 2–27–68, Cl. 88—14.

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Kelly, Donald A. Rotary stirling cycle engines. 3,370,418. 2–27–68, Cl. 60—24.

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Kesling, Keith K., to General Motors Corp. Refrigerator trim. 3,370,738. 2–27–68, Cl. 220—9.

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Knauth, Walter T. Fishing reel brake. 3,370,807, 2–27–68, Cl. 242—84.52.

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Kontes, James C., and Gilmont. 3,370,761.

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Krivak, Michael T.: *See*—
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Krzyzanowski, Robert A., to Miliprint, Inc. Dispenser package. 3,370,776, 2–27–68, Cl. 229—27.

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Kurrle, Paul E., to The Babcock & Wilcox Co. Vapor generating and superheating system. 3,370,572. 2–27–68, Cl. 122—7.

Kuster, William, to Eagle-Ottawa Leather Co. Low ash content food supplement method. 3,370,954. 2–27–68. Cl. 99—7.

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Kyowa Kako Kabushiki Kaisha: *See*—
Sato, Morio. 3,370,323.

L & F Machine Co.: *See*—
Parker, Russel A. 3,370,526.

Laager, Kaspar: *See*—
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Laager, Kaspar, to Maschinenfabrik Scharer. Bobbin depositing apparatus. 3,370,398, 2–27–68, Cl. 53—248.

Lachenmayer, Richard R., to Sperry Rand Corp. Multipurpose matrix. 3,371,320, 2–27–68, Cl. 340—172.5.

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Lallemand, Marcel, to Societe Anonyme dite: Continentale & Garner. Linkage mechanism for circuit breakers. 3,371,178. 2–27–68, Cl. 200—153.

Lamb, Joseph F., Co.: *See*—
Opperthauser, Orval A. 3,370,815.

Lamburn, Alan S., to Axel Wickman Transmission Ltd. Velicular driving axle. 3,370,486, 2–27–68, Cl. 74—695.

Lander, John J., S. W. Smith, and R. D. Weaver, to General Motors Corp. Electrothermal transducer and method of operating same. 3,370,983, 2–27–68, Cl. 136—86.

Landis, Benjamin H.: *See*—
Ewing, Foster G., Bidrawn, Landis, Wheeler, and Dennis. 3,371,018.

Landis, Phillip S.: *See*—
Hamilton, Lyle A., and Landis. 3,371,110.

Lansing Bagnall Ltd.: *See*—
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Larson, Charles O., to Charles O. Larson Co. Support bracket. 3,370,675, 2–27–68, Cl. 182—224.

Larson, Charles O., Co.: *See*—
Larson, Charles O. 3,370,675.

LaPaglia, Anthony J., R. N. Rand, and O. H. Sahmel, to Bausch L Lomb Inc. Electrophoresis migration tank having means for maintaining controlled conditions. 3,371,027, 2–27–68, Cl. 204—299.

Larsson, Sven G. O., to Husqvarna Vapenfabriks Aktiebolag. Firing mechanism with means for adjusting trigger-sear overlap. 3,370,374, 2–27–68, Cl. 42—69.

La Tour, Clifford S., to Water Safety & Utility Research, Inc. Tilting lift frame for small boats. 3,370,310, 2–27–68, Cl. 9—14.

Lattner Bros. Machining Co.: *See*—
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La Vange, Donald H., to Polytop Corp. Cap seal. 3,370,732, 2–27–68, Cl. 215—40.

Lavergne, Michel: *See*—
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Lazar, Jeffrey M., to Honeywell, Inc. Turbine control apparatus. 3,370,831, 2–27–68, Cl. 253—52.

Lazrus, Julian, L. H. Strauss, and W. P. Canning, to Benrus Watch Co., Inc. Electronic timepiece. 3,370,414, 2–27–68, Cl. 58—23.

Leeds & Northrup Co.: *See*—
Schwartzenberg, John W., and Foley. 3,371,199.

Leeds, Winthrop M., to Westinghouse Electric Corp. High-voltage circuit interrupter with a pair of fluid-conducting pivotally-mounted contact arms. 3,371,176, 2–27–68, Cl. 200—148.

Leeper, Charles L. Air cleaner for attachment to paint booth doors. 3,370,404, 2–27–68, Cl. 55—233.

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Lehmkuhl, Robert A., and R. E. Reed, to Giddings & Lewis, Inc. Mechanisms for tool changers. 3,370,346, 2–27–68, Cl. 29—568.

Lehrer, Jack A., and D. P. Ross, to Universal Oil Products Co. Centrifugal separator with removable separator section. 3,370,408, 2–27–68, Cl. 55—429.

Leilich, Hans-Otto G.: *See*—
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Lemforder Metallwaren A. G.: *See*—
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Lemm, Frederick L. Gas detector. 3,370,457, 2–27–68, Cl. 73—27.

Lender, Adam, to Automatic Electric Laboratories, Inc. Coherent recovery of phase-modulated dibits. 3,371,279, 2–27–68, Cl. 325—320.

Lenta, Joseph G. Steerable toy vehicle. 3,370,861. 2–27–68. Cl. 280—1.202.

Leoni, Ray D., to United Aircraft Corp. Convertiplane. 3,370,809. 2–27–68, Cl. 244—7.

Lerwill, William E., and N. A. Anstey, to Seismograph Service Corp. Apparatus for the correlation or two variables. 3,371,196. 2–27–68, Cl. 235—181.

Levey, Jay R., and J. M. Karl, to Oxwall Tool Co., Ltd. Display package and article container. 3,370,697. 2–27–68. Cl. 206—45.34.

Levi, Hans L. Book mailer construction. 3,370,777, 2–27–68, Cl. 229—40.

Levy, Joseph, and W. W. Walker, to Universal Oil Products Co. Process for producing ethoxy naphthoic acid. 3,371,111. 2–27–68, Cl. 260—520.

Lewis, Bernard L., to Radiation Inc. Radar augmentor. 3,371,345, 2–27–68, Cl. 343—18.

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Lewis, George E., to Power-Flo Products, Inc. Shifting mechanism. 3,370,477, 2–27–68, Cl. 74—337.5.

Lewis, Oliver N.: *See*—
Henning, Robert W., Lewis, and Lawson. 3,370,770.

Liesmann, George E.: *See*—
Sheridan, David S., and Liesmann. 3,370,589.

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Anderson, James W., and Joyner. 3,370,977.

Lindholm, Donald W.: *See*—
W. H., and D. W. 3,370,787.

Lindholm, William H., and D. W. Bag-lined garbage receptacle. 3,370,787, 2–27–68, Cl. 232—43.2.

Lindsay, Kenneth W., to Ideal Toy Corp. Audio device. 3,370,855, 2–27–68, Cl. 274—1.

Link, John D., to International Harvester Co. Shipping and storage bin container construction. 3,370,775, 2–27–68, Cl. 229—17.

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Debus, Karl-Jürgen. 3,370,518.

Linton, Howard R., to E. I. du Pont de Nemours and Co. Silica-coated lead chromate pigment. 3,370,971, 2–27–68, Cl. 106—298.

Lippman, Bernard. Pocket identification. 3,370,370, 2–27–68, Cl. 40—129.

Liss, Jules, and M. Ashtray construction. 3,370,820, 2–27–68, Cl. 248—311.

Liss, Martin: *See*—
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Liszczak, Stephen: *See*—
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Livermore, Bruce M. Wall casing. 3,370,390, 2–27–68, Cl. 52—287.

Livingston, Richard D., to Bartelt Engineering Co., Inc. Transfer apparatus. 3,370,549, 2–27–68, Cl. 104—212.

Lockett, George E.: *See*—
Coast, Geoffrey, Lockett, and McIver. 3,371,017.

Lockheed Aircraft Corp.: *See*—
Williams, William W. 3,370,812.

Loewy Engineering Co., Ltd., The: *See*—
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Logan, Frank G., to United States of America, Navy. Method of fastening cores of electromagnetic devices. 3,370,350, 2–27–68, Cl. 29—606.

Lohr & Bromkamp G.m.b.H.: *See*—
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Lohr, Thomas E., to General Motors Corp. Electrical switch having a floating actuator which is detented into various circuit controlling positions by a leaf spring contact. 3,371,179, 2–27–68, Cl. 200—153.

Lomas, Ernest, to The Loewy Engineering Co., Ltd. Billet extrusion presses. 3,370,449, 2–27–68, Cl. 72—263.

Longcore, Milton M., to Glen Mfg., Inc. Sewing machine presser foot. 3,370,559, 2–27–68, Cl. 112—235.

Look, Arthur J., to Prevue Display Services. Sign post display. 3,370,369, 2–27–68, Cl. 40—125.

Lopes, Eugene F. Metal adhesives containing epoxy resin polyamide resin and phenolic flux. 3,371,008, 2–27–68, Cl. 161—186.

Lopp, Charles R., and W. G. Peyer, to Whirlpool Corp. Dishwasher. 3,370,598, 2–27–68, Cl. 134—111.

Lorenz, Harvey F., to The Angell Nail & Chaplet Co. Chill. 3,370,643, 2–27–68, Cl. 164—371.

Lorenz, Walter, and G. Schrader, to Farbenfabriken Bayer Aktiengesellschaft. Thio- or dithio-phosphoric (-phosphonic or -phosphinic) acid esters and processes for the production thereof. 3,371,095, 2–27–68, Cl. 260—294.8.

Lorillard, P., Co.: *See*—
Schultz, Frederick J., Jensen, and Hudson. 3,370,592.

Love, Richard R. Oscillatable and laterally shiftable drive axles provided with steerable wheels. 3,370,670, 2–27–68, Cl. 180—79.2.

Lovelace, Ralph E., to United Aircraft Corp. Stabilized direct-coupled push-pull amplifier. 3,371,286, 2–27–68, Cl. 330—123.

Loveland, Malcolm W., to Atlas-Pacific Engineering Co. Apricot pitting machine. 3,370,625, 2–27–68, Cl. 146—28.

Lovell, Alfred G., to United Shoe Machinery Corp. Article stringing machines. 3,370,558, 2–27–68, Cl. 112—104.

Lovercheck, Charles L. Coupling for connecting two or more engines. 3,370,484, 2–27–68, Cl. 74—661.

Lovette, Henry H. Body supporting units of sleeping or reclining furniture or equipment. 3,370,306, 2–27–68, Cl. 5—327.

Lowery, Carl J., and B. B. Williams, to Texas Instruments Inc. Method for fabricating electrically isolated semiconductor devices in integrated circuits. 3,370,995, 2–27–68, Cl. 148—175.

Lubowitz, Hyman R., C. J. Rogers, and R. A. Lynch, to United States of America, Air Force. Polyurethane elastomer. 3,370,996, 2–27–68, Cl. 149—20.

Lucas, Joseph (Industries) Ltd.: *See*—
Ifield, Kenneth J., and W. R. 3,370,603.

Lucas, Robert L., and H. F. Porter, to E. I. du Pont de Nemours and Co. Process and apparatus for wet scrub removal of dust and mist from gases. 3,370,401, 2–27–68, Cl. 55—90.

Lucht, Friedrich M. Sailing vessels. 3,370,560, 2–27–68, Cl. 114—39.

Luck, Russell M.: *See*—
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Luna, Agostino, and R. Cafissi, to Automatic Electric Laboratories, Inc. Wide band frequency modulator, of the solid state type with linear characteristics. 3,371,289, 2–27–68. Cl. 332—14.

Lummus Co., The: *See*—
Guerrieri, Salvatore A. 3,370,361.

Lummus Cotton Gin Co.: *See*—
Van Doorn, Donald W. 3,370,327.

Lundeen, Allan J., and K. L. Motz, to Continental Oil Co. Amination process for aliphatic tertiary amines. 3,371,118, 2-27-68, Cl. 260—583.

Lupkas, Raymond R.: *See*—
Reynolds, Andrew C., Jr., Chalker, and Lupkas. 3,371,193.

Lynch, Raymond A.: *See*—
Lubowitz, Hyman R., Rogers, and Lynch. 3,370,996.

Macaluso, Joseph, to Royalmetal Corp. Wall partitions. 3,370,389, 2-27-68, Cl. 52—239.

MacDonald, Robert N., to E. I. du Pont de Nemours and Co. Polymers of oxetan-3-one. 3,371,065, 2-27-68, Cl. 260—63.

MacFarland, Charles H., and A. A. Papp, to The Scott & Fetzer Co. Rug cleaner attachment. 3,370,315, 2-27-68, Cl. 15—320.

Mackenzie, Ian H., to Barr and Stroud Ltd. Boiler liquid level indicator. 3,370,469, 2-27-68, Cl. 73—331.

Mackworth G. Rees, a division of Avis Industrial Corp.: *See*—
Persia, Raymond J., Arnold, and Martens. 3,370,498.

Macovski, Albert: *See*—
Frohbach, Hugh F., Macovski. 3,371,156.

Madison Flooring Co., Inc.: *See*—
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Maginn, Joseph C.: *See*—
Bigelow, Charles G., Jr., Bumble, Maginn, Schauermann, and Wilt. 3,370,648.

Mahoff, George A., to Gamah Corp. Flexible tubular coupling. 3,370,870, 2-27-68, Cl. 285—233.

Mailmen Inc.: *See*—
Buckholz, Ronald. 3,371,331.

Mair, Josef, and F. Schweinbacher. Apparatus for burning exhaust combustion gases. 3,370,634, 2-27-68, Cl. 158—1.

Makimura, Susumu, to Matsushita Electric Industrial Co., Ltd. Combined magnetic transducing and erase head. 3,371,164, 2-27-68, Cl. 179—100.2.

Malsbary Mfg. Co.: *See*—
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Malsbary, Walter F., to Malsbary Mfg. Co. Multi-temperature fluid delivery apparatus. 3,370,791, 2-27-68, Cl. 236—23.

Manecke, Siegfried E., to Robertshaw Controls Co. Shaft connecting arrangement. 3,370,482, 2-27-68, Cl. 74—504.

Mangini, Angelo, A. Tundo, and G. Mazzanti, to Aziende Colori Nazionali Affini ACNA S.p.A. Reactive monoazo dyestuffs containing the 2-fluoro-benzothiazole group. 3,371,082, 2-27-68, Cl. 260—158.

Mann, William W.: *See*—
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Marchione, Joseph H., to Atwood Vacuum Machine Co. Door hinges with torsion bar hold-open means. 3,370,317, 2-27-68, Cl. 16—145.

Marchione, Joseph H., to Atwood Vacuum Machine Co. Automobile door hinge with two-position toggle type hold-open. 3,370,318, 2-27-68, Cl. 16—145.

Marinai, Jori: *See*—
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Marks, Theodore, to American Technical Machinery Corp. Apparatus and method for producing twisted wire products. 3,370,622, 2-27-68, Cl. 140—149.

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Carlson, Robert L., and Marquardt. 3,370,422.

Marquis, Edgar E. Electro-thermal time-delay switch having a heating element and a heat-responsive switch-operating member. 3,371,174, 2-27-68, Cl. 200—122.

Marsden, John D., to The General Electric Co., Ltd. Conveyor arrangements. 3,370,693, 2-27-68, Cl. 198—34.

Martens, Herbert A.: *See*—
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Martin, Geoffrey, to Avco Corp. Method of cleaning and fluxless brazing of aluminum and aluminum alloys. 3,370,343, 2-27-68, Cl. 29—494.

Martin, James B., to The Procter & Gamble Co. Acidic lipid anhydrides. 3,371,102, 2-27-68, Cl. 260—347.4.

Martin, Joseph L., to New England Realty Co. Manhole. 3,370,386, 2-27-68, Cl. 52—19.

Martin, Louis D., to B. C. Ames Co. Gear train error compensator for dial indicators and the like. 3,370,478, 2-27-68, Cl. 74—395.

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Mayer, Gerald C., to Howe Richardson Scale Co. Catch gates for weighing apparatus and the like. 3,370,661, 2-27-68, Cl. 177—60.

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McClure, Glenn T., and W. K. Mong, to Westinghouse Air Brake Co. Fluid pressure brake control apparatus. 3,370,893, 2-27-68, Cl. 303—36.

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McDonald, William J., and E. B. Bynum, Jr., to General Electric Co. Mine hoist system including a main counter for level determination and a jog counter for level offset. 3,370,076, 2-27-68, Cl. 187—29.

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Ruple, Lewis H. Pipe forming apparatus. 3,370,448, 2-27-68, Cl. 72—176.
Rush, David H., to ACR Electronics Corp. Combination apparatus cover and battery pack. 3,370,987, 2-27-68, Cl. 136—135.
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Rylatt, John A., to Orenda Ltd. Thrust bearing. 3,370,897, 2-27-68, Cl. 308—168.
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Scheucher, Karl, to TRW Inc. Forging machine and method. 3,370,450, 2-27-68, Cl. 72—354.
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Siegenthaler, Walter, and K. Laager, to Maschinenfabrik Scharer. Bobbin depositing mechanism. 3,370,395, 2–27–68, Cl. 53—64.

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Zenitz, Bernard L., and Surrey. 3,371,094.

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CLASSIFICATION OF PATENTS

ISSUED FEBRUARY 27, 1968

NOTE.—First number, class; second number, subclass; third number, patent number

2– 2.5	3,370,302	40– 28.1	3,370,366	72–420	3,370,452	99– 78	3,370,956	128–145	3,370,586	165–120	3,370,648
88	3,370,303	119	3,370,367	479	3,370,453	90	3,370,957	214.4	3,370,587	166– 9	3,370,649
174	3,370,304	120	3,370,368	73– 1	3,370,454	91	3,370,958	221	3,370,588	42	3,370,650
3– 1	3,370,305	125	3,370,369		3,370,455	107	3,370,959	275	3,370,589	134	3,370,651
5–327	3,370,306	129	3,370,370	6	3,370,456		3,370,960	290	3,370,590	167– 30	3,371,010
7– 7	3,370,307	137	3,370,371	27	3,370,457	134	3,370,961	129– 31	3,370,591	33	3,371,011
8– 4	3,370,910	42– 16	3,370,372	141	3,370,458	154	3,370,962	131– 10.7	3,370,592	59	3,371,012
111	3,370,911	54	3,370,373	146.5	3,370,459	236	3,370,522	15	3,370,593	65	3,371,013
115.5	3,370,912	69	3,370,374	178	3,370,460	282	3,370,523	261	3,370,594		3,371,014
128	3,370,913	43– 42.45	3,370,375		3,370,461	287	3,370,524	266	3,370,595	82	3,371,015
9– 1	3,370,308	44.88	3,370,376	189	3,370,462	100– 48	3,370,525	134– 9	3,370,982	170–135.72	3,370,652
	3,370,309	44– 15	3,370,932	194	3,370,463	93	3,370,526	45	3,370,596	172–599	3,370,653
14	3,370,310	46– 50	3,370,377	228	3,370,464	147	3,370,527	58	3,370,597	173– 34	3,370,654
13– 9	3,371,140	228	3,370,378	230	3,370,465	173	3,370,528	111	3,370,598	104	3,370,655
	3,371,141	47– 34	3,370,379	304	3,370,466	101– 1	3,370,529	167	3,370,599	174– 2	3,371,144
25	3,371,142	49– 40	3,370,380	306	3,370,467	3	3,370,530	136– 86	3,370,983	15	3,371,145
31	3,371,143	107	3,370,381	322	3,370,468	91	3,370,546		3,370,984	17	3,371,146
14– 72	3,370,311	340	3,370,382	331	3,370,469	95	3,370,531		3,370,985	35	3,371,147
15–180	3,370,312	425	3,370,383	431	3,370,470	98	3,370,532	89	3,370,986	52	3,371,148
198	3,370,313	502	3,370,384	434	3,370,471	269	3,370,533	134	3,370,988	53	3,371,149
308	3,370,314	51– 5	3,370,385	517	3,370,472	102– 43	3,370,534	135	3,370,987	65	3,371,150
320	3,370,315	52– 19	3,370,386	74– 10.45	3,370,473	52	3,370,535	168	3,370,989	71	3,371,151
16– 87.2	3,370,316	188	3,370,387	89	3,370,474	66	3,370,536	181	3,370,990	94	3,371,152
145	3,370,317	239	3,370,388	104	3,370,475	87	3,370,537	137– 54	3,370,600	175– 6	3,370,656
	3,370,318		3,370,389	242.11	3,370,476	103– 1	3,370,538	87	3,370,601	74	3,370,657
17– 2	3,370,319	287	3,370,390	337.5	3,370,477	2	3,370,539	101	3,370,602	215	3,370,658
21	3,370,320	346	3,370,391	395	3,370,478	4	3,370,540	102	3,370,603	318	3,370,659
45	3,370,321	479	3,370,392	501	3,370,479	88	3,370,541	117	3,370,604	176– 53	3,371,016
18– 5	3,370,322	613	3,370,393		3,370,480	97	3,370,542	187	3,370,605	87	3,371,017
26	3,370,323	53– 33	3,370,394	503	3,370,481	223	3,370,543	344	3,370,606	177– 25	3,370,660
30	3,370,324	64	3,370,395	504	3,370,482		3,370,544	486	3,370,607	60	3,370,661
19– 66	3,370,325	138	3,370,396	579	3,370,483	228	3,370,545	565	3,370,608		3,370,662
106	3,370,326	180	3,370,397	661	3,370,484	104–172	3,370,547	607	3,370,609	178– 5.4	3,371,153
205	3,370,327	248	3,370,398	689	3,370,485		3,370,548	614.16	3,370,610	.6	3,371,154
23– 2	3,370,914	379	3,370,399	695	3,370,486	212	3,370,549	625.25	3,370,611	6.5	3,371,155
4	3,370,915	55– 73	3,370,400	855	3,370,487	105–368	3,370,550	.47	3,370,612	.6	3,371,156
21	3,370,916	90	3,370,401	865	3,370,488		3,370,551	.69	3,370,613		3,371,157
112	3,370,917	94	3,370,402	75– 3	3,370,936		3,370,552	138– 94	3,370,614		3,371,158
151	3,370,918	106	3,370,403	5	3,370,937	106– 42	3,370,963	96	3,370,615		3,371,159
	3,370,919	233	3,370,404	9	3,370,938	47	3,370,964	139– 92	3,370,616	7.1	3,371,160
174	3,370,920	368	3,370,405	53	3,370,939		3,370,965	122	3,370,618	.2	3,371,161
182	3,370,921	377	3,370,406	122.5	3,370,940	49	3,370,966	127	3,370,617	179– 2	3,371,162
190	3,370,922	413	3,370,407	128	3,370,941	56	3,370,967	140– 3	3,370,619	90	3,371,163
191	3,370,923	429	3,370,408	134	3,370,942		3,370,968	67	3,370,620	100.2	3,371,164
211	3,370,925	56–328	3,370,409	142	3,370,943	131	3,370,969	123.6	3,370,621	175.3	3,371,165
260	3,370,926	57– 12	3,370,410	156.5	3,370,944	287	3,370,970	149	3,370,622	180– 6.44	3,370,663
301	3,370,924	52	3,370,411	168	3,370,945	298	3,370,971	141–206	3,370,623	9.22	3,370,664
	3,370,927	53	3,370,412	175.5	3,370,946	107– 1	3,370,553	382	3,370,624	22	3,370,665
24– 16	3,370,328	58.95	3,370,413	208	3,370,947	3	3,370,554	146– 28	3,370,625	26	3,370,666
230	3,370,329	58– 23	3,370,414	77– 72	3,370,489	9	3,370,555	76	3,370,626	45	3,370,667
26– 19	3,370,330	44	3,370,415	81–125	3,370,490	108–136	3,370,556	232	3,370,627	52	3,370,668
29– 25.12	3,370,331	59– 5	3,370,416	83– 37	3,370,491	110– 99	3,370,557	242	3,370,628	79.2	3,370,669
103	3,370,332	60– 13	3,370,417	71	3,370,492	112–104	3,370,558	148– 6.16	3,370,992		3,370,670
148.4	3,370,333	24	3,370,418	155	3,370,493	235	3,370,559	.2	3,370,991	82	3,370,671
149.5	3,370,334	30	3,370,419		3,370,494	114– 39	3,370,560	13.1	3,370,993	181– .5	3,370,672
157.1	3,370,335	36	3,370,420	176	3,370,495	66.5	3,370,561	142	3,370,994	35	3,370,673
173	3,370,336	52	3,370,421	297	3,370,496	67	3,370,562	175	3,370,995	54	3,370,674
182.7	3,370,928		3,370,422	455	3,370,497	77	3,370,563	149– 20	3,370,996	182–224	3,370,675
183.5	3,370,929		3,370,423	701	3,370,498		3,370,564	150– 1.6	3,370,629	187– 29	3,370,676
191	3,370,930	53	3,370,424	84–349	3,370,499		3,370,565	12	3,370,630	48	3,370,677
.6	3,370,931	54	3,370,425	398	3,370,500	206	3,370,566	151– 37	3,370,631	188– 33	3,370,678
201	3,370,337	.5	3,370,426	85– 47	3,370,501	116–137	3,370,567	38	3,370,632	73	3,370,679
203	3,370,338		3,370,427	88– 14	3,370,502	117– 7	3,370,972	41.74	3,370,633	192– 56	3,370,680
205	3,370,339		3,370,428		3,370,503	47	3,370,974	156– 62.8	3,370,997	66	3,370,681
237	3,370,340	97	3,370,429	24	3,370,504	75	3,370,975	71	3,370,998	85	3,370,682
413	3,370,341	251	3,370,430		3,370,505	124	3,370,973	172	3,370,999	193– 25	3,370,683
472.7	3,370,342	61– 45	3,370,431	89– 33	3,370,506	212	3,370,976	180	3,371,000		3,370,684
494	3,370,343	54	3,370,432	36	3,370,507	215	3,370,977	234	3,371,001	36	3,370,685
502	3,370,344	64	3,370,433	90– 11	3,370,508	217	3,370,978	244	3,371,002	194– 9	3,370,686
505	3,370,345	62– 3	3,370,434	13	3,370,509		3,370,979	267	3,371,003	59	3,370,687
568	3,370,346	28	3,370,435	91–175	3,370,510	227	3,370,980	321	3,371,004	195– 31	3,371,018
599	3,370,347	148	3,370,436		3,370,511	230	3,370,981	416	3,371,005	103.5	3,371,019
604	3,370,348	160	3,370,437	446	3,370,512	118–246	3,370,568	473	3,371,006	198– 7	3,370,688
605	3,370,349	196	3,370,438	466	3,370,513	639	3,370,569	498	3,371,007	20	3,370,689
606	3,370,350	419	3,370,439	93– 1	3,370,514	119– 27	3,370,570	158– 1	3,370,634		3,370,690
625	3,370,351	503	3,370,440	36	3,370,515	159	3,370,571	159– 13	3,370,635	32	3,370,691
30– 97	3,370,352	64– 21	3,370,441		3,370,516	122– 7	3,370,572	16	3,370,636	33	3,370,692
233	3,370,353	65–155	3,370,933	82	3,370,517	406	3,370,573	160–188	3,370,637	34	3,370,693
33– 1	3,370,354	374	3,370,934	95– 4.5	3,370,518	491	3,370,574		3,370,638		3,370,694
23	3,370,355	66– 55	3,370,442	11	3,370,519	123– 8	3,370,575	331	3,370,639	103	3,370,695
169	3,370,356	82	3,370,443	96– 36.2	3,370,948	46	3,370,576	161–186	3,371,008	200– 6	3,371,166
181	3,370,357	68–207	3,370,444	75	3,370,949	99	3,370,577	227	3,371,009	11	3,371,167
34– 10	3,370,358	215	3,370,445	83	3,370,950	119	3,370,578	164–136	3,370,640	16	3,371,168
18	3,370,359	70– 58	3,370,446	87	3,370,951	140	3,370,579	282	3,370,641	19	3,371,169
48	3,370,360	71– 29	3,370,935	100	3,370,952	198	3,370,580		3,370,642	38	3,371,170
57	3,370,361	72– 72	3,370,447	98– 1	3,370,520	124– 15	3,370,581	371	3,370,643	61.45	3,371,171
35– 19	3,370,362	176	3,370,448	40	3,370,521	126– 25	3,370,582	165– 1	3,370,644	.54	3,371,172
36– 9	3,370,363	263	3,370,449	99– 2	3,370,953	128– 24.1	3,370,583	63	3,370,645	82	3,371,173
38–102.4	3,370,364	354	3,370,450	7	3,370,954	25	3,370,584	95	3,370,646	122	3,371,174
40– 10	3,370,365	402	3,370,451	54	3,370,955	142.2	3,370,585	97	3,370,647	139	3,371,175

200–148	3,371,176	221– 59	3,370,748	248–476	3,370,822	260–293	3,371,093	292– 67	3,370,876	324–140	3,371,275
	3,371,177	293	3,370,749	249–168	3,370,823		3,371,094	285	3,370,877	158	3,371,276
153	3,371,178	222– 30	3,370,750	250– 41.9	3,371,204	294.8	3,371,095	293– 64	3,370,878	325– 42	3,371,277
	3,371,179	76	3,370,751		3,371,205		3,371,096	294– 86	3,370,879	64	3,371,278
168	3,371,180	83.5	3,370,752	49.5	3,371,206	326	3,371,097	87	3,370,880	320	3,371,279
172	3,371,181	129.1	3,370,753	51.5	3,371,207		3,371,099	101	3,370,881	323	3,371,280
204– 39	3,371,020	132	3,370,754	68	3,371,208	.14	3,371,098	296– 1	3,370,882	346	3,371,281
140	3,371,021	146	3,370,755	83	3,371,209	345.2	3,371,100		3,370,883	328– 43	3,371,282
143	3,371,022		3,370,756		3,371,210	346.6	3,371,101	297– 68	3,370,884	330– 20	3,371,283
147	3,371,023	153	3,370,757		3,371,211	347.4	3,371,102	328	3,370,885	31	3,371,284
158	3,371,024	196	3,370,758	.3	3,371,212	397.4	3,371,103	384	3,370,886	59	3,371,285
163	3,371,025	249	3,370,759	211	3,371,213	408	3,371,104	299– 4	3,370,887	123	3,371,286
245	3,371,026	312	3,370,760	233	3,371,214	440	3,371,105	70	3,370,888	331– 94.5	3,371,287
299	3,371,027	422	3,370,761	237	3,371,215	453	3,371,106	301– 41	3,370,889	332– 14	3,371,288
301	3,371,028	442	3,370,762	251– 14	3,370,827	465	3,371,107	302– 50	3,370,890		3,371,289
206– 16	3,370,696	496	3,370,763	62	3,370,824	468	3,371,108	62	3,370,891	23	3,371,290
45.34	3,370,697	499	3,370,764	148	3,370,825	471	3,371,109	303– 7	3,370,892	30	3,371,291
52	3,370,698	223– 87	3,370,765		3,370,826	476	3,371,110	36	3,370,893	333– 10	3,371,292
59	3,370,699	224– 45	3,370,766	252– 1	3,371,036	520	3,371,111	307– 88	3,371,216	24.1	3,371,293
65	3,370,700	225– 96.5	3,370,767	8.5	3,371,037	535	3,371,112		3,371,217	31	3,371,294
73	3,370,701	226– 30	3,370,768	28	3,371,038	543	3,371,113		3,371,218	70	3,371,295
76	3,370,702	227– 3	3,370,769	32.7	3,371,039	545	3,371,114		3,371,219	335– 74	3,371,296
208–102	3,371,029	9	3,370,770	51.5	3,371,040	555	3,371,115	.3	3,371,220	170	3,371,297
	3,371,030	228– 8	3,370,771	62.51	3,371,041	567.6	3,371,116	221	3,371,221	336– 57	3,371,298
207	3,371,031	43	3,370,772		3,371,042		3,371,117	222	3,371,222		3,371,299
351	3,371,032	229– 14	3,370,773		3,371,043	583	3,371,118	229	3,371,224	70	3,371,300
209–127	3,370,703		3,370,774	.54	3,371,044	591	3,371,119	233	3,371,225	83	3,371,301
166	3,370,704	17	3,370,775	73	3,371,045	609	3,371,120	235	3,371,226	92	3,371,302
240	3,370,705	27	3,370,776	75	3,371,046	635	3,371,121	239	3,371,223	130	3,371,303
368	3,370,706	40	3,370,777	389	3,371,047	645	3,371,122	252	3,371,227	338–180	3,371,304
210– 3	3,371,033	44	3,370,778	403	3,371,048	653	3,371,123		3,371,229	202	3,371,305
51	3,371,034	46	3,370,779	413	3,371,049	666.5	3,371,124	254	3,371,228	339– 59	3,371,306
59	3,371,035	62.5	3,370,780	459	3,371,050	669	3,371,125	284	3,371,230	121	3,371,307
94	3,370,707	71	3,370,781	518	3,371,051	672	3,371,126	308	3,371,231	256	3,371,308
130	3,370,708	86	3,370,782	253– 26	3,370,828	683.43	3,371,127	312	3,371,232	340– 8	3,371,309
234	3,370,709	87	3,370,783	39.15	3,370,829	837	3,371,128	308– 4	3,370,894	15.5	3,371,310
321	3,370,710	230– 95	3,370,784		3,370,830	872	3,371,129	8.2	3,370,895	17	3,371,311
448	3,370,711	202	3,370,785	52	3,370,831	897	3,371,130	10	3,370,896	18	3,371,312
457	3,370,712	231	3,370,786	254–168	3,370,832	931	3,371,131	168	3,370,897		3,371,313
488	3,370,713	232– 43.2	3,370,787	190	3,370,833	943	3,371,132	179	3,370,898	39	3,371,314
519	3,370,714	235– 61.11	3,371,193	256– 10	3,370,834	263– 33	3,370,838	193	3,370,899	146.1	3,371,315
211–116	3,370,715	62	3,370,788	26	3,370,835	264– .5	3,371,133	212	3,370,900	171	3,371,316
177	3,370,716	85	3,370,789	47	3,370,836	56	3,371,134	310– 8.1	3,371,233	172	3,371,317
212– 59	3,370,717	92	3,371,194	259– 8	3,370,837	63	3,371,135	9.5	3,371,234	.5	3,371,318
213– 32	3,370,718	175	3,371,195	260– 2	3,371,052	109	3,371,136	68	3,371,235		3,371,319
214– 6	3,370,719	181	3,371,196	.5	3,371,053	121	3,371,137	89	3,371,236		3,371,320
16	3,370,720		3,371,197	17.2	3,371,054	134	3,371,138	214	3,371,237		3,371,321
17	3,370,721		3,371,198	18	3,371,055	171	3,371,139	312–209	3,370,901		3,371,322
42	3,370,722	189	3,371,199	22	3,371,056	266– 5	3,370,839	313– 61	3,371,238	173	3,371,323
91	3,370,723	193	3,371,200	28.5	3,371,057	43	3,370,840	65	3,371,239		3,371,324
152	3,370,724	201	3,370,790	29.1	3,371,058	267– 73	3,370,841	350	3,371,240	174	3,371,325
390	3,370,725	236– 23	3,370,791	.6	3,371,059	269– 20	3,370,842	315– 77	3,371,241		3,371,326
506	3,370,726	238– 9	3,370,792		3,371,060	270– 18	3,370,843	139	3,371,242		3,371,327
512	3,370,727	10	3,370,793	40	3,371,061	271– 3	3,370,844	169	3,371,243		3,371,328
522	3,370,728	239–265.17	3,370,794	45.7	3,371,062	26	3,370,845	219	3,371,244	.1	3,371,329
770	3,370,729	240– 3	3,371,201	.8	3,371,063	51	3,370,846	240	3,371,245	249	3,371,330
778	3,370,730	41.15	3,371,202	47	3,371,064	60	3,370,847	262	3,371,246	259	3,371,331
215– 9	3,370,731	78	3,371,203	63	3,371,065	68	3,370,848	317– 2	3,371,247	263	3,371,332
40	3,370,732	241– 81	3,370,795	67	3,371,066		3,370,849	33	3,371,248	347	3,371,333
100	3,370,733	101	3,370,796	.6	3,371,067	272– 84	3,370,850	101	3,371,249		3,371,334
217– 5	3,370,734	186	3,370,797	78	3,371,068	273– 65	3,370,851		3,371,250		3,371,335
12	3,370,735	242– 18	3,370,798		3,371,069	102.1	3,370,852	119	3,371,251		3,371,336
219– 69	3,371,182	26.3	3,370,799	.4	3,371,070	106.5	3,370,853	123	3,371,252		3,371,337
78	3,371,183	36	3,370,800	.5	3,371,071	134	3,370,854	130	3,371,253		3,371,338
98	3,371,184	55.01	3,370,801	79	3,371,072	274– 1	3,370,855	135	3,371,254	378	3,371,339
121	3,371,185	.12	3,370,802	.3	3,371,073	277– 89	3,370,856	237	3,371,255	396	3,371,340
300	3,371,186		3,370,803	.5	3,371,074	130	3,370,857	318– 18	3,371,256	343– 9	3,371,341
347	3,371,187		3,370,804	82	3,371,075	139	3,370,858	39	3,371,257	17.1	3,371,342
373	3,371,188	.42	3,370,805	87.5	3,371,076	279–119	3,370,859	294	3,371,258	.2	3,371,343
383	3,371,189	84.2	3,370,806	91.1	3,371,077	123	3,370,860	380	3,371,259	.7	3,371,344
384	3,371,190	.52	3,370,807	94.9	3,371,078	280– 1.202	3,370,861	320– 2	3,371,260	18	3,371,345
511	3,371,191	158.4	3,370,808		3,371,079	21	3,370,862	321– 5	3,371,261	103	3,371,346
523	3,371,192	244– 7	3,370,809	112.5	3,371,080		3,370,863	11	3,371,262	113	3,371,347
220– 4	3,370,736	41	3,370,810	115	3,371,081	79.2	3,370,864	25	3,371,263	807	3,371,348
5	3,370,737	63	3,370,811	158	3,371,082	166	3,370,865	69	3,371,264	346– 60	3,371,349
9	3,370,738	85	3,370,812	239.3	3,371,083	404	3,370,866		3,371,265	140	3,371,350
	3,370,739	118	3,370,813		3,371,084	406	3,370,867	322– 28	3,371,267	350–160	3,370,902
15	3,370,740	134	3,370,814		3,371,085	285– 55	3,370,868	69	3,371,266	202	3,370,903
25	3,370,741	248– 74	3,370,815	.5	3,371,086	110	3,370,869	323– 21	3,371,268	209	3,370,904
	3,370,742	117.6	3,370,816	.55	3,371,087	233	3,370,870	22	3,371,269	210	3,370,905
48	3,370,743	188.5	3,370,817		3,371,088	287– 20.92	3,370,871	324– .5	3,371,270	285	3,370,906
54	3,370,744	205	3,370,818	240	3,371,089	90	3,370,872		3,371,271	352–140	3,370,907
89	3,370,745	265	3,370,819		3,371,090	189.36	3,370,873	34	3,371,272	401–190	3,370,908
221– 24	3,370,746	311	3,370,820	243	3,371,091	.365	3,370,874	57	3,371,273	206	3,370,909
26	3,370,747	452	3,370,821	281	3,371,092	289– 14	3,370,875	71	3,371,274		

CLASSIFICATION OF DESIGNS

D 2–266	210,268	D26– 1	210,280	D26– 14	210,293	D42– 7	210,306	D54– 12	210,319	D80– 9	210,334
D 9– 18	210,324		210,281	D29– 20	210,294	D44– 1	210,307	D55– 1	210,320	10	210,335
38	210,269		210,282	D33– 3	210,295		210,308	D56– 1	210,321	D81– 25	210,336
39	210,270	5	210,283		210,296		210,309	D57– 1	210,322	D83– 1	210,337
60	210,271		210,284	D34– 5	210,297		210,310	D61– 1	210,325		210,338
192	210,272		210,285		210,298	6	210,311		210,326	D86– 10	210,339
223	210,273		210,286	11	210,299	29	210,312	D65– 1	210,327		210,340
224	210,323		210,287	15	210,300	D47– 5	210,313	D71– 1	210,328	D87– 3	210,341
242	210,274	8	210,288		210,301	D49– 1	210,314	D72– 1	210,329	D90– 8	210,342
D13– 1	210,275		210,289	D35– 3	210,302	6	210,315		210,330	20	210,343
D15– 1	210,276	14	210,290	D39– 1	210,303	D52– 2	210,316		210,331		210,344
D23–146	210,277		210,291	D41– 1	210,304	6	210,317	D74– 9	210,332	D95– 3	210,345
D24– 1	210,278		210,292	D42– 7	210,305	D54– 12	210,318	D80– 8	210,333		210,346
D26– 1	210,279										

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

(NOTE.–CODES ARE CHANGED AS OF JANUARY 1, 1967)

Alabama	1	Kentucky	21	Oregon	41
Alaska	2	Louisiana	22	Pennsylvania	42
American Samoa	3	Maine	23	Puerto Rico	43
Arizona	4	Maryland	24	Rhode Island	44
Arkansas	5	Massachusetts	25	South Carolina	45
California	6	Michigan	26	South Dakota	46
Canal Zone	7	Minnesota	27	Tennessee	47
Colorado	8	Mississippi	28	Texas	48
Connecticut	9	Missouri	29	Utah	49
Delaware	10	Montana	30	Vermont	50
District of Columbia	11	Nebraska	31	Virginia	51
Florida	12	Nevada	32	Virgin Islands	52
Georgia	13	New Hampshire	33	Washington	53
Guam	14	New Jersey	34	West Virginia	54
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Illinois	17	North Carolina	37	U.S. Air Force	57
Indiana	18	North Dakota	38	U.S. Army	58
Iowa	19	Ohio	39	U.S. Navy	59
Kansas	20	Oklahoma	40		

(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

PATENTS

1	3,370,387	6	3,370,681	6	3,371,181	9	3,371,174	17	3,370,417	17	3,371,099
	3,370,512		3,370,683		3,371,204		3,371,185		3,370,422		3,371,101
	3,370,607		3,370,684		3,371,205		3,371,212		3,370,424		3,371,103
	3,371,052		3,370,685		3,371,209		3,371,236		3,370,427		3,371,106
	3,371,139		3,370,698		3,371,224		3,371,251		3,370,447		3,371,108
4	3,370,635		3,370,700		3,371,244		3,371,286		3,370,493		3,371,126
	3,370,990		3,370,715		3,371,265		3,371,348		3,370,496		3,371,132
	3,371,188		3,370,724		3,371,277	10	3,370,401		3,370,497		3,371,201
	3,371,225		3,370,727		3,371,279		3,370,961		3,370,506		3,371,245
	3,371,228		3,370,754		3,371,288		3,370,970		3,370,513		3,371,260
5	3,370,581		3,370,756		3,371,291		3,370,972		3,370,515		3,371,282
6	3,370,312		3,370,758		3,371,305		3,371,065		3,370,528		3,371,328
	3,370,351		3,370,784		3,371,308		3,371,119		3,370,543		3,371,332
	3,370,375		3,370,791		3,371,314		3,371,122		3,370,548	18	3,370,483
	3,370,383		3,370,793		3,371,316		3,371,191		3,370,549		3,370,550
	3,370,391		3,370,801		3,371,330	11	3,370,564		3,370,553		3,370,577
	3,370,393		3,370,803		3,371,339		3,370,853		3,370,591		3,370,877
	3,370,407		3,370,804		3,371,344		3,371,064		3,370,600		3,370,934
	3,370,420		3,370,810		3,371,347		3,371,309		3,370,602		3,370,959
	3,370,423		3,370,813	8	3,370,356	12	3,370,472		3,370,629		3,370,983
	3,370,458		3,370,819		3,370,536		3,370,477		3,370,675		3,371,193
	3,370,467		3,370,827		3,370,580		3,370,584		3,370,690		3,371,333
	3,370,468		3,370,836		3,370,797		3,370,703		3,370,694	19	3,370,360
	3,370,474		3,370,862		3,370,870		3,370,717		3,370,695		3,370,696
	3,370,478		3,370,886		3,370,890		3,370,750		3,370,702		3,370,705
	3,370,490		3,370,908		3,371,087		3,370,799		3,370,704		3,371,018
	3,370,503		3,370,913	9	3,370,302		3,370,881		3,370,708		3,371,304
	3,370,504		3,370,954		3,370,332		3,370,901		3,370,718	20	3,370,309
	3,370,505		3,370,957		3,370,361		3,371,117		3,370,733		3,370,464
	3,370,508		3,370,996		3,370,416		3,371,148		3,370,752	21	3,370,571
	3,370,519		3,371,003		3,370,502		3,371,203		3,370,757	22	3,370,751
	3,370,525		3,371,011		3,370,509		3,371,222		3,370,775	23	3,370,366
	3,370,526		3,371,033		3,370,573		3,371,268		3,370,780		3,370,429
	3,370,527		3,371,035		3,370,646		3,371,345		3,370,781		3,371,007
	3,370,531		3,371,046		3,370,712	13	3,370,327		3,370,787		3,371,142
	3,370,532		3,371,058		3,370,744		3,370,547		3,370,826		3,371,243
	3,370,542		3,371,061		3,370,749		3,370,812		3,370,875		3,371,259
	3,370,567		3,371,062		3,370,755		3,370,850		3,370,892	24	3,370,350
	3,370,599		3,371,128		3,370,770		3,371,135		3,370,907		3,370,455
	3,370,612		3,371,136		3,370,809	16	3,370,627		3,370,925		3,370,566
	3,370,613		3,371,146		3,370,829		3,370,670		3,370,930		3,370,794
	3,370,614		3,371,147		3,370,856	17	3,370,317		3,370,958		3,370,848
	3,370,624		3,371,149		3,370,879		3,370,318		3,370,966		3,370,906
	3,370,625		3,371,154		3,370,898		3,370,321		3,371,019		3,370,917
	3,370,639		3,371,155		3,370,928		3,370,368		3,371,029		3,371,008
	3,370,649		3,371,156		3,370,947		3,370,369		3,371,030		3,371,036
	3,370,650		3,371,157		3,370,998		3,370,371		3,371,031		3,371,053
	3,370,657		3,371,162		3,371,059		3,370,378		3,371,032		3,371,262
	3,370,666		3,371,163		3,371,090		3,370,390		3,371,079		3,371,272
	3,370,667		3,371,167		3,371,114		3,370,415		3,371,097		3,371,293

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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

February 27, 1968 Volume 847 Number 4

TRADEMARKS
NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 95,990 (CHEVROLET), Chevrolet Motor Company, Automobiles, motor-vehicles, and parts thereof; **Reg. No. 190,028** (CHEVROLET AND DESIGN), General Motors Corporation, same; **Reg. No. 216,070** (CHEVROLET), same, automobiles; **Reg. No. 647,235**, same, Maintenance and repair service for automotive vehicles, parts and accessories; **Reg. No. 647,236** (CHEVROLET AND DESIGN), same, filed Nov. 28, 1967, D.C. Md. (Baltimore); Doc. 18956, *General Motors Corporation* v. *Jerry Colvaugh, doing business as Lawrence Used Chevrolet Sales and Lawrence Chevrolet.*

Reg. No. 108,370 (ROBIN HOOD AND DESIGN), Robin Hood Mills, Limited, Farina, rolled oats and oatmeal; **Reg. No. 132,001** (ROBIN HOOD), Wheat flour; **Reg. No. 132,179** (ROBIN HOOD AND DESIGN), International Milling Company, same; **Reg. No. 584,404**, same; **Reg. No. 680,112** (ROBIN HOOD), same; **Reg. No. 680,113** (ROBIN HOOD AND REPRESENTATION OF MAN'S HEAD), same, filed Nov. 22, 1967, D.C., N.D. Ala. (Birmingham), Doc. CA67-633, *International Milling Company, Inc.* v. *Dixie Savers, Inc. and Dixie Savers, Gardendale, Inc., doing business as Robin Hood Super Store.*

Reg. No. 132,001. (See Reg. No. 108,370.)

Reg. No. 132,179. (See Reg. No. 108,370.)

Reg. No. 190,028. (See Reg. No. 95,990.)

Reg. No. 216,070. (See Reg. No. 95,990.)

Reg. No. 378,289 (WHO'S WHO IN AMERICA), The A. N. Marquis Company, Publications in the nature of a directory published approximately once every two years; **Reg. No. 508,802** (WHO'S WHO IN COMMERCE AND INDUSTRY), same, Publication in the nature of a directory published from time to time; **Reg. No. 606,606** (WHO'S WHO IN THE SOUTH AND SOUTHWEST), Marquis—Who's Who, Inc., same; **Reg. No. 606,699** (WHO'S WHO IN THE MIDWEST), same; **Reg. No. 606,100** (WHO'S WHO IN THE WEST), same; **Reg. No. 606,101** (WHO'S WHO IN THE EAST), same; **Reg. No. 729,754** (WHO'S WHO OF AMERICAN WOMEN), same, filed Sept. 13, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1574, *Marquis Who's Who, Inc.* v. *Historical Record Association, Inc.* Cause dismissed per stipulation, Nov. 9, 1967.

Reg. No. 508,802. (See Reg. No. 378,389.)

Reg. No. 568,685. (See Reg. No. 606,748.)

Reg. No. 580,048 (A AND DESIGN), Ansul Chemical Company, Liquid sulfur dioxide, liquid methyl chloride, comminuted free-flowing fire-extinguishing dry chemical; **Reg. No. 582,299** (GUYER), Franklin & Lasoff, Inc., Men's and boys' caps and hats; **Reg. No. 582,818** (A AND DESIGN), Ansul Chemical Company, Cleaning solvent for refrigeration equipment; **Reg. No. 584,671** (ANSUL AND LETTER A), same, Comminuted, free-flowing, fire-extinguishing dry chemical; desiccants; sulphur dioxide; methyl chloride; refrigerants; glycol ethers; and alkyl pyridines; **Reg. No. 594,866,**

CONDITION OF TRADEMARK APPLICATIONS AS OF DECEMBER 31, 1967

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	17,288
Date of oldest new application	Dec. 19, 1966
Date of oldest amended application (filing date)	Aug. 20, 1964

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	3-21-67	4-8-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	4-6-67	8-20-64
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	2-13-67	11-5-64
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	12-19-66	5-25-65
Renewals (All Classes)	12-4-67	.....
Sec. 12(c) Publications (All Classes)	12-11-67	.....

Applications filed during the month of December 1967—2,073

Registrations Issued ---------- 439—No. 844,785 to No. 845,223
Renewals Issued ---------- 60

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PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

same, Drier unit for refrigerating systems; **Reg. No. 599,931** (A-ANSUL AND DESIGN), same, Portable hand and wheel-mounted fire extinguishers, stationary type fire extinguishers, truck and trailer mounted fire extinguishers and pressure-operated fire fighting apparatus of the piped system type; **Reg. No. 617,713** (ANSUL A AND DESIGN), same, Lubricating oil used in air-conditioning and refrigerating systems; **Reg. No. 688,745** (ANSUL AND DESIGN), same, Color indicator for moisture content in refrigerants; **Reg. No. 719,784** (REPRESENTATION OF GROTESQUE FIGURE AND FIRE EXTINGUISHER), same, Recharging of fire extinguishers; **Reg. No. 733,218** (A ANSUL), same, Chemicals and chemical preparations—namely, acids, bases and salts; compressed gases such as methyl chloride and sulphur dioxide; alkyl and aromatic ethers such as glycol monoethers, glycol diethers, polyglycol monoethers, polyglycol diethers, hydroxyanisole and orthoanisaldehyde; aromatic diethers such as hydroquinone dimethyl ether; heterocyclic nitrogen compounds such as pyridine bases, pyrroles, pyrrolidines, pyridine carboxylic acids such as nicotinic acid, isonicotinic acid, isocinchomeronic acid; quaternary compounds such as tetramethylammonium chloride; pesticides and herbicides such as mono-alkeyl arsonic acids, namely, methane arsonic acid and salts thereof; di-alkeyl arsonic acids, namely, cacodylic acids and salts thereof; fire extinguishing agents such as those for classes A, B and C and metal fires, especially comminuted free flowing dry chemical agents and foam compatible agents; chemicals for use in refrigeration systems such as desiccants, moisture indicating compositions; organic intermediates; sodium acid sulfate; and insect repellents, filed Nov. 29, 1967, D.C., E.D.N.Y. (Brooklyn), Doc. 67C–1133, *The Ansul Company* v. *Kraft Apparatus Inc.*

Reg. No. 582,299. (See Reg. No. 580,048.)

Reg. No. 582,818. (See Reg. No. 580,048.)

Reg. No. 584,404. (See Reg. No. 108,370.)

Reg. No. 590,251. (See Reg. No. 606,748.)

Reg. No. 594,071. (See Reg. No. 580,048.)

Reg. No. 594,866. (See Reg. No. 580,048.)

Reg. No. 599,931. (See Reg. No. 580,048.)

Reg. No. 606,748 (LITTLE LEAGUER), Little League Baseball, Inc., Magazines; **Reg. No. 568,685** (CURTIS WOODWORK), Curtis Companies Incorporated, Sashes, doors, blinds, of the shutter type having stationary or adjustable slats, stairways, wooden moldings, wooden frames for doors and windows, structural wooden brackets, wooden bannisters, wooden columns and newels, porch rails, permanent built-in pedestals, paneling, flooring, wooden store fronts, complete stairs, stair parts, built-in dining room alcoves, built-in breakfast nooks, built-in mantels, porch columns, porch newels, porch brackets, porch balusters, windows, screen doors, and built-in screen windows, door frames and window frames, entrance frames, interior and exterior moldings, door and window trim; **Reg. No. 590,251** (LITTLE LEAGUE BASEBALL AND DESIGN), same, Young boys' T-shirts and sweatshirts, filed Nov. 22, 1967, D.C., S.D.N.Y., Doc. 67–C–4613, *Little League Baseball, Incorporated* v. *All American Brush Mfg. Corp.*

Reg. No. 617,713. (See Reg. No. 580,048.)

Reg. No. 647,235. (See Reg. No. 95,990.)

Reg. No. 647,236. (See Reg. No. 95,990.)

Reg. No. 653,813 (PARAPHERNALIA), H. B. W. Snelling, Men's, women's, and children's wearing apparel—namely, slacks, outer shorts, shirts, coats, capes, jackets, sweaters, dresses, skirts, blouses, belts, hats, scarfs, shoes, stockings, aprons, bathing suits, and swim trunks, filed Dec. 8, 1967, D.C. Mich. (Detroit), Doc. 30624, *Paraphernalia, Inc.* v. *Paraphernalia Fashions, Inc. et al.*

Reg. No. 675,226 (EXA), Ihagee Kamerawerk Aktiengesellschaft, Optical, photographic, and cinematographic apparatus and devices—namely, cameras of all kind, projectors, mounted and unmounted lenses of all kind including soft focus lenses, lens attachments, light filters, light tunnels, image inversion systems, stereo attachments, magnifiers, eye pieces, copying devices, reproducing devices, micro-photo devices, developing apparatus, films, and light-sensitive photographic materials and parts of and accessories for all these goods; **Reg. No. 675,227** (VX AND DESIGN), same, filed Dec. 1, 1967, D.C., S.D.N.Y., Doc. 67–C–4740, *Ihagee Kamerawerk, A.G. and Deutsche Kamera- und Orwo Filmvyi* v. *Camera Specialty Co., Inc., and Exakta Camera Co., Inc.*

Reg. No. 675,227. (See Reg. No. 675,226.)

Reg. No. 690,112. (See Reg. No. 108,370.)

Reg. No. 690,113. (See Reg. No. 108,370.)

Reg. No. 688,745. (See Reg. No. 580,048.)

Reg. No. 696,098. (See Reg. No. 378,389.)

Reg. No. 696,099. (See Reg. No. 378,389.)

Reg. No. 696,100. (See Reg. No. 378,389.)

Reg. No. 696,101. (See Reg. No. 378,389.)

Reg. No. 719,784. (See Reg. No. 580,048.)

Reg. No. 720,532 (IFF), International Flavors & Fragrances, Inc., Aromatic chemicals, natural and artificial perfume materials, and mixtures of the same; **Reg. No. 733,854**, same, Food flavorings, in extract, solid, liquid, and powder form, food emulsifiers and acids, food colorings, and milk albumens; **Reg. No. 784,931**, same, Aromatic chemicals, that is chemicals having an aroma, natural and artificial perfume materials, mixtures of the same, and chemicals employed for masking odors, combined with a solid or liquid diluent and used as cosmetic and toilet preparations, filed Nov. 3, 1967, D.C., E.D.N.Y. (Brooklyn), Doc. 67C–1037, *International Flavors & Fragrances, Inc.* v. *American Flavor & Fragrance Corp., etc.*

Reg. No. 729,754. (See Reg. No. 378,389.)

Reg. No. 733,218. (See Reg. No. 580,048.)

Reg. No. 733,854. (See Reg. No. 720,532.)

Reg. No. 784,931. (See Reg. No. 720,532.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 182,882. Labelon Corporation, Canandaigua, N.Y. Filed Dec. 12, 1963.

LABELON

Owner of Reg. No. 590,678.

Class 26—Measuring and Scientific Appliances

For Paper Which Responds to Heat or Infra-Red or Other Radiation To Produce Images on the Paper.

First use July 14, 1961.

Class 50—Merchandise Not Otherwise Classified

For Stylus Sensitive Tape Comprising a Blushed Lacquer Layer and an Overlying Plastic Film Layer, and Embossable Plastic Tape.

First use Nov. 10, 1949.

SN 233,902. H. Hauptner, Solingen, Germany. Filed Dec. 3, 1965.

Supercrotal-Ohrmarken



The following is a translation of the text of the mark as shown in the drawing: "supercrotal-ear marks; Hauptner the symbol for animal breeding tools; H. Hauptner-Colingen." Applicant disclaims exclusive rights in the words "Das Kennzeichen für Tierzuchtgeräte" and "Solingen" apart from the mark as shown. Owner of German Reg. No. 616,034, dated July 4, 1949.

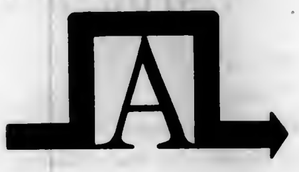
Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Ear Marks and Wing Marks.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Tools and Devices for Marking Animals—Namely, Animal Marking and Branding Tools.

SN 238,915. Walter E. Peterson and Elvin C. Welch, Palos Verdes, Calif., assignees of Barton Instrument Corporation, Monterey Park, Calif. Filed Feb. 16, 1966.



Class 21—Electrical Apparatus, Machines, and Supplies

For Step-Servo Motors and Controllers Therefor, D.C. Power Supplies, Step Detectors and Transducers, Step-Servo Autotransformer Drives, Valve Positioners, Attenuator Remote Controllers, Magnetron Cavity Tuning Control Systems, and Gear Motors.

Class 26—Measuring and Scientific Appliances

For Digital Counters, Potentiometers, Plotters, Integrated Plug-In Modules for Automatic System Testing, Digital-To-Analog Converters, Digital-To-Synchro and Synchro-To-Digital Converters, Digital Camera Controllers, and Pulse Generators.

First use Nov. 29, 1961.

SN 244,193. Concord Electronics Corporation, Los Angeles, Calif. Filed Apr. 25, 1966.



The mark comprises a fanciful lowercase "h" enclosed within a circle.

Class 21—Electrical Apparatus, Machines, and Supplies

For Radio Receivers, Transmitters and Transceivers, Microphones, Electrical Facsimile Machines, Public Address Systems and Wireless Intercommunication Systems.

Class 36—Musical Instruments and Supplies

For Tape Recorders and Dictating Machines.

First use on or about June 1, 1959.

SN 250,146. Frimatic, Camps & Cie, Paris, France. Filed July 13, 1966.

FRIMATIC

Owner of French Reg. No. 475,837, dated Nov. 18, 1958 (Seine); Natl. Inst. No. 115,964.

Class 21—Electrical Apparatus, Machines, and Supplies

For Dishwashers.

Class 24—Laundry Appliances and Machines

For Washing Machines.

SN 251,088. Sun Corporation, Barberton, Ohio. Filed July 27, 1966.



Owner of Reg. Nos. 567,745, 642,861, and others.

Class 19—Vehicles.

For Plastic Parts for Vehicles—Namely, Automobile Arm Rests, Interior Trim, Padding and Seating.
First use Feb. 1, 1966.

Class 22—Games, Toys, and Sporting Goods

For Plastic Toys and Balls.
First use Mar. 1, 1966.

SN 251,336. Rion Company, Limited, Kokubunji-shi, Tokyo, Japan. Filed July 29, 1966.

RION

Owner of Japanese Reg. No. 385,093, dated June 6, 1950, and Reg. No. 487,551, dated Sept. 7, 1956.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electro-Acoustic Transducers and Piezoelectric Igniters for Gas Burners Sold Separately.

Class 44—Dental, Medical, and Surgical Appliances

For Hearing Aids.

SN 251,452. Frank P. Alduk, d.b.a. Newcastle Company, New Castle, Pa. Filed Aug. 1, 1966.



The words "New Castle, Pa." and the word "Company" are disclaimed apart from the mark as shown.

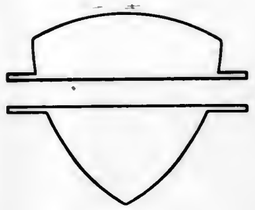
Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Glass Container Labeler, Plate Glass Cutting Bridge, Bottle Case Packer, and Can Conveyor.
First use Feb. 11, 1964.

Class 44—Dental, Medical, and Surgical Appliances

For Surgical Operating Room Table.
First use Apr. 13, 1966.

SN 253,387. Williams Brothers Company, Tulsa, Okla. Filed Aug. 29, 1966.



Class 100—Miscellaneous

For Surveying, Planning, Designing, and Engineering Services Relating to Pipeline Construction and Operation.

Class 103—Construction and Repair

For Installation, Construction, and Operation of Pipelines.

First use at least as early as Oct. 19, 1954; at least as early as Apr. 26, 1951, in a different form.

SN 260,383. Bearings and Drives Inc., Macon, Ga. Filed Dec. 9, 1966.



Without waiving its common law rights, applicant disclaims the words "Bearings and Drives Inc." apart from the mark as shown. The drawing is lined for the color yellow, without waiving its common law rights, applicant disclaims exclusive rights to the color yellow separate and apart from the mark as shown.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Motors.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Bearings, Shaft Couplings, Gears, Gear Reducers, Conveyor Idlers, Conveyor Pulleys, V-Belt Drives, Drive Chains, and Variable Speed Drives.

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Shaft Seals, O-Rings, and Conveyor Belts.

First use January 1953.

SN 262,535. Winpower Mfg. Company, Newton, Iowa. Filed Jan. 16, 1967.

WINPOWER

Class 19—Vehicles

For Farm Wagons.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Generators and Engine-Generator Sets.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Farm Equipment—Namely, Post Hole Diggers, Rotary Cultivators, Field Cultivators, Rear Mounted Tractor Blades, and Wagon Hoists.

First use Dec. 19, 1945.

SN 264,339. George A. "Pete" Rice, d.b.a. "Piano Pete," Osceola, Ind. Filed Feb. 9, 1967.

PIANO PETE

The word "Piano" is disclaimed apart from the mark as shown.

Class 101—Advertising and Business

For Piano Store Services.

Class 103—Construction and Repair

For Tuning and Repairing Pianos.

First use Nov. 15, 1957.

SN 264,681. Plastic Spectacle Lens Company, Inc., Raleigh, N.C. Filed Feb. 14, 1967.

PLAS/SPEC

Class 26—Measuring and Scientific Appliances

For Ophthalmic and Contact Lens, and Spectacle Frames With and Without Mounted Lenses.

Class 52—Detergents and Soaps

For Lens Cleaner Fluid.

First use on or about Jan. 1, 1962.

SN 264,907. E. D. Bullard Company, Sausalito, Calif. Filed Feb. 17, 1967.

BULLARD

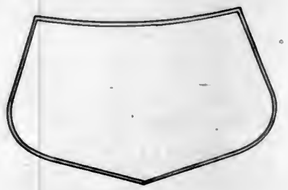
Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Alarms for Installation on a Vehicle for Signalling Reverse Movement of the Same.
First use at least as early as 1955.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Mechanical Alarms for Installation on a Vehicle for Signalling Reverse Movement of the Same, and Hoisting Hooks and Parts Thereof.
First use at least as early as 1953.

SN 273,348. Tenneco Inc., Houston, Tex. Filed June 8, 1967. Owner of Reg. Nos. 713,035, 827,568, and others.



Class 1—Raw or Partly Prepared Materials

For Ridged Plastic Sheeting, Paneling, Tubes, Rods and Film; Natural and Synthetic Resins; Asphalt; Moulding Plastics and Laminated Plastics for Use in the Printing Trade in the Form of Compositions and Sheets.
First use October 1963.

Class 2—Receptacles

For Folding Cartons, Boxes, Merchandising and Shipping Containers, Filler Flats, Trays, U-Boards, Batts and Packages, Made of Plastics, Paper, Paperboard or Molded Pulp Products; Blow Molded Plastic Bottles.
First use March 1966.

Class 4—Abrasives and Polishing Materials

For Compositions and Waxes for Polishing.
First use February 1963.

Class 5—Adhesives

For Adhesives.
First use December 1965.

Class 6—Chemicals and Chemical Compositions

For Organic and Inorganic Chemicals, Including Petrochemicals, Used in the Manufacture of Paints, Dyes, Dyestuffs, Plastics, Resins, Chemical Intermediates, Essential Oils, Soaps, Detergents, Adhesives, Elastomers, Pigments, Paper, Paperboard, Paper Products, Textiles, Leather, Cosmetics, Pharmaceuticals, Drugs, Flooring, Wallcoverings, Printing, Electrical Goods, Herbicides, Pesticides, Bactericides, Fungicides, Defoliants, Insecticides, Petrochemicals, Agriculture Chemicals, Explosives, Fertilizers, Automobiles, Boats, Aircraft, Cosmetics, Food Products, Protective Coatings, Inks, Printing Products, Disinfectants, Furniture, Jewelry, Phonographic Records, Photographic Products, Pipe, Conduit, Clothing, Packaging Products, Embalming Fluids, Dispersing Agents, Bottles, Derivatives of Naval Stores, Metal Plating; Organic and Inorganic Chemicals, Including Petrochemicals, Namely, Acids, Alcohols, Aldehydes, Salts, Esters, Sterates, Hydrocarbons, Substituted Hydrocarbons, Aromatics, Substituted Aromatics, Paraffins Compounds and Terpenes and Mixtures Thereof.
First use June 1961.

Class 10—Fertilizers

For Fertilizers.
First use March 1964.

Class 11—Inks and Inking Materials

For Printing Inks, Writing Inks, Duplicating Inks, and Products Thereof.
First use May 1967.

Class 12—Construction Materials

For Paper and Paperboard Used in the Wallboard Industry, and Asphalt.
First use March 1966.

Class 15—Oils and Greases

For Petroleum and Petroleum Products, Including Crude Oil, Gasoline, Kerosene, Lubricating Oil and Grease, Diesel Fuel, Furnace Oils, Cutting Oils, Synthetic Lubricants; Additives for Oils and Greases.
First use October 1960.

Class 16—Protective and Decorative Coatings

For Pigments, Vehicles, Extenders, Fungicides, Bactericides, Preservatives, Anti-Skinning Agents, Bodying Agents, Binders, Thinners and Drying Agents for Use in Protective and Decorating Coatings.
First use May 1965.

Class 18—Medicines and Pharmaceutical Preparations

For Creosote N.F., Creosote Beechwood, Glyceryl Guaiacolate, Potassium Guaiacolsulfonate N.F., Methenamine N.F. (Hexamethylenetetramine), Salicylic Acid U.S.P., Salicylamide N.F., Methyl Salicylate U.S.P., Potassium Salicylate,

Sodium Salicylate, Colloidal Sulfur, Benzoic Acid, Methyl Para-Hydroxybenzoate (Methylparaben), and Propyl Para-Hydroxybenzoate (Propylparaben).
First use September 1965.

Class 20—Linoleum and Oiled Cloth

For Plastic and Paper Floor and Wall Coverings With or Without Cloth Backing.
First use May 1966.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Tools—Namely, Dandelion Knife, Cultivator and Trowel; Printing Press Rolls.
First use April 1961.

Class 26—Measuring and Scientific Appliances

For Eyeglass Frame Blanks.
First use August 1966.

Class 37—Paper and Stationery

For Paper, Paperboard, and Paperboard Sheeting Made From Fibrous Pulp.
First use March 1966.

Class 46—Foods and Ingredients of Foods

For Food Preservatives, Food Colors, and Food Flavors.
First use July 1965.

Class 50—Merchandise Not Otherwise Classified

For Caps and Closures for Containers, Plastic Sheets for Covers.
First use May 1967.

Class 52—Detergents and Soaps

For Detergent Solvents.
First use May 1967.

Class 100—Miscellaneous

For Furnishing Travel Information and Maps.
First use 1961.

Class 103—Construction and Repair

For Gasoline Service Station Services, Including Repair and Servicing; Custom Manufacturing of Products in the Fields of Paper, Paperboard, Plastics, Chemicals, and Petroleum.
First use October 1960.

Class 105—Transportation and Storage

For Transportation and Storage of Natural Gas, Chemicals and Petroleum and Refined Products Thereof.
First use June 1961.

SN 273,919. Dixon Corporation, Bristol, R.I. Filed June 15, 1967.

MELDIN

Owner of Reg. Nos. 762,134 and 762,281.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Pipe Couplings, and Seats for Valves.
First use Nov. 29, 1966.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Insulators.
First use May 2, 1967.

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Gaskets, Seals, and Piston Rings.
First use Nov. 29, 1966.

SN 283,404. Vikoa, Inc., Hoboken, N.J. Filed Oct. 26, 1967.

VIKOA

Class 100—Miscellaneous

For CATV Design and Engineering.

Class 101—Advertising and Business

For CATV Management.

Class 103—Construction and Repair

For CATV System Construction and Repair.

Class 104—Communication

For CATV Signal Distribution.
First use May 1967.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 263,780. Rayonier Incorporated, New York, N.Y. Filed Feb. 1, 1967.

MERSANIER

For Wood Pulp.
First use Jan. 12, 1967.

SN 266,210. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Mar. 8, 1967.

Owner of Reg. Nos. 173,619, 779,387, and others.
For Tire Casing Dusting Powders and Soapstone for Use in Industrial Arts.
First use Feb. 1, 1965.

SN 266,241. Lawter Chemicals, Inc., Chicago, Ill. Filed Mar. 8, 1967.

THIXOMID

For Synthetic Resins for Use in the Manufacture of Paints and Inks.
First use November 1966.

SN 286,478. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Dec. 8, 1967.

PODIASIN

For Resin Used for Making Insoles for Shoes.
First use Nov. 7, 1967.

SN 286,482. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Dec. 8, 1967.

PPG INDUSTRIES

Owner of Reg. No. 753,094.
For Brush Bristles, Fiber Glass, Polymerizable Materials, Synthetic Plastics and Resins, and Reinforced Plastics and Resins.
First use at least as early as Nov. 3, 1967.

Class 2—Receptacles

SN 251,986. Action Bag & Envelope Co., Inc., Brooklyn, N.Y. Filed Aug. 9, 1966.

STA-KRISP

For Plastic Bags.
First use June 1, 1964.

SN 252,459. Armstrong Cork Company, Lancaster, Pa. Filed Aug. 16, 1966.

GXTA

For Glass, Amber, Graduated Prescription Containers.
First use May 1965.

SN 272,384. Lily-Tulip Cup Corporation, New York, N.Y. Filed May 25, 1967.

PL

For Plastic Containers and Cups.
First use Mar. 7, 1967.

SN 273,275. Fusion Rubbermaid Corporation, Statesville, N.C. Filed June 7, 1967.

CREW COOLER

The word "Cooler" is disclaimed apart from the mark as shown. Owner of Reg. No. 766,950.
For Molded Plastic Receptacles, Specifically Cylindrical Ice Receptacles Having a Capacity on the Order of 15 to 50 Gallons.
First use May 10, 1967.

SN 286,234. Advertising Metal Display Co., Chicago, Ill. Filed Dec. 5, 1967.

XQL-6000

For Metal Containers for Tools, Tool Chests, Roller Tool Cabinets, and Tool Boxes.
First use on or about Nov. 13, 1967.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 247,879. A. S. Beck Shoe Corporation, New York, N.Y. Filed June 13, 1966.

Coquettes

Owner of Reg. No. 623,132.
For Ladies' Handbags.
First use May 4, 1965.

SN 265,718. Items, Incorporated, St. Louis, Mo. Filed Mar. 1, 1967.

FISHER

For Collars, Leashes, Leash Handles, Muzzles, Harnesses, and Chains, Made of Leather and Metal and Combinations Thereof, for Use on Dogs, Cats, and the Like.
First use Feb. 1, 1967.

Class 5—Adhesives

SN 249,098. The Wickes Corporation, Saginaw, Mich. Filed June 27, 1966.

WIXSTIX

For Adhesives, Specifically, Adhesives for the Building Industry.
First use Feb. 21, 1966.

SN 268,142. Arvey Corporation, Chicago, Ill. Filed Apr. 3, 1967.

"R-V STIK"

Applicant disclaims the term "Stik" apart from the mark as shown. Owner of Reg. Nos. 197,754, 381,402, and 433,322.
For Pressure Sensitive Sheets With Release Paper Attached Thereto.
First use in or about November 1966.

SN 271,192. Union Carbide Corporation, New York, N.Y. Filed May 10, 1967.

ZENDEL

For Adhesive Tape.
First use on or about Aug. 21, 1964.

Class 6—Chemicals and Chemical Compositions

SN 264,028. Chromatograph Supply, Inc., d.b.a. Coast Engineering Laboratory, Redondo Beach, Calif. Filed Feb. 6, 1967.

MOLINDICATOR

For Desiccant Providing Visual Indication of Moisture Absorption Level.
First use on or about Sept. 7, 1966.

SN 267,487. The Chemithon Corporation, Seattle, Wash. Filed Mar. 24, 1967.

CHEMITHON

For Sulfonic Acids and Organic Sulfuric Acids and Salts and Formulations Thereof.
First use on or about Sept. 11, 1956.

SN 272,833. Hess Oil & Chemical Corporation, Perth Amboy, N.J. Filed June 1, 1967.

HI-SOLV

For Solvents for Use in Industry, Science, Agriculture, and Horticulture.
First use Oct. 1, 1963.

SN 273,035. Chempar Chemical Co., Inc., New York, N.Y. Filed June 5, 1967.

KANEPAR

For Pre-Emergence Herbicides Used for the Control of Johnsongrass From Seed and Certain Other Germinating Annual Weeds and Grasses.
First use May 1967.

SN 274,377. Worthall, Limited, New York, N.Y. Filed June 20, 1967.

Firm-Flex

For Spray Starch.
First use in or about June 1963.

SN 285,612. The C. P. Hall Company, Akron, Ohio. Filed Nov. 21, 1967.

PARA-LUBE

For Rubber Softener With Asphaltic Base.
First use on or about Dec. 23, 1938.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 253,288. The Downtowner Corporation, Memphis, Tenn. Filed Aug. 29, 1966.

DOWNTOWNER
MOTOR INNS

No registration rights are claimed for the words "Motor Inns," apart from the mark as shown. Owner of Reg. Nos. 737,345, 818,852, and others.
For Ashtrays.
First use Apr. 12, 1966.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 270,083. Remington Arms Company, Inc., Bridgeport, Conn. Filed Apr. 26, 1967.

Power Pakt

For Ammunition—Namely, Shot Shells.
First use Jan. 18, 1967.

Class 10 — Fertilizers

SN 271,191. Tyler Fertilizer Company, Tyler, Tex. Filed May 10, 1967.

GRO-TEX

For Fertilizer.
First use February 1956.

SN 272,029. Dresser Industries, Inc., Dallas, Tex. Filed May 22, 1967.

INDUSGEL

For Chemical Fertilizer.
First use Aug. 31, 1963.

SN 272,395. Organic Compost Corporation, Germantown, Wis. Filed May 25, 1967.

GARDENURE

For Cattle Manure Compost.
First use May 1, 1956.

SN 274,036. Mobil Oil Corporation, New York, N.Y. Filed June 16, 1967.

NITRO KING

For Fertilizer.
First use Oct. 18, 1966.

SN 285,373. Jesse C. Haley, Jr., d.b.a. Haley Excelsior Co., Hanover, Va. Filed Nov. 22, 1967.

MR. PINE

Applicant disclaims any exclusive rights in the word "Pine" apart from the mark as shown.
For Pine Bark Mulch.
First use Feb. 11, 1966.

Class 12 — Construction Materials

SN 254,751. Wheeler Lumber Bridge and Supply Co., West Des Moines, Iowa. Filed Sept. 19, 1966.

WHEELER
WL
LIFETIME

Applicant disclaims any rights in the surname "Wheeler" apart from the mark as shown.
For Wooden Telephone Poles, Electric Line, and Barn Poles.
First use about Sept. 15, 1958; about Oct. 9, 1950, as to "WL."

SN 269,452. Ranco Industrial Products Corporation, Cleveland, Ohio. Filed Apr. 18, 1967.

FLO-JOINT

For Asphaltic Crack and Joint Filler for Concrete Floors.
First use on or about Nov. 10, 1938.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 251,675. Westfälische Union Aktiengesellschaft für Eisen- und Drahtindustrie, Hamm, Westphalia, Germany. Filed Aug. 3, 1966.

bronco

For Barbed Wire.
First use January 1962; in commerce January 1962.

SN 251,965. Snap-Tite, Inc., Union City, Pa. Filed Aug. 8, 1966.

AERVALCO

Owner of Reg. No. 698,844.
For Valves—Namely, Relief Valves, Pressure Regulating Valves, Check Valves, and Shuttle Valves.
First use on or about Sept. 15, 1959.

SN 265,612. Crane Co., New York, N.Y. Filed Feb. 28, 1967.

DIAL-ESE

For Supply and Waste Fittings for Baths, Showers, Lavatories, Sinks, Laundries, and Combinations Thereof, and Parts and Accessories Therefor.
First use Apr. 11, 1944.

SN 268,804. Victaulic Company of America, Union, N.J. Filed Apr. 10, 1967.

VIC PIPING METHOD

Applicant disclaims the legend "Piping Method" apart from the mark as shown. Owner of Reg. Nos. 571,090 and 571,091.
For Pipe Couplings and Fittings.
First use Feb. 20, 1967.

SN 270,923. Jamesbury Corp., Worcester, Mass. Filed May 8, 1967.

SALISBURY

For Valves and Automatic Valve Actuators.
First use March 1962.

SN 272,158. Bulmer Manufacturing Company, Bellingham, Wash. Filed May 23, 1967.

WHALE

For Traveling Irrigation Sprinkler.
First use Mar. 17, 1961.

SN 272,911. E. W. Bliss Company, Davenport, Iowa. Filed June 2, 1967.

R. S. CO.

For Pipe Couplings, Fittings, and Valves.
First use at least as early as 1946.

SN 272,912. British Alcoxip Limited, London, England. Filed June 2, 1967.

ALCO

For Slide Fasteners (Zippers).
First use Jan. 6, 1961; in commerce Oct. 20, 1966.

Class 14 — Metals and Metal Castings and Forgings

SN 239,458. Talon, Inc., Meadville, Pa. Filed Feb. 23, 1966.

P

The drawing is lined for the color blue, but color is not a part of the mark.
For Aluminum, Zinc, and Magnesium Die Castings.
First use in or about September 1944.

SN 269,150. Olin Mathieson Chemical Corporation, New York, N.Y. Filed Apr. 14, 1967.

Olin

For Non-Ferrous Metals and Alloys.
First use Oct. 6, 1961.

SN 270,813. Sandvikens Jernverks Aktiebolag, Sandviken, Sweden. Filed May 5, 1967.

HARDFLEX

Owner of Swedish Reg. No. 115,716, dated Mar. 18, 1966.
For Steel and Steel Alloys in the Form of Strips, Plates, Wire, and Tubes.

SN 270,869. Alter Company, Davenport, Iowa. Filed May 8, 1967.

PURE-MELT

For Steel Metallic Melting Stock (or Scrap Metal).
First use on or about Dec. 19, 1966.

SN 270,870. Alter Company, Davenport, Iowa. Filed May 8, 1967.



For Steel Metallic Melting Stock (or Scrap Metal).
First use on or about Dec. 19, 1966.

SN 271,065. National Lead Company, New York, N.Y. Filed May 9, 1967.

BORAD

For Boron Containing Ferro Alloys.
First use Apr. 20, 1967.

SN 271,241. Electronic Specialty Company, Los Angeles, Calif. Filed May 11, 1967.

KO-1

For Alminum Alloys and Castings.
First use on or before Apr. 6, 1967.

SN 271,244. Fairway Foods, Inc., St. Paul, Minn. Filed May 11, 1967.

FAIRWAY

Owner of Reg. Nos. 197,673, 815,840, and others.
For Aluminum Foil.
First use May 1, 1967.

SN 272,839. Martin-Marietta Corporation, New York, N.Y. Filed June 1, 1967.

MAR-M

For Metals and Metal Alloys.
First use in or about June 1965.

Class 16—Protective and Decorative Coatings

SN 243,018. Pergament Distributors, Inc., Westbury, N.Y. Filed Apr. 8, 1966.

ROLLING RUBBER

For Latex House Paints.
First use on or about Apr. 1, 1951.

SN 243,020. Pergament Distributors, Inc., Westbury, N.Y. Filed Apr. 8, 1966.

Dry-Proof

For Waterproofing Synthetic Rubber-Based Paint.
First use Aug. 1, 1965.

SN 257,214. United States Rust Control Corporation, Miami, Fla. Filed Oct. 25, 1966.

XP-700B RUST GRIP

For Rust and Corrosion Protective Coating.
First use Sept. 9, 1964.

SN 257,853. W. R. Grace & Co., Cambridge, Mass. Filed Nov. 3, 1966.

PLYGUARD

For Two-Component Chemical Composition Which Is Useful as a Protective Coating to Wood Forms and Consists of a Base Epoxy Resin and a Catalyst for Curing the Resin.
First use Mar. 7, 1966.

SN 258,781. Samuel Cabot, Incorporated, Boston, Mass. Filed Nov. 16, 1966.

COLLOPAKES

Owner of Reg. No. 213,198.
For Coloring and Finishing Waterproof Materials in the Nature of Paints or Stains.
First use as early as Dec. 10, 1925.

SN 260,865. Maas & Waldstein Co., Newark, N.J. Filed Dec. 15, 1966.

WATER DIP

Owner of Reg. No. 678,750.
For Liquid Coating Compositions Especially Intended To Prevent Staining and/or Finger Printing of Plated and/or Polished Metal Parts.
First use 1909.

SN 261,278. Charmglow Products, Inc., Antioch, Ill. Filed Dec. 22, 1966.

PATIO BLACK

The word "Black" is disclaimed apart from the mark as used without disclaiming any common law rights.
For Paint-Type Protective and Decorative Finish.
First use September 1966.

SN 266,314. Electrofilm, Inc., North Hollywood, Calif. Filed Mar. 9, 1967.

SUPER-GLIDE

For Anti-Friction and Anti-Foulant Coatings for Boat Hulls.
First use Nov. 28, 1966.

SN 267,120. Chem-Grow Coatings Inc., San Francisco, Calif., assignee of Walter N. Boysen Co., Oakland, Calif. Filed Mar. 20, 1967.



The drawing is lined for the colors yellow, orange, red, purple, blue, and green.
For Paints, Varnishes, Enamels, Sealers, and Undercoats Made From Natural and Synthetic Products.
First use January 1967.

SN 275,171. Porafloor, Inc., Woodside, N.Y. Filed June 30, 1967.

PORADEK

For Seamless Epoxy Resin and Aggregate Floor Coatings, Applied by Troweling.
First use April 1966.

SN 285,944. Safeway Stores, Incorporated, Oakland, Calif. Filed Nov. 30, 1967.

SAFEWAY

Owner of Reg. Nos. 206,116, 721,716, and 811,543.
For Redwood Stain.
First use Jan. 6, 1941.

Class 17—Tobacco Products

SN 219,722. Jose. O. Padron, d.b.a. Cigar Maker, Miami, Fla. Filed May 25, 1965.



The words "Cigars," "Hand Made," and "Miami, Fla.," and the representation of Cuba are disclaimed.
For Cigars.
First use October 1964.

SN 265,961. Agio Sigarenfabrieken N.V., Duizel, Netherlands. Filed Mar. 6, 1967.

AGIO TIP

Applicant disclaims any exclusive right in the word "Tip" apart from the mark as shown. The word "Agio" means "premium on shares" and is a term used in the stock market. Owner of U.S. Reg. No. 790,926; and Dutch Reg. No. 158,499, dated Mar. 3, 1966.
For Cigars.

SN 270,749. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed May 5, 1967.

EL EXIGENTE

For Cigars.
First use Jan. 25. 1967.

SN 274,715. Creative Concepts Inc., d.b.a. No Smok Co., San Francisco, Calif. Filed June 26, 1967.

NO SMOK

For Compressed Tablet of Finely Ground Tobacco.
First use May 12, 1967.

SN 280,377. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed Sept. 15, 1967.

BRIEF

For Cigars and Cigarettes.
First use Aug. 23, 1967; on or about Feb. 28, 1902, in a different form.

SN 282,907. P. Lorillard Company, New York, N.Y. Filed Oct. 19, 1967.

WHATCHAMACALLITS

For Cigarettes.
First use Oct. 6, 1967.

SN 283,824. States Tobacco Company, Raleigh, N.C. Filed Oct. 31, 1967.

TRYON Ltd

For Cigarettes.
First use Oct. 16, 1967.

SN 283,854. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed Nov. 1, 1967.

CRESWELL

For Cigars.
First use 1903.

SN 284,105. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed Nov. 3, 1967.

BLACK HORSE

For Chewing Tobacco and Cigarette Smoking Tobacco.
First use at least as early as 1940.

Class 18—Medicines and Pharmaceutical Preparations

SN 272,057. Frank W. Horner Limited, Mount Royal, Quebec, Canada. Filed May 22, 1967.

GRAVOL

Owner of Canadian Reg. No. 154/39,425, dated Apr. 3, 1951.
For Pharmaceutical Preparation for the Prevention of Nausea and Vomiting.

SN 272,058. Frank W. Horner Limited, Mount Royal, Quebec, Canada. Filed May 22, 1967.

DIOVOL

Owner of Canadian Reg. No. 128,539, dated Oct. 26, 1962.
For Pharmaceutical Preparation To Relieve Gastrointestinal Distress Due to Hyperacidity, Gas, or Both.

SN 285,798. Ortho Pharmaceutical Corporation, Raritan, N.J. Filed Nov. 29, 1967.

ORTHO-NOVUM 1/80

Owner of Reg. Nos. 289,222, 725,248, and others.
For Hormone Preparations.
First use Sept. 5, 1967.

Class 19—Vehides

SN 249,369. Alex F. Walker & Associates, Inc., Royal Oak, Mich. Filed June 30, 1966.

HANDI KART

For Wheeled Rubbish Carriers.
First use July 5, 1956.

SN 254,917. Coronado Manufacturing Company, Long Beach, Calif. Filed Sept. 22, 1966.



The drawing is lined for contrast only.
For Rear View Mirrors for Vehicles.
First use July 1959.

SN 261,377. David R. Kibby, d.b.a. Berkshire Crafts, Media, Pa. Filed Dec. 23, 1966.

SPORTBOARD

For Watercraft Adapted To Be Propelled Manually or by Motor or by Sail.
First use on or before Aug. 2, 1966.

SN 261,476. FMC Corporation, San Jose, Calif. Filed Dec. 27, 1966.

DIABLO ROUGE

For Power Operated Snow Vehicles.
First use Oct. 25, 1966.

SN 264,799. Cascade Coach Company, Great Falls, Mont. Filed Feb. 16, 1967.

CASCADE

For House Trailers, Campers for Pick-Up Trucks, and Modified Campers for Pick-Up Trucks, Known as Toppers.
First use Dec. 2, 1959.

SN 282,311. The Anchorage, Inc., Warren, R.I. Filed Oct. 12, 1967.

DYER DHOW

Applicant disclaims the word "Dhow" apart from the mark as shown. Owner of Reg. No. 411,768.
For Sailboats, Motor Boats, and Rowboats.
First use May 19, 1943.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 226,798. Societa Internazionale Fonovisione, S.p.A., Milan, Italy. Filed Aug. 30, 1965.

CINEJUKEBOX

Owner of Italian Reg. No. 170,195, dated Oct. 1, 1964.
For Coin Operated Device for Projecting Sound Motion Pictures and for Playing Records.

SN 228,601. Angstrohm Precision Incorporated, North Hollywood, Calif. Filed Sept. 27, 1965.

ÅNGSTROHM

For Electrical Resistors.
First use Apr. 30, 1963.

SN 244,844. Nissho Electronics Corporation, Higashisumiyoshi-ku, Osake, Japan. Filed May 3, 1966.

CATHY

For Electronic Devices—Namely, Transistorized Radios.
First use at least as early as Apr. 20, 1960; in commerce at least as early as Apr. 20, 1960.

SN 246,611. Rotron Manufacturing Company, Inc., Woodstock, N.Y. Filed May 25, 1966.

DELTAC

For Speed Changing Devices for Use as Input Units to Electrical Motor Driven Fans Utilizing Electrical, Mechanical, Electronic, and Pressure Sensitive Components.
First use on or about Apr. 27, 1966.

SN 246,979. Worldtronic, Inc., Clare, Mich. Filed May 31, 1966.

WORLDTRONIC

For Electronic Control Apparatus for Governing Various Functions of an Electric Welding Machine, Including Duration and Magnitude of Welding Current Flow.
First use on or about May 20, 1966.

SN 247,532. Sony Corporation of America, New York, N.Y. Filed June 7, 1966.

HOME TV STUDIO

For Video Tape Recorders and Accessories Such as a Television Monitor and a Television Camera for Recording and Reproducing Video and Audio Information.
First use about Apr. 5, 1966.

SN 248,010. Avco Corporation, Everett, Mass. Filed June 14, 1966.

SUPERGENIC

For Superconductive Electrical Conductors.
First use June 9, 1966.

SN 248,263. Switchcraft, Inc., Chicago, Ill. Filed June 16, 1966.

MULTI-SWITCH

For Single and Multiple Station Push-Button Switches Having Plural Switch Means at Each Station.
First use 1952.

SN 251,651. Radiation Incorporated, Melbourne, Fla. Filed Aug. 3, 1966.

LOCOTROL

For Locomotive Control System Utilizing Radio Frequency Link for Data Communication To Control Power, Brakes, and Monitoring of a Remote Unit or Units Upon Command of a Lead Unit.
First use October 1962.

SN 252,380. Hellermann Electric Limited, Crawley, Sussex, England. Filed Aug. 15, 1966.

HELASHRINK

Owner of British Reg. Nos. 861,015, dated Mar. 2, 1964 and 864,187, dated May 13, 1964.
For Electrical Cable Accessories Made of Rubber, Synthetic Rubber, and Plastics—Namely, Sleeving, end Caps, Tapes, Cable Makers, Tubing, Splice Covers, Shapes, and Junction Boxes.

SN 253,153. McGraw-Edison Company, Milwaukee, Wis. Filed Aug. 25, 1966.

SUBSERF

For Transformers, Electrical Connectors, Electrical Connector Supports, Cable Junctions, Switches, Electrical Circuit Testers, and Components Therefor.
First use Apr. 22, 1966.

SN 253,390. Winegard Company, Burlington, Iowa. Filed Aug. 29, 1966.

SUPER RED-HEAD

For RF Amplifiers for Television Antennas.
First use May 1, 1966.

SN 253,807. Winegard Company, Burlington, Iowa. Filed Sept. 2, 1966.

RED-HEAD

For RF Amplifiers for Television Antennas.
First use Feb. 19, 1966.

SN 254,918. Coronado Manufacturing Company, Long Beach, Calif. Filed Sept. 22, 1966.



The drawing is lined for contrast only.
For Automotive Electrical Turn Signal, Stop, Marker and Tail Lamps.
First use July 1959.

SN 255,879. Dohrmann Instrumente Company, Mountain View, Calif. Filed Oct. 6, 1966.

AMP-PAK

For Electronic Power Supplies for Temperature Controllers.
First use Feb. 18, 1966.

SN 256,608. Stromberg-Carlson Corporation, Rochester, N.Y. Filed Oct. 17, 1966.

TONE-DIAL

For Telephone Sets.
First use Oct. 19, 1965.

SN 259,401. Belk Stores Services, Inc., Charlotte, N.C. Filed Nov. 25, 1966.



The words "Electrical Appliances" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 612,244, 765,989, and others.
For Electric Irons, Electric Toasters/Toaster Broilers, Electric Fry Pans, Electric Blenders, Electric Corn Poppers, Electric Radios, Electric Sweeper Vacuums, Electric Vacuum Cleaners, Electric Coffee Makers, Electric Can Openers/Sharpeners, Electric Mixers/Food Grinders, Electric Grills/Waffle Bakers, Electric Heaters, and Electric Floor Polishers.
First use Aug. 15, 1966.

SN 261,764. Thomas Industries Inc., Louisville, Ky. Filed Dec. 30, 1966.

VERSATRON

For Electric Fluorescent Lighting Fixtures for Installation on Ceilings.
First use on or about May 28, 1966.

SN 264,656. Dictophone Corporation, Bridgeport, Conn. Filed Feb. 14, 1967.

CLASS-MASTER

For Communications Apparatus—Namely, Closed-Circuit Radio Networks for Classrooms, Including Radio Transmitters, Receivers, and Components Thereof.
First use Mar. 9, 1966.

SN 266,234. Otto Kadmon, Inc., New York, N.Y. Filed Mar. 8, 1967.

FAIRY - LIGHT - TALES

For Electrically Lighted Decorative Christmas Sets.
First use Feb. 6, 1967.

SN 268,163. Cummings & Co. Inc., Nashville, Tenn. Filed Apr. 3, 1967.

THE INTERNATIONAL SIGN SERVICE

No claim is made to the words "Sign Service" apart from the mark as shown.
For Electrical Signs.
First use Oct. 1, 1966.

SN 271,223. Bulova Watch Company, Inc., Flushing, N.Y. Filed May 11, 1967.

TALKING CLOCKS

Applicant disclaims the word "Clocks" in the mark.
For Clock Radios.
First use May 2, 1967.

SN 271,944. Joslyn Mfg. and Supply Co., Cleveland, Ohio. Filed May 19, 1967.

TRANSMASTER

For Vacuum-Break Switches for Industrial Electric Furnaces.
First use Sept. 28, 1964.

SN 272,810. Colortran Industries, Inc., Burbank, Calif. Filed June 1, 1967.

ColorTran

Owner of Reg. Nos. 430,398 and 793,272.
For Lighting Equipment for Motion Picture, Television and Graphic Arts Industries—Namely, Lighting Standards, Spring Clamps, Pole Adapters, Brackets, Lamp Carriers, Lighting Housings, Weather-Proof and Explosion-Proof Lighting Housings, Reflectors, Incandescent Lamps, Feeder Cables, Riser Cables, Adapter Cables, Extension Cords, Junction Boxes, Control Boxes for Lighting Equipment, Dimmers, Power Regulators, Power Supplies, Heat Filters, Color Filters, Scrims, Barndoors, Diffusion Lenses, Filter Frames, Cases, and Camera Dollies.
First use Oct. 15, 1945.

SN 272,855. Repco Products Corporation, Philadelphia, Pa. Filed June 1, 1967.

TEL-POWER

For Cable Closure for Underground Power and Telephone Distribution Systems.
First use Mar. 15, 1967.

SN 276,656. Ely & Walker, Inc., Memphis, Tenn. Filed July 24, 1967.

SLEEPKING

For Electric Blankets and Controls for Same.
First use Apr. 7, 1967.

SN 285,375. Morse Electro Products Corp., Ozone Park, N.Y. Filed Nov. 22, 1967.

SUPERTONE

For Radios.
First use July 26, 1960.

Class 22—Games, Toys, and Sporting Goods

SN 253,787. Scott, Foresman and Company, Glenview, Ill. Filed Sept. 2, 1966.

MATCH-AND-CHECK

For Educational Aids Used for Playing Games To Teach Visual Discrimination and Oral Language.
First use July 29, 1966.

SN 255,718. Poynter Products, Inc., Cincinnati, Ohio. Filed Oct. 4, 1966.

POVERTY PUP

For Animated Dog-House-Type Toy Bank.
First use July 14, 1966.

SN 259,254. Ronald A. Lenhart, d.b.a. Zot Manufacturing Co., Lakewood, Colo. Filed Nov. 22, 1966.

ZOT CONVERSION

For Pinsetting Machines for Bowling Use, and Accessories Therefor.
First use September 1964.

SN 260,942. Magic Productions, Inc., Seattle, Wash. Filed Dec. 16, 1966.

TRICK & TREAT

Applicant disclaims the word "Trick" except as it appears in the combination comprising the mark.
For Magic Kits.
First use Nov. 3, 1966.

SN 260,943. Magic Productions, Inc., Seattle, Wash. Filed Dec. 16, 1966.

MAGIC HANDS

Applicant disclaims the word "Magic" except as it appears in the combination comprising the mark.
For Magic Kits.
First use Nov. 3, 1966.

SN 261,931. Lima S.p.A., Vicenza, Italy. Filed Jan. 4, 1967.
Owner of Italian Reg. No. 168,109, dated Feb. 16, 1965.

Lima

For Miniature Toy Electric Trains, Toy Racing Cars, and Toy Kits.

SN 263,678. Allen J. Minshull and Marilyn A. Minshull (joint owners), Mercer, Pa. Filed Jan. 31, 1967.

MOLA BALL

The use of the word "Ball" is disclaimed apart from the mark as shown.
For Equipment Sold as a Unit for a Tennis-Type Game.
First use Nov. 1, 1966.

SN 263,942. Production & Marketing Company, Newtown, Conn. Filed Feb. 3, 1967.

Scrabble brand RSVP three dimensional crossword game

The expression "Three Dimensional Crossword Game" is only claimed in combination with "Scrabble Brand RSVP."
Owner of Reg. Nos. 524,505, 617,871, and others.
For Equipment for Playing a Word Game.
First use Dec. 14, 1966; 1948 as to "Scrabble."

SN 263,976. World Toy House, Inc., St. Paul, Minn. Filed Feb. 3, 1967.

MINI*KIT

Applicant disclaims the term "Kit" used above.
For Selected Assortment of Toys Sold in a Kit.
First use in or about October 1966.

SN 265,521. Heinrich Hammer, Sportgeräte- und Holzwarenfabrik, Wurttemberg, Germany. Filed Feb. 27, 1967.

ERBACHER

Owner of U.S Reg. No. 714,873; and German Reg. No. 764,788, dated Aug. 27, 1962.
For Sporting Goods—Namely, Tennis Rackets; Table Tennis Sets and Individual Parts Therefor; Badminton Sets and Individual Parts Therefor; Snow Skis, Ski Poles, Ski Bindings, and Snow Sleds.

SN 265,836. Market Studies, Inc., d.b.a. Advance Research, Atlanta, Ga. Filed Mar. 2, 1967.

m e m -O

For Cards for Playing a Game.
First use Sept. 29, 1966.

SN 266,514. Diener Industries, Inc., Sepulveda, Calif. Filed Mar. 13, 1967.

the LOV-A-BLES

For Toys—Namely, Doll and Animal Characters, Soft, Flexible, and Non-Toxic.
First use Dec. 5, 1966.

SN 266,550. Kenner Products Company, Cincinnati, Ohio. Filed Mar. 13, 1967.

IT'S FUN STUFF

Owner of Reg. No. 790,979.
For Modeling Compound.
First use Oct. 17, 1966.

SN 269,324. Kohner Bros., Inc., East Paterson, N.J. Filed Apr. 17, 1967.

Sweetheart

For Equipment Sold as a Unit for Playing a Parlor-Type Puzzle Game.
First use Mar. 24, 1967.

SN 269,325. Kohner Bros., Inc., East Paterson, N.J. Filed Apr. 17, 1967.

HI-JINX

For Equipment Sold as a Unit for Playing a Parlor-Type Puzzle Game.
First use Mar. 24, 1967.

SN 269,889. Hassenfeld Bros. Inc., Pawtucket, R.I. Filed Apr. 24, 1967.

Tie'N TaNGLe

For Equipment Sold as a Unit for Playing a Toy Game.
First use on or about Feb. 27, 1967.

SN 271,184. Shakespeare Company, Kalamazoo, Mich. Filed May 10, 1967.

FIREBIRD

For Sporting Goods—Namely, Fishing Reels.
First use Apr. 29, 1967.

SN 271,185. Shakespeare Company, Kalamazoo, Mich. Filed May 10, 1967.

PURIST

For Sporting Goods—Namely, Fishing Rods and Reels.
First use Apr. 29, 1967.

SN 272,730. Josef Fischer Sportartikelerzeugung, Ried im Innkreis, Austria. Filed May 31, 1967.

STAHL HOLZ

The mark is not the name of any particular individual, living or dead.
For Snow Skis.
First use August 1965; in commerce Mar. 4, 1966.

SN 273,167. Milton Bradley Company, Springfield, Mass. Filed June 6, 1967.

ONE MORE TIME

For Equipment Sold as a Unit for Playing a Game Involving the Throwing of Dice.
First use Mar. 1, 1967.

SN 273,173. Milton Bradley Company, Springfield, Mass. Filed June 6, 1967.

FANG BANG

For Equipment for a Game Involving the Striking of the Balloon of an Opponent.
First use Feb. 27, 1967.

SN 273,176. Milton Bradley Company, Springfield, Mass. Filed June 6, 1967.

BODY ENGLISH

For Equipment Comprising a Delineated Playing Surface for Playing a Parlor Game.
First use Mar. 1, 1967.

SN 274,376. Woodstream Corporation, Lititz, Pa. Filed June 20, 1967.



For Sporting Goods, Including Fishing Equipment—Namely, Fishing Rods and Reels, Tackle Boxes, Bait Buckets and Cans, Lure and Fly Boxes, Minnow Traps and Fishing Tackle Accessories; Sporting Seats, Namely, Storage Seats for Hunting, Fishing and Like Sporting Purposes; Ski Equipment, Namely, Boot Presses, Ski Boot Cases and Ski and/or Ski Pole Carriers; and Slot Car Racing Equipment, Namely, Slot Car Racer Cases.
First use at least as early as Aug. 31, 1963.

SN 274,435. William Thomas Mann, d.b.a. Mann's Bait Company, Eufaula, Ala. Filed June 21, 1967.

WOOLY BULLY

For Fishing Lures.
First use January 1967.

SN 274,436. William Thomas Mann, d.b.a. Mann's Bait Company, Eufaula, Ala. Filed June 21, 1967.

LITTLE GEORGE

For Fishing Lures.
First use Apr. 1, 1964.

SN 274,606. Exquisite Form Industries, Inc., New York, N.Y. Filed June 23, 1967.

MANDATE

For Golf Balls.
First use Apr. 12, 1967.

SN 274,722. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed June 26, 1967.

DU PONT

Owner of Reg. Nos. 616,031, 617,775, 656,685, and 656,773.
For Target Throwing Traps, Their Parts and Accessories.
First use Jan. 19, 1956.

SN 274,803. Albert J. Zilligen, Philadelphia, Pa. Filed June 26, 1967.



TOM CAT

For Golf Balls.
First use Mar. 22, 1967.

SN 278,946. Brunswick Corporation, Chicago, Ill. Filed Aug. 24, 1967.

CAMARO

For Bowling Ball Bags.
First use July 14, 1967.

SN 279,073. The Hettrick Manufacturing Company, Statesville, N.C. Filed Aug. 25, 1967.

PERMA TENT

The word "Tent" is disclaimed apart from the mark as shown.
For Campers' or Sportsmen's Tents and Frames for Same.
First use July 15, 1966.

SN 279,272. The Coleman Company, Inc., Wichita, Kans. Filed Aug. 29, 1967.

FLEX-BAR

For Tent Frames.
First use during or before November 1966.

SN 280,027. Daiwa Corporation, Gardena, Calif. Filed Sept. 11, 1967.



For Fishing Reels and Fishing Rods.
First use Oct. 1, 1966.

SN 280,453. The Ohio Art Company, Bryan, Ohio. Filed Sept. 15, 1967.

COLLECTORS CLASSICS

For Toy Figurines.
First use Aug. 29, 1967.

SN 280,727. Remco Industries, Inc., Harrison, N.J. Filed Sept. 19, 1967.

REMCO

Owner of Reg. No. 711,485.
For Dolls, Doll Clothing and Doll Accessories.
First use April 1963.

SN 285,097. Three Worlds, Inc., Chicago, Ill. Filed Nov. 17, 1967.

THREE WORLDS

For General Line of Educational and Play Toys, Kits, and Games.
First use Oct. 5, 1967.

SN 285,100. Union Wadding Company, Pawtucket, R.I. Filed Nov. 17, 1967.

BE-A-SPORT

For Spinning and Yo-Yo Tops.
First use August 1965.

SN 286,395. J. Swedlin, Inc., d.b.a. Gund Manufacturing Company, Brooklyn, N.Y. Filed Dec. 5, 1967.

BLUE RIBBON CHAMPIONS

For Stuffed Toys in Simulation of Animals.
First use Oct. 16, 1967.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 237,313. Colt Manufacturing Company, Inc., Winneconne, Wis. Filed Jan. 26, 1966.

COLT

For Tractors, Trailers, Earth Working, Earth Moving, Tillage Implements, Grass Maintenance Equipment, Snow Removal Equipment, Material Handling Equipment, and Parts Thereof.
First use Feb. 28, 1962.

SN 237,314. Colt Manufacturing Company, Inc., Winneconne, Wis. Filed Jan. 26, 1966.



For Tractors, Trailers, Earth Working, Earth Moving, Tillage Implements, Grass Maintenance Equipment, Snow Removal Equipment, Material Handling Equipment, and Parts Thereof.
First use Nov. 20, 1965.

SN 237,731. Donald W. Niewold and Gerald P. Johnson (joint owners), d.b.a. Johnson Equipment Company, Paxton, Ill. Filed Feb. 1, 1966.

HYDRA FOLD

For Auger-Hopper Units.
First use Apr. 23, 1965.

SN 244,765. Taylor & Gaskin, Inc., Detroit, Mich. Filed May 2, 1966.



For Conveyor Mechanism and Parts Thereof, Including Trolleys.
First use on or about Jan. 5, 1966.

SN 246,471. Imperial Knife Associated Companies, Inc., Providence, R.I. Filed May 24, 1966.

SWITCHBLADES

For Steak Knives and Stainless Steel Knives, Forks, and Spoons.
First use May 2, 1966.

SN 248,796. General Drill Corporation, Chicago, Ill. Filed June 23, 1966.



The representation of the goods, namely twist drills, is disclaimed.
For Twist Drills, Masonry Drills for Domestic Use, Boring Bits, Drill Blanks, and Other Machine Tool Drills.
First use Apr. 28, 1966.

SN 248,963. Borg-Warner Corporation, Chicago, Ill. Filed June 27, 1966.

BYPLEX

For Water Lubricated Shaft Bearings for Use in Marine Applications.
First use on or prior to June 2, 1961.

SN 249,259. Sweetheart Plastics, Inc., Wilmington, Mass. Filed June 29, 1966.

LIQUI-FILL

For Apparatus for Automatically Filling and Capping Plastic Containers.
First use May 31, 1966.

SN 249,333. Allan P. James Company, Inc., Maywood, Calif. Filed June 30, 1966.



Applicant disclaims exclusive rights to the words "Bronze Bearings" and to the pictorial representation of a bearing apart from the mark as shown.
For Bearings and Bearing Materials and Accessories.
First use in or about July 1962.

SN 249,682. Schubert & Salzer Maschinenfabrik Aktiengesellschaft, Ingolstadt (Danube), Germany. Filed July 6, 1966.

DOFFOMAT

Owner of German Reg. No. 817,196, dated Mar. 16, 1966.
For Textile Machines—Namely, Bobbin-Handling Machines for Handling and Doffing Bobbins.

SN 249,872. Pennsalt Chemicals Corporation, Philadelphia, Pa. Filed July 8, 1966.



For Discharge Apparatus for Centrifuge—Namely, an Interior Part of a Screw Conveyor Centrifuge for Dewatering Nonscrollable Solids Therein.
First use January 1966.
Subj. to Intf. with SN 273,839.

SN 249,952. Colgate-Palmolive Company, New York, N.Y. Filed July 11, 1966.

RAPID-SHAVE

Owner of Reg. Nos. 500,243 and 652,517.
For Razor Blades and Dispensers for Razor Blades.
First use May 3, 1966.

SN 250,064. The Warner & Swasey Company, Cleveland, Ohio. Filed July 11, 1966.

SELECTO

For Excavating Equipment and Parts Thereof, Including Dipper Arms.
First use May 24, 1966.

SN 250,608. Universal Harvester Co., Inc., Stockton, Calif. Filed July 19, 1966.

PROFITEER

For Agricultural Harvester Reels and Parts Thereof.
First use May 25, 1965.

SN 251,152. Rockwell Manufacturing Company, Pittsburgh, Pa. Filed July 27, 1966.

SMOOTHIE

For Orbital Sanders.
First use Oct. 25, 1965.

SN 254,491. Ellicott Machine Corporation, Baltimore, Md. Filed Sept. 15, 1966.

SANDPIPER

Applicant claims use for the United States and its territories except for the states of Wisconsin, Minnesota, North Dakota, South Dakota, Iowa, Missouri, Illinois, Indiana, Michigan, Ohio, and West Virginia.
For Dredges.
First use 1950.
Subj. to Intf. with SN 808,838 and SN 808,982.

SN 254,950. Sunbeam Corporation, Chicago, Ill. Filed Sept. 22, 1966.

SUNBEAM

Owner of Reg. No. 815,794.
For Leaf and Debris Pickup and Collecting Devices.
First use May 14, 1966.

SN 255,157. Washmobile Corp. of New Jersey, Union, N.J. Filed Sept. 22, 1966.



For Automotive Washing Equipment.
First use Aug. 2, 1965.

SN 257,262. FMC Corporation, San Jose, Calif. Filed Oct. 26, 1966.



No registration rights are claimed for the word "Coupling" apart from the mark as shown, but the applicant waives none of its common law rights in the mark shown, or any feature thereof.
For Variable Speed Fluid Coupling Units.
First use Aug. 8, 1966.

SN 259,718. Container Graphics Corporation, Toledo, Ohio. Filed Nov. 30, 1966.



For Cutting Dies for Forming Cardboard Blanks and the Like.
First use Oct. 5, 1966.

SN 261,528. Seymour Smith and Son, Incorporated, Oakville, Conn. Filed Dec. 27, 1966.

TRIM-EZY

For Grass and Hedge Shears, Pruning Shears, Lopping Shears, and Pruning Saws.
First use in or about July 1961.

SN 265,849. Savsol, Inc., Indianapolis, Ind. Filed Mar. 2, 1967.

SAVSOL

For Evaporator-Concentrator Type Apparatus for Reclaiming Electroplating Solutions.
First use Jan. 14, 1965.

SN 268,035. Degremont S.A., Suresnes (Seine), France. Filed Mar. 31, 1967.

ACTI-ROTOR

Owner of French Reg. No. 225,572, dated Apr. 24, 1964.
For Apparatus for Mixing and/or Surface Aeration in Water, Sewage and Waste Treatment.

SN 268,169. Eastman Kodak Company, Rochester, N.Y. Filed Apr. 3, 1967.

EASTOFLOW

Owner of Reg. No. 809,143.
For Packaging Machinery.
First use Nov. 20, 1964.

SN 268,215. Oneida Ltd., Oneida, N.Y. Filed Apr. 3, 1967.
Owner of Reg. No. 439,626.

THOR

For Stainless Steel Flatware.
First use Feb. 8, 1958.

SN 268,401. Giddings & Lewis, Inc., Fond du Lac, Wis., by change of name from Giddings & Lewis Machine Tool Company, Fond du Lac, Wis. Filed Apr. 5, 1967.

NUMERILATHE

Owner of Reg. Nos. 665,056, 813,939, and others.
For Machine Tools—Namely, Vertical and Horizontal Lathes.
First use Mar. 16, 1967.

SN 269,563. The Red Cross Manufacturing Corporation, Bluffton, Ind. Filed Apr. 19, 1967.

Vey-all

For Belt Conveyors.
First use Mar. 24, 1967.

SN 269,585. Urethane Products Canada Limited, Cooksville, Ontario, Canada. Filed Apr. 19, 1967.

Flex-cast

For Strippers—Namely, Urethane Sleeves Used To Strip Work Pieces From Punches.
First use May 1963; in commerce November 1964.

SN 269,629. Certipak Corporation, New York, N.Y. Filed Apr. 20, 1967.

CERTIPAK

For Machines for Setting Up Blanks of Flexible Sheet Material, Particularly Paperboard, Into Receptacles; Machines for Inserting Merchandise Into Such Receptacles, Machines for Conveying Receptacles and/or Merchandise About To Be Packaged, or Packaged in Receptacles, and Machines for Enclosing Merchandise in a Receptacle Formed From a Blank of Flexible Sheet Material Folded About the Merchandise.
First use Dec. 30, 1966.

SN 269,922. PDR Manufacturing Corporation, Denver, Colo. Filed Apr. 24, 1967.

JET-X

For Pressure Spray Washer Attachment for a Hose.
First use Nov. 1, 1966.

SN 270,061. The International Silver Company, Meriden, Conn. Filed Apr. 26, 1967.

ALHAMBRA

For Stainless Steel Flatware—Namely, Knives, Forks, and Spoons.
First use Mar. 31, 1967.

SN 270,687. The Knickerbocker Company, Jackson, Mich. Filed May 4, 1967.

TRUCK-MAN

For Commercial Lift Trucks.
First use Sept. 3, 1942.

SN 270,760. Dana Sales, Inc., Dana, N.C. Filed May 5, 1967.

Ad-Minder

For Advertising Display Device—Namely, Housing With Endless Belt To Which Advertisements Are Attached and Viewed Through Windows in the Housing.
First use Mar. 15, 1967.

SN 270,994. Wilton Corporation, Schiller Park, Ill. Filed May 8, 1967.

WILTAPER

For Gummed Tape Dispensers.
First use Mar. 21, 1967.

SN 271,025. Badger Manufacturing Company, Marinette, Wis. Filed May 9, 1967.



The mark consists of the lowercase letter "b" and design.
For Pistons and Piston Cylinder Sleeves.
First use Feb. 1, 1965.

SN 272,086. Oneida Ltd., Oneida, N.Y. Filed May 22, 1967.

KENWOOD

For Stainless Steel Flatware.
First use Sept. 25, 1964.

SN 272,104. School House Products, Inc., New York, N.Y. Filed May 22, 1967.

SNIP-SNAP

For Scissors.
First use May 1966.

SN 272,524. Tyrone Hydraulics, Inc., Corinth, Miss. Filed May 26, 1967.

TYRONE
JOB-MASTER

For Hydraulic Gear Pumps and Motors, and Parts Thereof.
First use May 22, 1967.

SN 272,946. The Reddy Company, Inc., Montpelier, Vt. Filed June 2, 1967.

SOF-TEE

For Spoons Made of Non-Precious Metal for Use by Babies.
First use Mar. 1, 1962.

SN 272,948. Litton Business Systems, Inc., New York, N.Y., by merger and change of name from Royal Typewriter Company, Inc., Hartford, Conn. Filed June 2, 1967.

MARINER

For Typewriters and Parts Thereof.
First use on or about Sept. 19, 1966.

SN 272,949. Litton Business Systems, Inc., New York, N.Y., by merger and change of name from Royal Typewriter Company, Inc., Hartford, Conn. Filed June 2, 1967.

AGENA

For Typewriters and Parts Thereof.
First use on or about Sept. 15, 1966.

SN 272,950. Litton Business Systems, Inc., New York, N.Y., by merger and change of name from Royal Typewriter Company, Inc., Hartford, Conn. Filed June 2, 1967.

ATLAS

For Typewriters and Parts Thereof.
First use on or about Sept. 16, 1966.

SN 272,952. Litton Business Systems, Inc., New York, N.Y., by merger and change of name from Royal Typewriter Company, Inc., Hartford, Conn. Filed June 2, 1967.

JUPITER

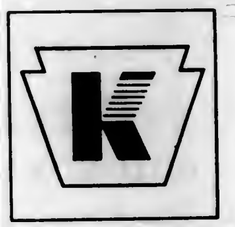
For Typewriters and Parts Thereof.
First use on or about Sept. 15, 1966.

SN 272,954. Litton Business Systems, Inc., New York, N.Y., by merger and change of name from Royal Typewriter Company, Inc., Hartford, Conn. Filed June 2, 1967.

SATURN

For Typewriters and Parts Thereof.
First use on or about Sept. 14, 1966.

SN 273,033. CAM Industries, Inc., Hanover, Pa. Filed June 5, 1967.



For Aerial Ladders To Be Mounted Upon Vehicles.
First use May 10, 1967.

SN 273,383. Eaton Yale & Towne Inc., Cleveland, Ohio. Filed June 8, 1967.



For Industrial Lift Trucks.
First use Mar. 11, 1966.

SN 273,502. Houdaille Industries, Inc., Buffalo, N.Y. Filed June 9, 1967.

SUPER 30

For Machine Tools—Namely, Sheet Metal Fabricators.
First use Oct. 15, 1959.

SN 273,605. Clary Corporation, San Gabriel, Calif. Filed June 12, 1967.

MOBILECRAFT

For Woodworking Machinery.
First use on or about May 16, 1967.

SN 273,839. The Allen Pump Co., d.b.a. The Allen-Sherman-Hoff Pump Company, Paoli, Pa. Filed June 14, 1967.

CENTRISEAL

For Rubber Lined Centrifugal Pumps and Parts Thereof.
First use June 18, 1953.
Subj. to Intf. with SN 249,872.

SN 284,283. Western Sewing Machine Distributors, Inc., St. Louis, Mo. Filed Nov. 7, 1967.

FabricMaster

For Sewing Machines, Attachments Therefor, and Parts Thereof.
First use Dec. 20, 1966.

SN 284,877. Philip Morris Incorporated, New York, N.Y. Filed Nov. 15, 1967.

GEM

Owner of Reg. Nos. 134,365, 613,054, and others.
For Razors and Razor Blades.
First use June 1, 1898.

Class 25—Locks and Safes

SN 250,377. Jack V. Howard, d.b.a. Howard Manufacturing Company, Van Nuys, Calif. Filed July 15, 1966.

JIMMY-PLATE

For Anti-Tampering, Protective Door Latch Plates.
First use on or about Apr. 28, 1966.

Class 26—Measuring and Scientific Appliances

SN 230,540. Hoffman Camera Corporation, Farmingdale, N.Y. Filed Oct. 19, 1965.

VACUUMATIC

For Portable Vacuum Film Holder for Use in Cameras.
First use during December 1960.

SN 233,177. Dual Gebruder Steidinger, Black Forest, Germany, by change of name from Gebruder Steidinger, Black Forest, Germany. Filed Nov. 23, 1965.

SKATE-O-METER

Priority claimed under Sec. 44(d) on German application filed Sept. 10, 1965; Reg. No. 827,970, dated Dec. 30, 1966.
For Test Instruments for Detection of Any Deviations of the Stylus From Perfect Balance in the Stereo Groove of a Record.

SN 251,505. Atlantic Research Corporation, Alexandria, Va. Filed Aug. 2, 1966.

ARCTEL

Owner of Reg. Nos. 757,714 and 785,971.
For Electronic and Electrical Equipment—Namely, Telemetry Systems for Collecting and Communicating Information and Data, and for Transmitting Control Signals From One Location to Another, Namely, Data Logging Systems, Scanning Equipment, Encoders, Decoders, Pulse Code Modulators, Code Sequence Selectors, Code Convertors, and Speed Convertors.
First use March 1966.

SN 251,637. Leeds & Northrup Company, Philadelphia, Pa. Filed Aug. 3, 1966.

SPECTRAY

For Radiation Pyrometer.
First use January 1965.

SN 252,775. VDO Tachometer Werke Adolf Schindling GmbH, Frankfurt am Main, Germany. Filed Aug. 19, 1966.

VDO

Priority claimed under Sec. 44(d) on German application filed June 2, 1966; Reg. No. 821,274, dated July 4, 1966. Owner of U.S. Reg. No. 672,469.
For Physical, Mechanical, Optical, and Electrical Instruments and Devices for Indicating, Measuring, Regulating, and Supervising the Operation of Aeronautical Vehicles—Namely, Speedometers, Instruments for Measuring Distances, Devices for Measuring Revolutions, Pressures, Operating Hours, Temperatures, Gages for Liquids, Indicators of Consumption, Output and Load, Ammeters, Voltmeters, Ohmmeters, Time Switches and Time-Responsive Impulse Sources, and Chronometers.

SN 253,270. Astro Fi-Larm, Inc., Roseville, Mich. Filed Aug. 29, 1966.

ASTRO

For Automatic Heat-Responsive Fire Detecting and Alarm Apparatus.
First use August 1963.

SN 254,401. Reedco Inc., Auburn, N.Y. Filed Sept. 13, 1966.

SKAN-A-GRAF

For Scanning Device and Grid Lined Plastic Chart for Viewing and Recording the Basic Posture Features of a Particular Subject.
First use June 21, 1966.

SN 255,290. Biviator S.A., Geneva, Switzerland. Filed Sept. 28, 1966.

BIVIATOR

Owner of Swiss Reg. No. 201,468, dated Jan. 9, 1964; and U.S. Reg. Nos. 798,320 and 821,061.
For Electric and Electronic Measuring and Control Equipment—Namely, Electronic Torque Limiters, Electronic Threshold Relays, Optical Instruments, Namely, Cameras, Automatic Electronic Diaphragm Setting Devices for Cameras, Measuring and Control Apparatus for the Nuclear Technique, Namely, Electronic Radiation Measuring Instruments, and Medical Measuring Instruments, Namely, Vigilance Testing Instruments.

SN 258,223. Ford Motor Company, Dearborn, Mich. Filed Nov. 8, 1966.

ROTUNDA

Owner of Reg. Nos. 683,672, 752,820, and others.
For Electrical Voltage and Resistance Measuring Meters, Internal Combustion Engine Testing and Analyzing Meters, Thermostats, Tachometers, and Speedometers.
First use May 5, 1962.

SN 260,711. American Optical Company, Southbridge, Mass. Filed Dec. 14, 1966.

PHASE Star

The drawing is lined for gray and red, however, no claim is made as to any particular color.
For Microscopes.
First use Sept. 19, 1966.

SN 262,048. Mallinckrodt Chemical Works, St. Louis, Mo. Filed Jan. 6, 1967.

MOLYTECH

For Assay Kits for Use With Adjustable Spectrometers for Calibrating the Activity of Radio-Active Preparations.
First use Dec. 12, 1966.

SN 265,712. Robert Friedman Associates, Inc., Cleveland, Ohio. Filed Mar. 1, 1967.

LAB MATE

For Flexible School Laboratory, Scientific and Study Equipment—Namely, Carrels, Student Tables, Science-Study Tables and Cabinets, and Science-Laboratory Demonstration Units.
First use Feb. 9, 1967.

SN 267,738. Ernst Leitz, G.m.b.H., Wetzlar (Lahn), Germany. Filed Mar. 28, 1967.

NOCTILUX

For Photographic Objective Lenses for Cameras.
First use Sept. 23, 1966; in commerce Sept. 23, 1966.

SN 274,015. Zylo Ware Corporation, Long Island City, N.Y. Filed June 15, 1967.

NYLOWARE

For Glasses, Eyeglass Frames, and Sun Glasses.
First use in or before June 1967.

SN 274,016. The General Gilbert Corporation, Winsted, Conn. Filed June 2, 1967.

TELE-MAGIC

For Adding Machines for Desk Top Use.
First use on or about May 12, 1967.

SN 274,315. Franklin Gno Corporation, West Palm Beach, Fla. Filed June 20, 1967.

GNO

Owner of Reg. Nos. 804,407 and 813,950.
For Instruments for Automatic Determination of Blood Volume, Low Altitude X-Ray Altimeters, and Instruments To Measure the Density of Flowing Liquid Hydrogen.
First use Mar. 9, 1965.

SN 274,815. Marquette Corporation, Minneapolis, Minn. Filed June 26, 1967.

MARQUETTE

Owner of Reg. Nos. 505,250, 598,422, and others.
For Diagnostic Equipment for Analyzing the Performance of Internal Combustion Engines.
First use January 1962.

SN 278,846. American Vitrified Products Company, Cleveland, Ohio. Filed Aug. 23, 1967.

LITE A LINE

For Double Beam Laser Alignment Equipment Which Is Designed Specifically for Use in Field Alignment of All Types of Pipe Lines, Ducts and Drenching Operations Such as Are Used in Sanitary and Storm Sewer Lines.
First use Apr. 7, 1967.

SN 283,594. Ihagee Kamerawerk Aktiengesellschaft (Dresden), Dresden, Germany. Filed Oct. 25, 1967.

IHAGEE

For Cameras.
First use 1912; in commerce 1920.
Subj. to Intf. with SN 116,308.

SN 285,049. Norman Industries, Inc., Chicago, Ill. Filed Nov. 16, 1967.

TELE-TECTOR

For Dummy Cameras for Mounting on a Wall or Ceiling for the Purpose of Deterring Shoplifting, Reducing Pilferage Losses and Robberies; Surveillance Cameras for Mounting on a Wall or Ceiling for Detecting, Among Other Things, Shoplifting, Pilferage, and Robbery.
First use Nov. 30, 1959.

Class 27—Horological Instruments

SN 276,351. Robertshaw Controls Company, Richmond, Va. Filed July 19, 1967.

CHATHAM

For Clocks.
First use June 23, 1967.

Class 28—Jewelry and Precious-Metal Ware

SN 275,955. Oneida Ltd., Oneida, N.Y. Filed July 13, 1967.

LODESTAR

For Silverplated Holloware and Flatware.
First use June 27, 1967.

SN 281,003. Brodkey Brothers, Inc., d.b.a. Brodkey Jewelry Company, Omaha, Nebr. Filed Sept. 25, 1967.

Art-craft

For Jewelry for Personal Wear and Adornment, Not Including Watches—Namely, Diamond Rings; Diamonds; Jewelry Mountings of Precious Metal; Earrings; Pins; Bracelets; Watch Bands; Wedding Rings; and Birthstone Rings.
First use at least as early as 1925.

Class 29—Brooms, Brushes, and Dusters

SN 270,008. Reit-Price Manufacturing Company, Union City, Ind. Filed Apr. 25, 1967.

SCUFFY

For Replaceable Mop Heads for Addition to Handles.
First use at least as early as Sept. 15, 1965.

SN 270,290. The Setwell Company, Traverse City, Mich. Filed Apr. 28, 1967.

EXECUTIVE 300

For Washable Adhesive Lint Pick-up Roller.
First use Sept. 14, 1966.

SN 271,388. Ronson Corporation, Woodbridge, N.J. Filed May 12, 1967.

ROTO-STROKE

For Electric Hairbrushes.
First use June 30, 1966.

Class 30—Crockery, Earthenware, and Porcelain

SN 252,968. Royal Worcester Limited, Worcester, England. Filed Aug. 23, 1966.

ISLAND WORCESTER

Applicant disclaims the term "Worcester" apart from the mark as shown. Owner of U.S. Reg. Nos. 832,194 and others.
For Earthenware—Namely, Dinner, Tea and Coffee Ware and Ornamental Ware.
First use Aug. 1, 1964; in commerce Aug. 31, 1964.

Class 31—Filters and Refrigerators

SN 250,453. Culligan, Inc., Northbrook, Ill. Filed July 18, 1966.

ULTRA-CLEER

For Water Conditioning, Filtering and Treating Apparatus Utilizing Ion Exchange, Oxidation, and/or Neutralization, and Components Thereof.
First use Feb. 25, 1966.

SN 259,949. The Meadowbrook Company, Edina, Minn. Filed Dec. 2, 1966.



Owner of Reg. No. 744,488.
For Water Conditioning Equipment.
First use March 1962.

SN 262,350. The Rosaen Filter Company, Hazel Park, Mich. Filed Jan. 11, 1967.

NEVER STOP

For Fluid Filters, Filter Elements, Strainers and Housings Therefor.
First use June 1966.

SN 265,793. Calgon Corporation, Pittsburgh, Pa. Filed Mar. 2, 1967.

FILTRASORB

For Granular Activated Carbon for Water Purification.
First use Feb. 6, 1967.

SN 266,122. Walker Manufacturing Company, Racine, Wis. Filed Mar. 6, 1967.

WATCHDOG

For Oil, Air, and Fuel Filters, Especially Those Used on Internal Combustion Engines.
First use on or about Dec. 16, 1966.

SN 270,138. Johnson & Johnson, New Brunswick, N.J. Filed Apr. 27, 1967.

RAPID-FLO

Owner of Reg. No. 570,577.
For Filter Holders.
First use Apr. 4, 1962.

Class 32—Furniture and Upholstery

SN 278,954. Corry Jamestown Corporation, Corry, Pa. Filed Aug. 24, 1967.

CAMEO

For Office Furniture.
First use May 12, 1967.

Class 33—Glassware

SN 255,744. Riekes Crisa Corporation, Laredo, Tex. Filed Sept. 28, 1966.

JAGUAR

For Crystal Stemware.
First use Mar. 21, 1966.

SN 275,871. Precision Valve Corporation, Yonkers, N.Y. Filed July 12, 1967.

PREVAL

Owner of Reg. No. 838,989.
For Pressurized Dispensers and Parts Thereof; Containers Comprising Bottles, Tubes, and Boxes Made of Glass, and Caps Therefor.
First use Nov. 1, 1966.

SN 276,251. Ross Products, Inc., New York, N.Y. Filed July 18, 1967.



For Drinking Glasses of Various Shapes and Sizes.
First use July 5, 1967.

Class 34—Heating, Lighting, and Ventilating Apparatus

SN 245,935. Maag Gear-Wheel Company Limited (Maag-Zahnrader Aktiengesellschaft), Zurich, Switzerland. Filed May 18, 1966.

CARBO-MAAG

Owner of Swiss Reg. No. 188,316, dated Oct. 16, 1961.
For Ovens for Carburizing Steel Pieces.

SN 253,105. Air Reduction Company, Incorporated, New York, N.Y. Filed Aug. 25, 1966.

TRAC-WELDER

For Electric Arc Welding Apparatus.
First use Mar. 31, 1966.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 234,122. The General Tire & Rubber Company, Akron, Ohio. Filed Dec. 7, 1965.

STRAT-A-SEAL

For Puncture Sealant Inner Liner Which Is a Component Part of a Tire.
First use as early as April 1957.

SN 253,501. Delta Tire Corporation, Detroit, Mich. Filed Aug. 31, 1966.



The lining for the color blue is disclaimed apart from the mark as shown.
For Non-Metallic Tires.
First use May 16, 1966.

SN 267,434. The Kelley-Springfield Tire Company, Cumberland, Md. Filed Mar. 23, 1967.

Dual Star

For Tires.
First use Feb. 3, 1967.

Class 36—Musical Instruments and Supplies

SN 247,391. Nightwriter Corporation, Inc., d.b.a. Nirico, Alexandria, Va. Filed June 6, 1966.

MUSICOLOR

For Phonograph Records.
First use Dec. 14, 1965.

SN 254,643. Rheem Manufacturing Company, New York, N.Y. Filed Sept. 19, 1966.



Owner of Reg. Nos. 717,601 and 723,043.
For Magnetic Tape Recorders and Tape Sound Reproducers, Parts Thereof and Minor Accessories Therefor, Including Tapes and Guitar Amplifiers.
First use July 15, 1966.

SN 261,382. Maurice Lipsky Music Co., Inc., New York, N.Y. Filed Dec. 23, 1966.

MUSICAL AMERICAS' BEST FRIEND

Applicant disclaims the word "Musical" apart from the mark as shown.
For Musical Instruments—Namely, Guitars, Saxophones, Clarinets, Trumpets, Trombones, Mandolins, Ukuleles, Banjos, Drums, Accordions, and Accessories Thereto.
First use on or about July 1, 1964.

SN 264,112. Superscope, Inc., Sun Valley, Calif. Filed Feb. 6, 1967.

CASSETTE-CORDER

For Portable Tape Recorders.
First use Dec. 29, 1966.

Class 37—Paper and Stationery

SN 251,712. Eberhard Faber Inc., Crestwood, Wilkes-Barre, Pa. Filed Aug. 4, 1966.

PENCIL MART

For Pencils.
First use Jan. 23, 1959.

SN 269,535. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Apr. 19, 1967.

CHOICE T

For Packaging Film.
First use Jan. 31, 1967.

SN 271,604. Eagle Pencil Company, Danbury, Conn. Filed May 16, 1967.

PRISMATIP

For Ink Markers.
First use Apr. 5, 1967.

SN 272,088. Paper Mate Manufacturing Company, Santa Monica, Calif. Filed May 22, 1967.

WEDGIE

For Pens.
First use May 3, 1967.

SN 272,107. School House Products, Inc., New York, N.Y. Filed May 22, 1967.

MOVEE-ZOOZEES

Owner of Reg. No. 806,380.
For Erasers.
First use Apr. 25, 1966.

SN 272,635. Richards Metals Corporation, Hillside, N.J. Filed May 29, 1967.

TALLY-PLAST

For Loose Leaf Binders and Parts Thereof.
First use at least as early as Apr. 22, 1966.

Class 38—Prints and Publications

SN 256,563. Lawrence Katzman, New York, N.Y. Filed Oct. 17, 1966.

NURSE NELLIE'S

For Cartoons as Applied to a Series of Books of Uniform Appearance Which Are Issued Periodically.
First use Nov. 15, 1950.

SN 265,309. Jostens, Inc., Owatonna, Minn. Filed Feb. 23, 1967.

SELECT-O-LAY

For Layout Guide Books Having a Plurality of Sets of Separately Hinged Pages With Abutting Inner Edges and Which Collectively Provide Various Layout Arrangements for Pictures and Textual Material.
First use Jan. 31, 1967.

SN 268,952. Gateway Promotions, Inc., St. Louis, Mo. Filed Apr. 12, 1967.

"MATCH MAKER"

For Promotional Printed Game Materials of the Public Participation Type, for Distribution by Retail Outlets, for Playing a Promotional Game To Stimulate the Sale of Their Goods and/or Services.
First use Dec. 1, 1966.

SN 286,060. American Friends of the Alliance Israelite Universelle, Inc., New York, N.Y. Filed Dec. 4, 1967.

THE ALLIANCE REVIEW

For Periodical Magazine Containing News of the Educational and Charitable Activities and Articles of General Interest to Members and Other Readers of Applicant Which Helps To Finance Jewish Day-Schools in the Middle and Near East and in North Africa, Issued Semi-Annually, or From Time to Time.
First use on or about July 1, 1947.

SN 286,061. American Friends of the Alliance Israelite Universelle, Inc., New York, N.Y. Filed Dec. 4, 1967.

REVISTA DE LA ALLIANCE

For Periodical Magazine Containing News of the Educational and Charitable Activities and Articles of General Interest to Members and Other Readers of Applicant Which Helps To Finance Jewish Day-Schools in the Middle and Near East and in North Africa, Issued Semi-Annually, or From Time to Time.
First use on or about Mar. 1, 1948.

Class 39—Clothing

SN 230,652. The Joseph & Feiss Company (Delaware corporation), Cleveland, Ohio, by assignment and change of name from The Joseph & Feiss Company (Ohio corporation), Cleveland, Ohio. Filed Oct. 20, 1965.

ELEGANTE

For Men's Clothing—Namely, Suits, Topcoats, and Overcoats.
First use July 1, 1957.
Subj. to Intf. with SN 257,943.

SN 257,943. H. Daroff & Sons, Inc., Philadelphia, Pa. Filed Nov. 4, 1966.

Elegante

For Men's and Young Men's Suits, Topcoats, and Overcoats.
First use in or about September 1957.
Subj. to Intf. with SN 230,652.

SN 264,315. Flexnit Company, Inc., New York, N.Y. Filed Feb. 9, 1967.

BACK SAVER

For Girdles and Panty-Girdles.
First use Jan. 30, 1967.
Subj. to Intf. with SN 266,855.

SN 266,855. Blair Fashions, Inc., Chicago, Ill. Filed Mar. 16, 1967.

BACK-SAVER

For Panties and Girdles.
First use Jan. 3, 1967.
Subj. to Intf. with SN 264,315.

SN 279,851. Peter Pan International, Inc., New York, N.Y., by merger and change of name from Peter Pan Foundations, Inc., New York, N.Y. Filed Sept. 7, 1967.

"FLOWER POWER"

For Brassieres and Lingerie.
First use Aug. 30, 1967.
Subj. to Intf. with SN 280,869.

SN 280,869. Hanes Corporation, Winston-Salem, N.C. Filed Sept. 21, 1967.

FLOWER POW

For Ladies' Hosiery.
First use Aug. 31, 1967.
Subj. to Intf. with SN 279,851.

Class 44—Dental, Medical, and Surgical Appliances

SN 252,758. Rexall Drug and Chemical Company, d.b.a. Madison Company, Los Angeles, Calif. Filed Aug. 19, 1966.

MADISON

For Combination Water Bottle and Syringe.
First use Mar. 23, 1938.

SN 265,291. M. Michael Eisenberg, M.D., Gainesville, Fla. Filed Feb. 23, 1967.

PIGGYBACK NEEDLE

No exclusive claim is made to the word "Needle" apart from the mark as shown.
For Plastic Catheters and Cannulas Over Steel Needles and Trochars for Intravenous Use and for Diagnostic and Therapeutic Body-Cavity Drainage.
First use Jan. 10, 1967.

SN 266,990. A. Joseph Andenno and Joyce A. Andenno (joint owners), Belding, Mich. Filed Mar. 17, 1967.

STAT ALERT

For First Aid Kits.
First use on or about Sept. 12, 1966.

Class 46—Foods and Ingredients of Foods

SN 232,343. Popcorn Products, Inc., Chicago, Ill. Filed Nov. 8, 1965.

CASE PAK

For Popcorn and Popping Oil.
First use 1957.

SN 243,259. New England Apple Products Co., Inc., Littleton, Mass. Filed Apr. 12, 1966.

Veryfine

For Apple Juice, Apple-Cranberry Juice, Apple Sauce, Apricot Nectar, Cider, Cider Vinegar, Cranberry Juice, Orange Food Drink, Prune Juice, and Vinegar.
First use 1919.

SN 245,757. Quality Bakers of America Cooperative, Inc., New York, N.Y. Filed May 16, 1966. COLLECTIVE MARK.

SUNBEAM

For Bread.
First use 1942; 1913 in a different form.

SN 247,347. General Foods Corporation, White Plains, N.Y. Filed June 6, 1966.

FILTER PERKS

For Coffee.
First use Apr. 21, 1966.

SN 250,295. Nissin Shokuhin Kaisha Ltd., Takatsuki, Japan. Filed July 14, 1966.

NSS

Owner of Japanese Reg. No. 543,247, dated Oct. 20, 1959.
For Noodles.

SN 251,134. Home Town Foods, Inc., Jacksonville, Fla. Filed July 27, 1966.

WHITE BARN

For Homogenized Milk, Cottage Cheese, and Ice Cream.
First use July 14, 1966.

SN 251,629. Hagesüd Aktiengesellschaft, Stuttgart-Feuerbach, Germany. Filed Aug. 3, 1966.



For Spices, Spice Mixtures, Spice Preparations, Spice Extracts, Spice Essences, and Spice Essence Salts, All for Food Manufacturing Purposes.
First use Jan. 26, 1966; in commerce Feb. 25, 1966.

SN 253,030. The Griffith Laboratories, Inc., Chicago, Ill. Filed Aug. 24, 1966.

CAL-RICH

For Concentrated Food Supplement of High Nutritive Value Containing Sodium Caseinate, Sweet Cream Solids, and Added Vitamins.
First use June 8, 1966.

SN 254,941. The Pillsbury Company, Minneapolis, Minn. Filed Sept. 22, 1966.

MUNCHUMS

For Prepared, Refrigerated Food Product, Dough-Like in Character, With or Without a Filling, To Be Warmed in a Toaster.
First use July 20, 1966.

SN 260,021. Corn Products Company, New York, N.Y. Filed Dec. 5, 1966.

MOR-REX

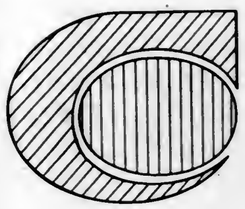
For Hydrolyzed Cereal Solids for Use in Food Manufacturing.
First use at least as early as Sept. 28, 1966.

SN 260,443. National Dairy Products Corporation, Chicago, Ill. Filed Dec. 9, 1966.

HAPPY TIZERS

The word "Tizers" is disclaimed apart from the mark as shown.
For Cheese Flavored Corn Product in Expanded Form.
First use Nov. 7, 1966.

SN 260,530. Cudahy Company, Phoenix, Ariz. Filed Dec. 12, 1966.



The drawing is lined for red and brown, but color is not claimed as a feature of the mark.
For Food Products—Namely, Ham, Including Canned Hams; Sliced Bacon; Canadian Bacon; Sausage, Including Liver Sausage, Sausage Loaves and Dry Sausage; Meat Loaf; Beef Sweetbreads; Beef Offal; Sterile Canned Meats; Vacuum-Packed Meats; Fresh Pork; Pork Shoulder; Lard; Pork Offal; Wieners; Frozen Steaks; Frozen Chicken; Wrapped Chili Rolls; Cheese; and Processed Cheese.
First use on or about Mar. 1, 1966.

SN 261,516. Queserias Franco Espanolas, Madrid, Spain. Filed Dec. 27, 1966.



For Cheese.
First use 1950; in commerce Feb. 1, 1964.

SN 263,075. Kabushiki Kaisha Nakano Su Mise, d.b.a. Nakano Vinegar Co., Ltd., Handa-shi, Aichi-ken, Japan. Filed Jan. 23, 1967.



The Japanese characters, translated into English, are "Mitsukan."
For Vinegar.
First use May 29, 1912; in commerce Nov. 2, 1954.

SN 263,257. Peter Eckrich and Sons, Inc., Fort Wayne, Ind. Filed Jan. 25, 1967.

FUN FRANKS

The word "Franks" is disclaimed apart from the mark as shown.
For Frankfurters.
First use Nov. 30, 1966.

SN 264,333. Murray-Allen Imports, Inc., New Rochelle, N.Y. Filed Feb. 9, 1967.



The lining shown on the drawing is an actual part of the mark and does not represent color. Applicant disclaims the word "Jellies" apart from the mark as shown.
For Candy Jellies.
First use Nov. 9, 1966.

SN 265,393. Baumer Foods, Inc., New Orleans, La. Filed Feb. 24, 1967.



Applicant disclaims exclusive right to the use of the design of the peppers, apart from the mark as shown, reserving, however, unto itself all of its common law rights.
For Hot Pepper Sauce.
First use January 1949.

SN 266,369. Sternco Industries, Inc., Harrison, N.J. Filed Mar. 9, 1967.

WONDER WORMS

The word "Worms" is disclaimed apart from the mark as shown.
For Food for Fish.
First use Dec. 22, 1966.

SN 268,150. Campbell Taggart Associated Bakeries, Inc., Dallas, Tex. Filed Apr. 3, 1967.

WHING DINGS

For Cup Cakes.
First use Jan. 30, 1967.

SN 269,208. Pearson Candy Company, Inc., Culver City, Calif. Filed Apr. 14, 1967.

LICORICE NIP

Applicant disclaims the word "Licorice" apart from the mark as shown. Owner of Reg. No. 762,811.
For Licorice Flavored Candies.
First use Apr. 15, 1964.

SN 269,209. Pearson Candy Company, Inc., Culver City, Calif. Filed Apr. 14, 1967.

CARMEL NIP

Applicant disclaims the word "Carmel" apart from the mark as shown. Owner of Reg. No. 762,811.
For Caramel Flavored Candies.
First use Sept. 8, 1965.

SN 269,618. Astro Foods, Inc., San Francisco, Calif. Filed Apr. 20, 1967.

ROYAL PANTRY

For Frozen Potatoes, Rice, Vegetables, and Seafood Products.
First use Apr. 10, 1967.

SN 269,676. Laco Corp., Baltimore, Md., assignee of Laco Products Inc., Baltimore, Md. Filed Apr. 20, 1967.



LACO

The drawing is lined for green, yellow, and red. Owner of Reg. No. 227,039.
For Edible Olive Oil.
First use September 1954.

SN 269,722. Safeway Stores, Incorporated, Oakland, Calif. Filed Apr. 21, 1967.

ENCHANTED ISLE

For Canned Pineapple, Canned Tropical Fruit Salad, and Canned Papaya.
First use Oct. 7, 1959, on canned pineapple.

SN 270,354. Carte Blanche Corporation, Los Angeles, Calif. Filed May 1, 1967.

CARTE BLANCHE

For Pasteurized Process Cheese Spread, Natural Brick Cheese, Rolled Anchovies, Smoked Oysters, Sardines, Grape Jelly, Strawberry Preserves, Cheddar Cheese, and Tropical Fruit Preserves.
First use Nov. 8, 1960.

SN 270,399. Oscar Mayer & Co., Inc., Chicago, Ill. Filed May 1, 1967.

HOTWICH

For Packaged Slices of Sandwich Filling Preparations of a Meat Nature, Cheese Nature, and Combination Meat and Cheese Nature.
First use Apr. 7, 1967.

SN 270,400. Oscar Mayer & Co., Inc., Chicago, Ill. Filed May 1, 1967.

GRILLWICH

For Packaged Slices of Sandwich Filling Preparations of a Meat Nature, Cheese Nature, and Combination Meat and Cheese Nature.
First use Apr. 7, 1967.

SN 272,007. A. Bertolla & Sons, Loxley, Ala. Filed May 22, 1967.

DIXIE

For Fresh Potatoes in Wholesale Lots.
First use on or about May 8, 1937.

SN 272,584. Carnation Company, Los Angeles, Calif. Filed May 29, 1967.

TEA-MATE

Owner of Reg. No. 717,258.
For Powdered Non-Dairy Tea Creamer.
First use Feb. 25, 1963.

SN 273,508. John W. Leavitt Company, d.b.a. The Leavitt Corporation, Everett, Mass. Filed June 9, 1967.

TEDDIE

Owner of Reg. Nos. 430,230 and 647,191.
For Peanut Butter, Nut Meats, Both Raw and Salted, and Roasted Peanuts in the Shell.
First use Jan. 3, 1956.

SN 275,216. American Sugar Company, New York, N.Y. Filed July 3, 1967.

AMEROSE

For Sugar.
First use Feb. 2, 1965.

SN 275,426. American Home Products Corporation, New York, N.Y. Filed July 6, 1967.

TARGETS

Owner of Reg. No. 721,403.
For Candy.
First use Mar. 1, 1962.

SN 278,323. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Aug. 15, 1967.

TOPPS CHECK

Owner of Reg. Nos. 506,803 and 829,203.
For Chewing Gum.
First use June 12, 1967.

SN 278,324. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Aug. 15, 1967.

BIG MOUTH

For Chewing Gum.
First use May 18, 1967.

SN 283,309. Stange Co., Chicago, Ill. Filed Oct. 25, 1967.

THERE'S A LITTLE BIT OF STANGE IN THE BEST OF EVERYTHING

For Certified Food Colors, and Food Flavorings and Seasonings Which Contain Spices or Herbs, or Extractives of Spices or Herbs, or Mixtures Thereof, All the Aforesaid Products Being for the Food Processing Industry.
First use Oct. 4, 1967.

SN 285,081. Wolf Brand Products, Corsicana, Tex. Filed Nov. 16, 1967.

WOLF

Owner of Reg. Nos. 733,879 and 826,483.
For Canned Chili Made of Beef, Chili With Beef and Macaroni, and Cheese-Chili Party Dip.
First use Oct. 1, 1923, on canned chili made of beef.

SN 285,799. The Procter & Gamble Company, Cincinnati, Ohio. Filed Nov. 29, 1967.

RESERVE

For Coffee.
First use Oct. 26, 1967.

SN 285,800. The Procter & Gamble Company, Cincinnati, Ohio. Filed Nov. 29, 1967.

AWARD

For Coffee.
First use Oct. 26, 1967.

SN 285,803. Safeway Stores, Incorporated, Oakland, Calif. Filed Nov. 29, 1967.

SAFEWAY

Owner of Reg. Nos. 224,893, 721,716, and others.
For Coffee and Fresh Orange Juice.
First use May 30, 1967.

SN 285,976. Del Mar Food Products Corporation, Watsonville, Calif. Filed Dec. 1, 1967.

Parkway

For Frozen Fruit and Berry Pies.
First use Oct. 30, 1967.

SN 286,356. Oscar Mayer & Co., Inc., Chicago, Ill. Filed Dec. 6, 1967.

GRILLWICHES

For Packaged Sandwiches.
First use Oct. 19, 1967.

SN 286,399. General Mills, Inc., Minneapolis, Minn. Filed Dec. 7, 1967.

"CAN DO"

For Flour.
First use on or prior to Oct. 1, 1966.

SN 286,400. Tri-Valley Growers, San Francisco, Calif. Filed Dec. 7, 1967.

PEACHES
JUBILEE

No claim is made to the word "Peaches" apart from the mark as shown. Owner of Reg. Nos. 769,659 and 836,401.
For Canned Peaches.
First use Sept. 30, 1967.

SN 286,468. Kellogg Company, Battle Creek, Mich. Filed Dec. 8, 1967.

HOOTS

For Vegetable and Cereal Derived Snack Food Products.
First use Nov. 29, 1967.

SN 286,471. Kellogg Company, Battle Creek, Mich. Filed Dec. 8, 1967.

COMPLETE

For Cereal-Derived Food Product To Be Used as a Breakfast Food, Snack Food, and Confection.
First use Nov. 29, 1967.

SN 286,472. Kellogg Company, Battle Creek, Mich. Filed Dec. 8, 1967.

HOWLS

For Vegetable and Cereal Derived Snack Food Products.
First use Nov. 29, 1967.

SN 286,483. Rod's Food Products, Inc., Los Angeles, Calif. Filed Dec. 8, 1967.

Starlite

For Whipped Cream.
First use Oct. 30, 1967.

SN 286,609. Louis Rich Foods, Inc., West Liberty, Iowa. Filed Dec. 11, 1967.

THREE STAR

Owner of Reg. No. 739,123.
For Fresh and Frozen Whole Turkeys and Parts Thereof.
First use 1932.

Class 47 — Wines

SN 257,054. Carl Jos. Hoch, Neustadt an der Weinstrasse, Germany. Filed Oct. 24, 1966.

HOCH'S PARADIESMILCH

The English meaning of the German word "Paradiesmilch" is "milk of paradise." Owner of German Reg. No. 685,240, dated June 29, 1955.
For Table Wine and Sparkling Wine.

Class 50 — Merchandise Not Otherwise Classified

SN 270,483. Frigid Units, Inc., Toledo, Ohio. Filed May 2, 1967.

LIVING STREAM

For Tanks for the Propagation and Storage of Marine Life.
First use on or before Apr. 3, 1967.

Class 51 — Cosmetics and Toilet Preparations

SN 258,125. Mandarin Textiles Limited, Kowloon, Hong Kong. Filed Nov. 7, 1966.

DYNASTY

Owner of Reg. Nos. 426,437, 429,026, and 430,756.
For Perfumery and Cosmetics—Namely, Women's Perfumes, Colognes, Face Creams, Personal Deodorants, Hand and Skin Lotions, Suntan Oils, Face Powders and Talcum Powders, Hair Sprays, Nail Polishes and Nail Polish Removers, Toilet Waters, Lipsticks; Men's Hair Tonics, Hair Creams, Colognes, and After Shave Lotions.
First use Mar. 13, 1946; in commerce Mar. 13, 1946.

SN 258,979. John H. Breck, Inc., Springfield, Mass. Filed Nov. 18, 1966.

COOL 'N BLONDE

Applicant disclaims the word "Blonde" apart from the mark as shown.
For Hair Coloring Preparation.
First use Nov. 3, 1966.

SN 269,518. Clairol Incorporated, New York, N.Y. Filed Apr. 19, 1967.

THE SOURCE

For Skin Moisturizing Cream.
First use Nov. 14, 1966.

SN 271,770. Clairol Incorporated, New York, N.Y. Filed May 18, 1967.

HAPPY FROSTING

Applicant disclaims the word "Frosting" apart from the mark as shown.
For Lip Color, Hair Rinse, Hair Lightener, and Nail Color.
First use Feb. 8, 1967.

Class 52 — Detergents and Soaps

SN 260,271. National Solvent Corporation, Cleveland, Ohio. Filed Dec. 7, 1966.

MISTER PLUMBER

For Liquid Drain Opener and Cleaner.
First use Sept. 21, 1966.
Subj. to Intf. with SN 283,951.

SN 265,757. West Chemical Products, Inc., Long Island City, N.Y. Filed Mar. 1, 1967.

TADOO

Owner of Reg. No. 828,676.
For Floor Cleaning and Wax Stripping Preparation.
First use Nov. 1, 1966.

SN 278,388. The Jennison-Wright Corporation, Toledo, Ohio. Filed Aug. 16, 1967.

JENNISON-WRIGHT

For Gymnasium Floor Cleaner.
First use February 1960.

SN 286,068. L.C.F., Inc., d.b.a. L.C.F. Company Inc., Los Angeles, Calif. Filed Dec. 4, 1967.

sani-clor

Owner of Reg. Nos. 254,269 and 708,607.
For Dishwashing Detergent; and General Purpose Detergent.
First use June 25, 1965.

SERVICE MARKS

Class 100 — Miscellaneous

SN 242,007. The Hambric Corporation, Birmingham, Ala. Filed Mar. 28, 1966.

QUEEN OF HEARTS

For Restaurant Services.
First use Mar. 11, 1966.

SN 252,666. The Jolly Buccaneer Root Beer Company, Ltd., Toronto, Ontario, Canada. Filed Aug. 18, 1966.



Priority claimed under Sec. 44(d) on Canadian application filed Feb. 25, 1966; Reg. No. 149,533, dated Feb. 24, 1967.
For Restaurant, Catering and Banqueting Services.

SN 254,223. B.T.S. Franchising Systems, Inc., New Haven, Conn. Filed Sept. 12, 1966.

ON THE CROSS ROADS OF THE U.S.A.

For Restaurant Services.
First use Aug. 11, 1966.

SN 265,429. Motorola, Inc., Franklin Park, Ill. Filed Feb. 24, 1967.

COMMUNITY RADIO WATCH

The drawing is lined for the colors red and blue.
For Conducting a Program To Encourage Users of Two-Way Radio Mobile Communication Equipment To Cooperate With Law Enforcement and Public Safety Organizations by Prmoptly Reporting Suspicious and Unusual Occurrences.
First use Dec. 21, 1966.

SN 267,152. Houston Engineering Research Corporation, Houston, Tex. Filed Mar. 20, 1967.

HERCO

For Research and Consulting Services in the Fields of Science and Engineering.
First use Mar. 1, 1961.

SN 274,262. Texaco Experiment Incorporated, Richmond, Va. Filed June 19, 1967.

TEXACO
EXPERIMENT INCORPORATED

The drawing is lined for the color red, but no claim is made to color. Owner of Reg. No. 742,100.
For Research and Development Services for Others in the Fields of Chemistry Development, Propulsion and Gun Systems Development, Process Development, and Product Engineering.
First use Nov. 21, 1966.

SN 274,316. Franklin Gno Corporation, West Palm Beach, Fla. Filed June 20, 1967.

GNO

Owner of Reg. Nos. 804,407 and 813,950.
For Scientific and Engineering Analysis and Development Services for Others, Primarily in the Field of Atomic Energy Applications and Nuclear Methods of Measurement and Control.
First use Sept. 15, 1964.

SN 274,965. Jack Frost Sales, Inc., Chicago, Ill. Filed June 28, 1967.

THE STORE

For Operation of Establishments Which Feature Food, Drink, and Entertainment.
First use on or about June 26, 1964.

Class 101 — Advertising and Business

SN 251,706. Glendinning Companies, Inc., Westport, Conn., by merger and change of name from The Chase Company, Inc., Westport, Conn. Filed Aug. 4, 1966.

PRIZE PICTURES

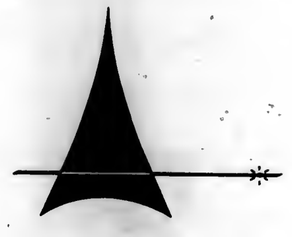
For Conducting Promotional Game Programs of the Public-Participation Type for Retail Businesses of Others.
First use Apr. 8, 1966.

SN 255,488. Western Motels, Inc., Phoenix, Ariz. Filed Sept. 29, 1966.

THE BEST Western MOTELS

The drawing is lined for the colors red, blue, and gold. Applicant disclaims the exclusive right to the use of the words "Best" and "Motels" apart from the mark as shown. Owner of Reg. Nos. 677,103, 687,405, and 769,314.
For Advertising Motel Services Offered by Associated Independent Motel Operators and for Promotional and Advisory Services to Associated Independent Motel Operators.
First use Feb. 1, 1962.

SN 260,507. Action Listings, Inc., Chicago Heights, Ill. Filed Dec. 12, 1966.



For Providing Those Who Wish To Buy, Lease, Rent or Charter Construction Equipment, Airplanes and Other Vehicles, With the Identities of Those Who Have the Same Available for Sale, Lease, Rent or Charter, and Vice Versa.
First use on or about Nov. 3, 1966.

SN 260,593. James R. Shaughnessy, Clayton, Mo. Filed Dec. 12, 1966.

FOUR FOR THE MONEY

For Promoting the Sale of Goods of Others by Means of a Contest.
First use Nov. 27, 1966.

SN 262,922. Chefare, Inc., Bala-Cynwyd, Pa. Filed Jan. 20, 1967.

Chefare

For Operation of Kitchens in Institutions and Restaurants for Others.
First use January 1966.

SN 263,176. Glendinning Companies, Inc., Westport, Conn. Filed Jan. 24, 1967.

Parade of Prizes

Applicant disclaims the word "Prizes" apart from the mark as shown.
For Conducting Promotional Game Programs of the Public-Participation Type for Retail Businesses of Others.
First use Aug. 3, 1966.

SN 282,519. Neighborhood Markets, Inc., Jersey City, N.J. Filed Oct. 16, 1967.

PATHWAY

For Retail Food Supermarket Services.
First use Sept. 29, 1967.

Class 102 — Insurance and Financial

SN 261,186. American Credit Indemnity Company of New York, New York, N.Y. Filed Dec. 21, 1966.

ACI
SINCE 1893

Applicant disclaims the factual notation, "Since 1893."
For Underwriting Credit Insurance.
First use May 10, 1923.

SN 266,182. Underwriters National Assurance Company, Indianapolis, Ind. Filed Mar. 7, 1967.

UNAC

For Underwriting Health, Accident, and Life Insurance.
First use on or about Aug. 1, 1964.

SN 269,966. Bank of the Southwest, Amarillo, Tex. Filed Apr. 25, 1967.



For Banking Services.
First use on or about Feb. 1, 1964.

SN 279,778. The American Automobile Association (Incorporated), Washington, D.C. Filed Sept. 7, 1967.

AAA

Owner of Reg. Nos. 547,321, 629,114, and 829,265.
For Financial Services—Namley, Issuance, Payment, and Collection of Travelers' Checks.
First use June 1, 1967.

Class 103 — Construction and Repair

SN 238,583. Totem Equipment Company, Inc., Seattle, Wash. Filed Feb. 10, 1966.

TOTEM

For Servicing and Repairing Heavy Materials Handling Equipment, Logging and Lumber Mill Equipment, Refuse Handling and Disposal Equipment, and Street Cleaning Equipment.
First use on or about Oct. 15, 1954.

SN 248,967. Cardoc Incorporated, La Mesa, Calif. Filed June 27, 1966.

CARDOC

For Auto Diagnosis and Repair Services.
First use May 11, 1964.

SN 265,648. Pennzoil Company, Oil City, Pa. Filed Feb. 28, 1967.

PENNZOIL

The drawing is lined for red and yellow. Owner of Reg. Nos. 320,397 and 719,150.
For Automobile Service Station Services.
First use Sept. 2, 1966.

SN 270,295. Sparkle Cleansers, Inc., Brookline, Mass. Filed Apr. 28, 1967.

SPARKLE

For Dry Cleaning and Laundry Services.
First use at least as early as May 1948.

SN 270,619. Strato-Valet Service, Inc., Nashville, Tenn. Filed May 3, 1967.

Stratovalet Service

Applicant disclaims the word "Service" separate and apart from the mark.
For Clothing Rental Services, Including Uniforms, Work Pants, and Shirts.
First use Mar. 27, 1967.

SN 274,215. Kayo Oil Company, Chattanooga, Tenn. Filed June 19, 1967.



The drawing is lined for red. Owner of Reg. No. 717,747.
For Servicing Automobiles.
First use June 1952.

SN 276,286. Auto Rescue Sales, Ltd., Denver, Colo. Filed July 19, 1967.



Exclusive rights in and to the terms "24 Hour," "Auto," and "Service" are disclaimed apart from the mark as shown.
For Emergency Repairing and Servicing of Automobiles.
First use Oct. 15, 1961.

Class 105 — Transportation and Storage

SN 284,331. General Air Freight Corp., Philadelphia, Pa. Filed Nov. 8, 1967.

GAF

For Transportation of Freight by Truck and the Forwarding of Freight by Air and Sea.
First use June 12, 1967.

Class 107 — Education and Entertainment

SN 236,024. Tennessee Walking Horse National Celebration Association, Shelbyville, Tenn. Filed Jan. 7, 1966.

CELEBRATION, INC.

For Conducting Trials of Walking Horses and Reporting Results Thereof.
First use June 1950.

SN 246,183. Latin American Mission, Bogota, N.J. Filed May 20, 1966.

EVANGELISM-IN-DEPTH

For Organization, Promotion and Sponsorship of Evangelistic Campaigns.
First use about February 1959.

SN 247,778. Computer Institute, Inc., Riverside, Calif. Filed June 10, 1966.

CRI COMPUTER RESEARCH INSTITUTE

The words "Computer Research Institute" are disclaimed apart from the mark as shown.
For Correspondence Course Instruction in Data Processing and Related Activities, Including Methods of Computer Programming and System Analysis.
First use on or about Mar. 1, 1966.

SN 254,364. Acropolis Record Company, Inc., Lawrence, Kans. Filed Sept. 13, 1966.

THE SOOTHSAYERS

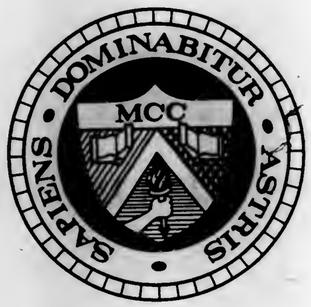
For Musical Entertainment Services Rendered by a Band and Vocalists.
First use Feb. 3, 1966.

SN 260,055. Leo and Sir Robert's, Inc., d.b.a. Pivot Point International, Chicago, Ill. Filed Dec. 5, 1966.



For Education and Training of Others in Hair Styling and Design.
First use Nov. 28, 1965.

SN 262,708. Management Center of Cambridge, Inc., Waltham, Mass. Filed Jan. 17, 1967.



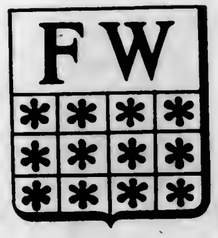
"Sapiens Dominabitur Astris" reads in English translation "the wise man will rule the stars."
For Arranging Business Management Seminars for Enrollees.
First use May 13, 1966.

SN 269,175. Famous Artists Schools, Inc., Westport, Conn. Filed Apr. 14, 1967.



Owner of Reg. No. 730,575.
For Correspondence Courses in Art.
First use Feb. 17, 1967.

SN 269,176. Famous Artists Schools, Inc., Westport, Conn. Filed Apr. 14, 1967.



Owner of Reg. No. 736,934.
For Correspondence Courses in Writing.
First use Mar. 15, 1967.

SN 282,420. Riko Enterprises, Inc., Philadelphia, Pa. Filed Oct. 13, 1967.

PHILADELPHIA 76ERS

The word "Philadelphia" is disclaimed apart from the mark as shown.
For Entertainment Services in the Nature of Basketball Exhibitions Rendered Live and Through the Media of Radio and Television Broadcasts.
First use July 1963.

SN 285,805. The Voice of Orange Empire, Inc., Santa Ana, Calif. Filed Nov. 29, 1967.

INSTANT REQUEST

For Radio Program Devoted to Playing Specifically Requested Song Recordings.
First use Oct. 23, 1967.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 260,676. The Ninety-Nines, Inc., Oklahoma City, Okla. Filed Dec. 13, 1966.



The drawing is lined for the color blue. The mark is comprised of the face of a compass with the number "99" disposed in the center thereof.
For Indicating Membership in the Association.
First use Jan. 1, 1940.

SN 268,522. Non Smokers League, Honolulu, Hawaii. Filed Apr. 6, 1967.



For Indicating Membership in Applicant.
First use Mar. 14, 1967.

SN 277,004. Ladies' Auxiliary Chapter No. 1, Local 542, International Union of Operating Engineers, Harrisburg, Pa. Filed July 28, 1967.



For Indicating Membership in the Organization.
First use September 1965.

CERTIFICATION MARKS

Class B — Services

SN 248,852. Service d'Information-(CD) Code Diplomatique & Consulaire Corp., Washington, D.C. Filed June 23, 1966.



The mark certifies that the services rendered meet certain standards specified by applicant.
For Hotel and Restaurant Services.
First use 1964.

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

844,785. E AND DESIGN. Exeter Bentgrass Association. SN 249,965. Pub. 12–12–67. Filed 7–11–66.

844,786. FRIENDLY FIRE LOG. Western Research & Scientific Laboratories, Inc., d.b.a. Western Research & Scientific Labs., Inc. SN 256,489. Pub. 12–12–67. Filed 10–14–66.

844,787. THE RUBBER HOUSE AND DESIGN. The Rubber House, Inc. MULTIPLE CLASS (Classes 1, 35, and 39). SN 257,514. Pub. 12–12–67. Filed 10–28–66.

844,788. TROPHY (DESIGN). Borg-Warner Corporation. MULTIPLE CLASS (Classes 1, 23, and 31). SN 260,204. Pub. 12–12–67. Filed 12–7–66.

844,789. HYTRANS AND DESIGN. National Distillers and Chemical Corporation. SN 260,568. Pub. 12–12–67. Filed 12–12–66.

844,790. L. ANTLES POLLEN AND DESIGN. Lucille S. Antles, d.b.a. Antles Pollen Supplies. SN 262,253. Pub. 12–12–67. Filed 1–10–67.

844,791. DESIGN OF A CAT. Johnson-March Corporation, d.b.a. Triple E Co. SN 262,591. Pub. 12–12–67. Filed 1–16–67.

844,792. DYLEL. Sinclair-Koppers Company. SN 263,850. Pub. 12–12–67. Filed 2–2–67.

844,793. ZING. Allied Kid Company. SN 263,882. Pub. 12–12–67. Filed 2–3–67.

844,794. TROSIPLAST. Dynamit Nobel Aktiengesellschaft. SN 264,043. Pub. 12–12–67. Filed 2–6–67.

844,795. METHACRYLAGLAS. Rexall Drug and Chemical Company, d.b.a. Fiberfil. SN 264,103. Pub. 12–12–67. Filed 2–6–67.

844,796. RETSINA. Allied Kid Company. SN 264,716. Pub. 12–12–67. Filed 2–15–67.

844,797. HICKORY RIVER. Standard Milling Company. SN 276,709. Pub. 12–12–67. Filed 7–24–67.

Class 2 — Receptacles

844,798. REVOLIT AND DESIGN. Reppel & Vollmann. SN 233,821. Pub. 12–12–67. Filed 12–2–65.

844,799. DISGUISO. Studley Paper Company, Inc. SN 243,925. Pub. 12–12–67. Filed 4–20–66.

844,800. POULTRY-PAK. Keyes Fibre Company. SN 255,629. Pub. 12–12–67. Filed 10–3–66.

844,801. LONGLIFE. Sternco Industries, Inc. MULTIPLE CLASS (Classes 2 and 50). SN 268,774. Pub. 12–12–67. Filed 4–10–67.

844,802. GARDEN-PAKS. Ranco Container Products Limited. SN 272,092. Pub. 12–12–67. Filed 5–22–67.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

844,803. PRINCESS. Prince Gardner Company, Inc. SN 265,332. Pub. 12–12–67. Filed 2–23–67.

844,804. PARKEY. Jacoby-Bender, Inc. SN 266,423. Pub. 12–12–67. Filed 3–10–67.

844,805. PRO-STRIPE. Loyal Gift Products Inc. SN 267,758. Pub. 12–12–67. Filed 3–28–67.

Class 4 — Abrasives and Polishing Materials

844,806. REPRESENTATION OF A HOUSE (DESIGN). The Drackett Company. SN 246,762. Pub. 12–12–67. Filed 5–27–66.

844,807. NEW FROM DRACKETT AND REPRESENTATION OF HOUSE. The Drackett Company. SN 246,763. Pub. 12–12–67. Filed 5–27–66.

Class 5 — Adhesives

844,808. ERCONA. Ercona Adhesives Ltd. SN 266,745. Pub. 12–12–67. Filed 3–15–67.

Class 6 — Chemicals and Chemical Compositions

844,809. MALIBAN AND DESIGN. Moser Paper Company. SN 231,173. Pub. 12–12–67. Filed 10–22–65.

844,810. WATCOA. Water Treatment Corporation of America. SN 245,783. Pub. 12–12–67. Filed 5–16–66.

844,811. TECHNIRHODIUM. Technic, Inc. SN 247,083. Pub. 12–12–67. Filed 6–1–66.

844,812. UNI/FLEX. Medical Supply Company. MULTIPLE CLASS (Classes 6, 18, and 44). SN 250,670. Pub. 12–12–67. Filed 7–20–66.

844,813. MIRROR-CLEAR. Kirk A. Dutton, D.D.S. SN 251,521. Pub. 12–12–67. Filed 8–2–66.

844,814. PHY-LAB AND DESIGN. Physicians and Hospitals Supply Co., Inc. MULTIPLE CLASS (Classes 6 and 26). SN 251,946. Pub. 12–12–67. Filed 8–8–66.

844,815. LUNITE. Vac-Hyd Processing Corporation. SN 253,932. Pub. 8–29–67. Filed 9–6–66.

844,816. WINE-ART. Wine-Art Sales Ltd. MULTIPLE CLASS (Classes 6 and 46). SN 254,761. Pub. 12–12–67. Filed 9–20–66.

844,817. WINE-ART AND DESIGN. Wine-Art Sales Ltd. MULTIPLE CLASS (Classes 6 and 46). SN 254,762. Pub. 12–12–67. Filed 9–20–66.

844,818. WHITCON. Whitford Chemical Corporation. SN 259,496. Pub. 12–12–67. Filed 11–25–66.

844,819. TOP HAT AND DESIGN. Midlands Chemical Corporation. SN 259,950. Pub. 12–12–67. Filed 12–2–66.

844,820. ROYAL QUALITY PRODUCTS AND DESIGN. H. M. Royal, Incorporated. SN 262,867. Pub. 12–12–67. Filed 1–19–67.

844,821. PCR AND DESIGN. Peninsular Chemresearch, Inc. SN 264,876. Pub. 12–12–67. Filed 2–7–67.

844,822. BOUTIQUE. The Drackett Company. SN 264,918. Pub. 12–12–67. Filed 2–17–67.

844,823. WOOL-DET. Thompson-Hayward Chemical Company. SN 265,359. Pub. 12–12–67. Filed 2–23–67.

844,824. OTT (DESIGN). The Ott Chemical Company. SN 267,263. Pub. 12–12–67. Filed 3–21–67.

844,825. AQUATROL. Bates Manufacturing Company, Incorporated. SN 267,716. Pub. 12–12–67. Filed 3–28–67.

844,826. CHEXHEVE. Diamond Alkali Company. SN 271,575. Pub. 12–12–67. Filed 5–16–67.

844,827. USS AND DESIGN. United States Steel Corporation. SN 277,869. Pub. 12–12–67. Filed 8–9–67.

844,828. TSI AND DESIGN. Testing Systems, Inc. MULTIPLE CLASS (Classes 6 and 26). SN 278,559. Pub. 12–12–67. Filed 8–18–67.

844,829. SLIDE. Percy Harms Corporation. MULTIPLE CLASS (Classes 6 and 15). SN 278,852. Pub. 12–12–67. Filed 8–23–67.

Class 7 — Cordage

844,830. FRONTIER. N.V. Lankhorst Touwfabrieken. SN 258,134. Pub. 12–12–67. Filed 11–7–66.

844,831. DESERT ROSE. N.V. Lankhorst Touwfabrieken. SN 260,673. Pub. 12–12–67. Filed 12–13–66.

844,832. HOTFLEX. The Caldwell Company, Inc. SN 269,169. Pub. 12–12–67. Filed 4–14–67.

Class 8 — Smokers' Artides, Not Including Tobacco Products

844,833. ELEPHANT (DESIGN). Robert F. Winans. SN 261,244. Pub. 12–12–67. Filed 12–21–66.

844,834. VISI-TANK. Jacques Kreisler Manufacturing Corporation. SN 264,549. Pub. 12–12–67. Filed 2–13–67.

844,835. "GO-GO-OUT." Elizabeth F. Adams and Anthony W. Du Pont, Jr. (partnership). SN 279,593. Pub. 12–12–67. Filed 9–5–67.

Class 10 — Fertilizers

844,836. GULF AND DESIGN. Gulf Oil Corporation. SN 219,118. Pub. 12–12–67. Filed 5–18–65.

Class 11 — Inks and Inking Materials

844,837. OPCO. John C. Walter, d.b.a. Organic Products Company. SN 252,917. Pub. 10–17–67. Filed 8–22–66.

Class 12 — Construction Materials

844,838. JARGAL. L'Electro-Refractaire. SN 245,498. Pub. 12–12–67. Filed 5–12–66.

844,839. STAR STUDS AND DESIGN. Star Valley Lumber Co. SN 260,607. Pub. 12–12–67. Filed 12–12–66.

844,840. NUTSHELL AND DESIGN. Acorn Structures, Inc. SN 260,913. Pub. 12–12–67. Filed 12–16–66.

844,841. ARDIT. Ardex Chemie GmbH, Chemische Fabrik Witten. SN 261,032. Pub. 12–12–67. Filed 12–19–66.

844,842. ALL WEATHER 316. Edward Hines Lumber Co. SN 275,417. Pub. 12–12–67. Filed 7–6–67.

844,843. CONFAX. Foseco Trading AG. SN 280,581. Pub. 12–12–67. Filed 9–18–67.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

844,844. DECOR. Shelby Corporation. SN 248,057. Pub. 12–12–67. Filed 6–14–66.

844,845. TP,I. Taylor Plastics, Inc. SN 257,732. Pub. 12–12–67. Filed 11–1–66.

844,846. BETTY BEST AND DESIGN. G & S Metal Products Co., Inc. SN 264,207. Pub. 12–12–67. Filed 2–8–67.

844,847. FORM-FAST. The Fastron Co. SN 265,509. Pub. 12–12–67. Filed 2–27–67.

844,848. DIAL MASTER. H. B. Sherman Manufacturing Company. SN 265,562. Pub. 12–12–67. Filed 2–27–67.

844,849. DIAL KING. H. B. Sherman Manufacturing Company. SN 265,563. Pub. 12–12–67. Filed 2–27–67.

844,850. SARGENT AND DESIGN. Sargent & Company (Delaware corporation), assignee of Sargent & Company (Connecticut corporation). MULTIPLE CLASS (Classes 13 and 25). SN 265,584. Pub. 12–12–67. Filed 2–28–67.

844,851. THERM-A-CREAMER. Progressive Metal Equipment, Inc., d.b.a. Progressive Metal Equipment Inc., Progressive Metal Equip't Inc., and Progressive Metal Equipment Incorporated. SN 265,733. Pub. 12–12–67. Filed 3–1–67.

844,852. OLKEN BUCKET. Ronard Industries, Inc. SN 265,735. Pub. 12–12–67. Filed 3–1–67.

844,853. CASCADE. American Cyanamid Company. SN 265,881. Pub. 12–12–67. Filed 3–3–67.

844,854. STAB-CLAD. Dresser Industries, Inc. SN 266,204. Pub. 12–12–67. Filed 3–8–67.

844,855. BARLOK. Barwood Manufacturing Corp. SN 266,300. Pub. 12–12–67. Filed 3–9–67.

844,856. SKITERS. Tompkins Industries. SN 267,204. Pub. 12–12–67. Filed 3–20–67.

844,857. BOL-BOLTS. William H. Harvey Company. SN 267,945. Pub. 12–12–67. Filed 3–30–67.

844,858. BOL-CAPS. William H. Harvey Company. SN 267,946. Pub. 12–12–67. Filed 3–30–67.

844,859. LION. Southco, Inc. SN 268,435. Pub. 12–12–67. Filed 4–5–67.

844,860. LAVALIER. Milwaukee Faucets, Inc. SN 268,512. Pub. 12–12–67. Filed 4–6–67.

844,861. SLANT. Rockwell-Standard Corporation. SN 269,107. Pub. 12–12–67. Filed 4–13–67.

Class 14 — Metals and Metal Castings and Forgings

844,862. UNISMALT. Italsider S.p.A. SN 245,199. Pub. 12–12–67. Filed 5–9–66.

844,863. WEIRCHROME. National Steel Corporation. SN 260,875. Pub. 12–12–67. Filed 12–15–66.

Class 15 — Oils and Greases

844,829. (See Class 6 for this trademark.)

844,864. BIRD WITH OUTSTRETCHED WINGS (DESIGN). Fleet-Wing Corporation. SN 253,136. Pub. 12–12–67. Filed 8–25–66.

844,865. CANDLE DROPS. Village Bath Products, Inc. SN 260,118. Pub. 12–12–67. Filed 12–2–66.

844,866. BERGLUBE. Berg Mfg. & Sales Co. SN 266,499. Pub. 12–12–67. Filed 3–13–67.

844,867. AMOCO AND DESIGN. The American Oil Company. SN 268,464. Pub. 12–12–67. Filed 4–6–67.

844,868. AMOCO AND DESIGN WITHOUT COLOR. The American Oil Company. SN 268,465. Pub. 12–12–67. Filed 4–6–67.

844,869. TRAVELENE. Strauss Stores Corporation. SN 281,017. Pub. 12–12–67. Filed 9–25–67.

Class 16 — Protective and Decorative Coatings

844,870. CHEMSTOP. Chemsearch Corporation. SN 240,582. Pub. 5–23–67. Filed 3–10–66.

844,871. SHIP-COTE. Ellis Paint Company, Inc. SN 265,893. Pub. 12–12–67. Filed 3–3–67.

844,872. PLUGIT. General Waterproofing Corporation. SN 267,032. Pub. 12–12–67. Filed 3–17–67.

844,873. ALMART. Salem Paint Inc. SN 267,064. Pub. 12–12–67. Filed 3–17–67.

Class 17—Tobacco Products

844,874. RED MAN. The Pinkerton Tobacco Co. SN 265,210. Pub. 12–12–67. Filed 2–21–67.

844,875. ROY AND DESIGN. Philip Morris Incorporated. SN 272,786. Pub. 12–12–67. Filed 6–1–67.

844,876. CENTURY. P. Lorillard Company. SN 275,447. Pub. 12–12–67. Filed 7–6–67.

844,877. PEAK. The American Tobacco Company. SN 280,292. Pub. 12–12–67. Filed 9–14–67.

Class 18—Medicines and Pharmaceutical Preparations

844,812. (See Class 6 for this trademark.)

844,878. ACTIVITE. The Purdue Frederick Company, by assignment and merger from International Latex Corporation. SN 223,676. Pub. 12–20–66. Filed 7–19–65.

844,879. MR. CORN HUSKERS. Warner-Lambert Pharmaceutical Company. SN 245,048. Pub. 11–1–66. Filed 5–6–66.

844,880. BARBONIN. Knoll A.-G. Chemische Fabriken. SN 246,912. Pub. 12–12–67. Filed 5–31–66.

844,881. O-DUE. Istituto Farmochimico Falorni. SN 255,902. Pub. 12–12–67. Filed 10–6–66.

844,882. EQUI-PED. Veterinary Research Institute, assignee of Veterinary Supply Depot Incorporated. SN 256,781. Pub. 11–14–67. Filed 10–19–66.

844,883. EQUI-PREP. Veterinary Research Institute, assignee of Veterinary Supply Depot Incorporated. SN 257,113. Pub. 11–14–67. Filed 10–24–66.

844,884. HY GEE. Sheldon M. Hall, d.b.a. Hy G Laboratories. SN 258,693. Pub. 12–12–67. Filed 11–15–66.

844,885. FERREQUINA. Naremco, Inc. SN 258,711. Pub. 12–12–67. Filed 11–15–66.

844,886. LACRICARPINE. Merck & Co., Inc. SN 260,168. Pub. 12–12–67. Filed 12–6–66.

844,887. HETRUM. Eli Lilly and Company. SN 260,927. Pub. 12–12–67. Filed 12–16–66.

844,888. LUBRICORT. Texas Pharmacal Company. SN 261,602. Pub. 12–12–67. Filed 12–28–66.

844,889. OASIS. Bristol-Myers Company. SN 262,670. Pub. 12–12–67. Filed 1–17–67.

844,890. DARE. Bristol-Myers Company. SN 262,679. Pub. 12–12–67. Filed 1–17–67.

844,891. IRON HORSE. Naremco, Inc. SN 266,443. Pub. 12–12–67. Filed 3–10–67.

844,892. RW RABIN-WINTERS. Brunswig Drug Company. SN 266,612. Pub. 12–12–67. Filed 3–13–67.

844,893. AMCORT. Texas Pharmacal Company. SN 274,682. Pub. 12–12–67. Filed 6–26–67.

844,894. DURADEXON. Organon Inc. SN 277,566. Pub. 12–12–67. Filed 8–4–67.

844,895. SUNBURST (DESIGN). Allied Mills, Inc. SN 280,836. Pub. 12–12–67. Filed 9–21–67.

Class 19—Vehicles

844,896. JERSEY ANGEL. Arthur B. Fletcher, d.b.a. Fletcher Marine Products. SN 248,693. Pub. 12–12–67. Filed 6–22–66.

844,897. JERSEY DEVIL. Arthur B. Fletcher, d.b.a. Fletcher Marine Products. SN 248,694. Pub. 12–12–67. Filed 6–22–66.

844,898. SUNSET AND DESIGN. The Commodore Corporation. SN 259,899. Pub. 12–12–67. Filed 12–2–66.

844,899. SUMIRIDE. Sumitomo Metal Industries, Ltd. SN 263,492. Pub. 12–12–67. Filed 1–27–67.

844,900. SKYLARK. General Motors Corporation. SN 263,759. Pub. 12–12–67. Filed 2–1–67.

844,901. DU-ALL STAIRMOBILE. Joseph G. Verschingel, d.b.a. Electrical Machinery Co. SN 263,967. Pub. 12–12–67. Filed 2–3–67.

844,902. WINDLE AIRE AND DESIGN. W. W. Windle Company. SN 264,119. Pub. 12–12–67. Filed 2–6–67.

844,903. LEISURE TIME. Leisure Time Products, Inc. SN 264,219. Pub. 12–12–67. Filed 2–8–67.

844,904. SOUTHWOOD. Redman Industries, Inc. SN 264,245. Pub. 12–12–67. Filed 2–8–67.

844,905. SPARLITE. Redman Industries, Inc. SN 264,247. Pub. 12–12–67. Filed 2–8–67.

844,906. SEAQUEEN. Southern Fiber Glass Products, Inc. SN 272,415. Pub. 12–12–67. Filed 5–25–67.

844,907. MONTE CARLO. Southern Fiber Glass Products, Inc. SN 272,417. Pub. 12–12–67. Filed 5–25–67.

844,908. TORNADO. Southern Fiber Glass Products, Inc. SN 272,419. Pub. 12–12–67. Filed 5–25–67.

844,909. 1 WITHIN CIRCLE AND DESIGN. Formula I Enterprises, Inc. SN 278,294. Pub. 12–12–67. Filed 8–15–67.

Class 20—Linoleum and Oiled Cloth

844,910. CHANTILLY. Kentile Floors Inc. SN 252,854. Pub. 12–12–67. Filed 8–22–66.

844,911. BEAUSHARD. Kentile Floors Inc. SN 252,855. Pub. 12–12–67. Filed 8–22–66.

844,912. VINCO. Stauffer Chemical Company. SN 264,883. Pub. 10–10–67. Filed 2–17–67.

Class 21—Electrical Apparatus, Machines, and Supplies

844,913. B AND DESIGN. The Barkelew Electric Manufacturing Company. SN 233,866. Pub. 12–12–67. Filed 12–8–65.

844,914. BENCO-LITE. Bender Electronics Corporation. SN 241,739. Pub. 12–12–67. Filed 3–24–66.

844,915. OLSON. Olson Electronics, Inc. MULTIPLE CLASS (Classes 21, 26, and 36). SN 243,937. Pub. 12–12–67. Filed 4–21–66.

844,916. DRI-BOOT. Trimac Engineering, Inc. SN 245,773. Pub. 12–12–67. Filed 5–16–66.

844,917. MONOLINE. National Automotive Parts Association. SN 247,612. Pub. 12–12–67. Filed 6–8–66.

844,918. SULZER. Sulser Brothers Limited. SN 253,455. Pub. 12–12–67. Filed 8–30–66.

844,919. IEE AND DESIGN. Industrial Electronic Engineers, Inc. SN 253,879. Pub. 10–24–67. Filed 9–6–66.

844,920. SILENT DRAW. Newell Mfg. Co. SN 260,272. Pub. 12–12–67. Filed 12–7–66.

844,921. AUTOMARK. The Jay International Corp. SN 261,085. Pub. 12–12–67. Filed 12–19–66.

844,922. LITE-OF-THE-PARTY. Nicholl Brothers, Inc. SN 262,056. Pub. 12–12–67. Filed 1–6–67.

844,923. STORNO. Det Store Nordiske Telegraf-Selskab (Aktieselskab). SN 269,296. Pub. 12–12–67. Filed 4–17–67.

844,924. STORNOPHONE. Det Store Nordiske Telegraf-Selskab (Aktieselskab). SN 269,297. Pub. 12–12–67. Filed 4–17–67.

Class 22—Games, Toys, and Sporting Goods

844,925. ESCALATION THE LAST-WORD GAME AND DESIGN. Stanley Joseloff. SN 231,570. Pub. 12–12–67. Filed 10–24–65.

844,926. R GEO. A. REACH AND DESIGN. The Geo. A. Reach Company. SN 250,768. Pub. 12–12–67. Filed 7–21–66.

844,927. "MYSTERY TIC-TAC-TOE." Gateway Promotions, Inc. SN 253,139. Pub. 12–12–67. Filed 8–25–66.

844,928. FREAKOUT. Robert M. Leventhal. SN 254,295. Pub. 12–12–67. Filed 9–12–66.

844,929. AN EDUCITING GAME. Richard H. Higgins. SN 255,979. Pub. 12–12–67. Filed 10–7–66.

844,930. ARADO. Allgemeiner Zentralverein zur Forderung Schopferischen Schaffens. SN 256,260. Pub. 12–12–67. Filed 10–12–66.

844,931. WINDANSEA. William McKusick. SN 257,068. Pub. 12–12–67. Filed 10–24–66.

844,932. HI BALL. Random Consumer Products Limited. SN 257,405. Pub. 12–12–67. Filed 10–27–66.

844,933. SWISSLANDER. Vornado, Inc. SN 260,109. Pub. 12–12–67. Filed 12–5–66.

844,934. LUFTMEISTER. Vornado, Inc. SN 260,110. Pub. 12–12–67. Filed 12–5–66.

844,935. PORTA-LITE. Union Steel Chest Corporation. SN 261,536. Pub. 12–12–67. Filed 12–27–66.

844,936. CANADIAN COMET. Brookfield Athletic Shoe Company, Inc. SN 262,851. Pub. 11–21–67. Filed 1–19–67.

844,937. PUTT TRAC. James E. Donaldson, d.b.a. Putt Trac Golf Sales. SN 263,363, Pub. 12–12–67. Filed 1–26–67.

844,938. PENNSYLVANIA. The General Tire & Rubber Company. SN 264,736. Pub. 12–12–67. Filed 2–15–67.

844,939. SNIFFLES 'N SNEEZES. J. Swedlin, Inc., d.b.a. Gund Manufacturing Company. SN 265,661. Pub. 12–12–67. Filed 2–28–67.

844,940. SLAP TRAP. Ideal Toy Corporation. SN 265,901. Pub. 12–12–67. Filed 3–3–67.

844,941. FISCHER. Josef Fischer, d.b.a. Sportartikelerzeugung. SN 266,151. Pub. 12–12–67. Filed 3–7–67.

844,942. WOOD-HOOD. Kebek Industries, Inc. SN 266,235. Pub. 12–12–67. Filed 3–8–67.

844,943. TOP NOTCH. Wilson Sporting Goods Co., assignee of Wilson Sporting Goods Co. SN 267,369. Pub. 12–12–67. Filed 3–22–67.

844,944. FAT SAM. De Luxe Topper Corporation. SN 267,618. Pub. 12–12–67. Filed 3–27–67.

844,945. FIGHTING EAGLE. Louis Marx & Co., Inc. SN 267,960. Pub. 12–12–67. Filed 3–30–67.

844,946. COMANCHE. Louis Marx & Co., Inc. SN 267,961. Pub. 12–12–67. Filed 3–30–67.

844,947. INTERNATIONAL AND DESIGN. Pflueger Corporation. SN 268,065. Pub. 12–12–67. Filed 3–31–67.

844,948. DESIGN OF A GEM. Columbia Industries, Inc. SN 268,581. Pub. 12–12–67. Filed 4–7–67.

844,949. TING-A-LING. J. Swedlin, Inc., d.b.a. Gund Mfg. Co. SN 268,778. Pub. 12–12–67. Filed 4–10–67.

844,950. DING-A-LING. J. Swedlin, Inc., d.b.a. Gund Mfg. Co. SN 268,780. Pub. 12–12–67. Filed 4–10–67.

844,951. RING-A-TING. J. Swedlin, Inc., d.b.a. Gund Mfg. Co. SN 268,784. Pub. 12–12–67. Filed 4–10–67.

844,952. COUP D'ETAT. Parker Brothers, Inc. SN 268,989. Pub. 12–12–67. Filed 4–12–67.

844,953. "CARROT TOP." Alexander Doll Company, Inc., d.b.a. Madame Alexander. SN 269,041. Pub. 12–12–67. Filed 4–13–67.

844,954. TAKE-A-LONG. Hassenfeld Bros. Inc. SN 269,888. Pub. 12–12–67. Filed 4–24–67.

844,955. NEVATEAR. Everlast World's Boxing Headquarters Corporation. SN 269,982. Pub. 12–12–67. Filed 4–25–67.

844,956. LORELEI LOCKET. Mattel, Inc. SN 274,149. Pub. 12–12–67. Filed 6–19–67.

844,957. LOTTIE LOCKET. Mattel, Inc. SN 274,158. Pub. 12–12–67. Filed 6–19–67.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

844,788. (See Class 1 for this trademark.)

844,958. MILLER-VIBRAMITE. The Renner Company, d.b.a. The Miller Spreader Company. SN 192,203. Pub. 2–16–65. Filed 4–28–64.

844,959. WHITEY'S CAB-O. Edwin W. O'Neal. SN 208,381. Pub. 8–30–66. Filed 12–17–64.

844,960. HARTMANN. Koehring Company, assignee of Hartmann Manufacturing Company. SN 214,645. Pub. 1–11–66. Filed 3–22–65.

844,961. CHISEL-PLANTER. J. I. Case Company. SN 252,541. Pub. 12–12–67. Filed 8–17–66.

844,962. LEVERWRENCH. Leverage Tools, Inc. SN 255,632. Pub. 12–12–67. Filed 10–3–66.

844,963. UNI PAC. Faull & Son Tool and Die Company. SN 257,839. Pub. 12–12–67. Filed 11–3–66.

844,964. SHEETMASTER AND DESIGN. Sheetmaster Corporation. SN 258,256. Pub. 10–10–67. Filed 11–8–66.

844,965. STENOPRINT. The Hedman Company. SN 262,789. Pub. 12–12–67. Filed 1–18–67.

844,966. CONE-COIL. John R. Kovar Mfg. Co., Inc. SN 263,184. Pub. 12–12–67. Filed 1–24–67.

844,967. ASPCO. Asphalt Sealer Products Company, Inc. MULTIPLE CLASS (Classes 23 and 29). SN 265,946. Pub. 12–12–67. Filed 3–6–67.

844,968. NINE FLAGS. The Gillette Company. MULTIPLE CLASS (Classes 23, 51, and 52). SN 270,812. Pub. 12–12–67. Filed 5–1–67.

Class 25—Locks and Safes

844,850. (See Class 13 for this trademark.)

Class 26—Measuring and Scientific Appliances

844,814. (See Class 6 for this trademark.)

844,828. (See Class 6 for this trademark.)

844,915. (See Class 21 for this trademark.)

844,969. COMPEN-SPACER. American Photocopy Equipment Company. SN 248,682. Pub. 12–12–67. Filed 6–22–66.

844,970. ELLIPTICA. Balcar. SN 250,236. Pub. 12–12–67. Filed 7–14–66.

844,971. GROUND 'A' LERT. Physio-Control Corporation. SN 251,071. Pub. 12–12–67. Filed 7–26–66.

844,972. SHOWCASE PROGRAMATIC. Showcase Programatic, Inc. SN 253,453. Pub. 12–12–67. Filed 8–30–66.

844,973. K-O. SPEED KAL-KO-LATOR. Julius N. Cayo. SN 254,434. Pub. 12–12–67. Filed 9–14–66.

844,974. LF. Textron, Inc. SN 255,364. Pub. 12–12–67. Filed 9–28–66.

844,975. AUDIOBEAM. Tideland Signal Corporation. SN 256,017. Pub. 12–12–67. Filed 10–7–66.

844,976. METALFILM. The Budd Company. SN 256,995. Pub. 12–12–67. Filed 2–21–66.

844,977. VOLT-PROBE. Soss Manufacturing Company. SN 260,603. Pub. 12–12–67. Filed 12–12–66.

844,978. SUMMA PRIMA. Ing. C. Olivetti & C., S.p.A. SN 260,989. Pub. 12–12–67. Filed 7–18–66.

844,979. THIOMOLD. Thiokol Chemical Corporation. SN 263,218. Pub. 12–12–67. Filed 1–24–67.

844,980. GRAMERCY AND DESIGN. Gramercy Guild Group, Inc. SN 263,224. Pub. 12–12–67. Filed 1–9–67.

844,981. ALPASCOPE. Alpa Corporation. SN 263,515. Pub. 12–12–67. Filed 1–30–67.

844,982. EYECESSORIES. The Hilsinger Corporation. SN 270,205. Pub. 12–12–67. Filed 4–28–67.

844,983. VULCAMATIC. George Stadler, d.b.a. Vulcan Photo Engraving Co. SN 271,568. Pub. 12–12–67. Filed 5–16–67.

844,984. CORRECT-CRETE AND DESIGN. Woodward Industries, Inc. SN 276,055. Pub. 12–12–67. Filed 7–14–67.

844,985. COPYSTAT 500. Copystatics Manufacturing Corporation. SN 277,246. Pub. 12–12–67. Filed 8–1–67.

Class 27 — Horological Instruments

844,986. SWISS EMPEROR. E. Gunzinger & Co. SN 262,701. Pub. 12–12–67. Filed 1–17–67.

Class 28 — Jewelry and Precious-Metal Ware

844,987. FLORA DANICA. Orla Eggert Rasmussen, d.b.a. Flora Danica Jewelry. SN 247,518. Pub. 12–12–67. Filed 6–7–66.

844,988. ESPERANTO. The International Silver Company. SN 251,306. Pub. 8–1–67. Filed 7–29–66.

844,989. "PIN-UP." Rocket Jewelry Box, Inc. SN 270,418. Pub. 12–12–67. Filed 5–1–67.

844,990. HUNTINGTON. Oneida Ltd. SN 271,279. Pub. 12–12–67. Filed 5–11–67.

844,991. ROYAL PROVINCIAL. Oneida Ltd. SN 271,280. Pub. 12–12–67. Filed 5–11–67.

844,992. KINNEY. The Kinney Company. SN 271,714. Pub. 12–12–67. Filed 5–17–67.

844,993. "MARIEINTA" AND DESIGN. Pinta Products, Inc. SN 271,723. Pub. 12–12–67. Filed 5–15–67.

844,994. SWITCHIES. Alma M. Kemble, d.b.a. Kemble Lapidaries. SN 281,008. Pub. 12–12–67. Filed 9–25–67.

Class 29 — Brooms, Brushes, and Dusters

844,967. (See Class 23 for this trademark.)

844,995. LIGHT & EASY. The Drackett Company. SN 266,020. Pub. 12–12–67. Filed 3–6–67.

844,996. DUSTRAP. Gem, Incorporated. SN 267,240. Pub. 12–12–67. Filed 3–21–67.

Class 31 — Filters and Refrigerators

844,788. (See Class 1 for this trademark.)

844,997. SCOTTI AND DESIGN. Rayne Corporation, assignee of Scotti Water Conditioning Company. SN 243,721. Pub. 12–12–67. Filed 4–18–66.

844,998. FWI AND DESIGN. Frank Wheatley Industries, Inc. SN 260,900. Pub. 12–12–67. Filed 12–15–66.

Class 32 — Furniture and Upholstery

844,999. INTERIOR SYSTEMS AND DESIGN. Northwest Interior Syatems, Inc. SN 269,918. Pub. 12–12–67. Filed 4–24–67.

Class 33 — Glassware

845,000. IMPRESSIONS. Riekes Crisa Corporation. SN 268,618. Pub. 12–12–67. Filed 4–7–67.

845,001. CENTURY. Century Industries, Inc. SN 278,666. Pub. 12–12–67. Filed 8–21–67.

Class 34 — Heating, Lighting, and Ventilating Apparatus

845,002. COOL MOISTURE. Kas Manufacturing Co., Inc. MULTIPLE CLASS (Classes 34 and 44). SN 194,808. Pub. 7–20–65. Filed 6–3–64.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

844,787. (See Class 1 for this trademark.)

845,003. HOUSE AIDE. Electric Sweeper Service Company. SN 243,855. Pub. 12–12–67. Filed 4–20–66.

Class 36 — Musical Instruments and Supplies

844,915. (See Class 21 for this trademark.)

845,004. CONCERT 90. Certron Corporation, assignee of Interstate Engineering Corporation. SN 251,925. Pub. 12–12–67. Filed 8–8–66.

Class 37 — Paper and Stationery

845,005. TIDY WRAP. Hudson Pulp & Paper Corp., assignee of Standard International Corporation. SN 228,573. Pub. 9–13–66. Filed 9–24–65.

845,006. TUF-CORE. Western Kraft Corporation. SN 260,296. Pub. 10–17–67. Filed 12–7–66.

845,007. COCONINO. Southwest Forest Industries, Inc. SN 260,364. Pub. 12–12–67. Filed 12–8–66.

845,008. ARTWORTHY. Lakeside Central Company. SN 261,088. Pub. 12–12–67. Filed 12–19–66.

845,009. PRINTKOTE. West Virginia Pulp and Paper Company. SN 261,955. Pub. 12–12–67. Filed 1–4–67.

845,010. IDENT-A-GIFT. Bennett Brothers, Inc. SN 263,525. Pub. 12–12–67. Filed 1–30–67.

845,011. SKIN-SKRIBE. Scripto, Inc. SN 267,682. Pub. 12–12–67. Filed 3–27–67.

845,012. REDI-DEX. Standard Packaging Corporation. SN 267,992. Pub. 12–12–67. Filed 3–30–67.

845,013. PRELUDE. Fox River Paper Corporation. SN 281,522. Pub. 12–12–67. Filed 10–2–67.

Class 38 — Prints and Publications

845,014. PANAVISION. Panavision, Incorporated. SN 249,665. Pub. 12–12–67. Filed 7–6–66.

845,015. WESTERN GAS. Chilton Company. SN 253,953. Pub. 12–12–67. Filed 9–7–66.

845,016. INSTITUTIONS MAGAZINE OF THE SERVICE WORLD. Medalist Publications, Inc. SN 255,540. Pub. 12–12–67. Filed 9–30–66.

845,017. FARM AND DAIRY AND DESIGN. Wayne T. Darling, d.b.a. Lyle Printing & Publishing Co. SN 258,509. Pub. 12–12–67. Filed 11–14–66.

845,018. PPG INDUSTRIES AND DESIGN. Pittsburgh Plate Glass Company. SN 260,579. Pub. 12–12–67. Filed 12–12–66.

845,019. BEEDE BULLETIN. Beede Electrical Instrument Co., Inc. SN 264,384. Pub. 12–12–67. Filed 2–10–67.

845,020. COSMETICS FAIR. Byrum Fashion Publications, Inc., assignee of Byrum Publications, Inc. SN 265,493. Pub. 12–12–67. Filed 2–27–67.

845,021. WATSON-GUPTILL. The Billboard Publishing Company, d.b.a. Watson-Guptill Publications. SN 265,605. Pub. 12–12–67. Filed 2–28–67.

845,022. CITATION PRESS. Scholastic Magazines, Inc. SN 265,739. Pub. 12–12–67. Filed 3–1–67.

845,023. TRACOR TODAY. Tracor Inc. SN 265,750. Pub. 12–12–67. Filed 3–1–67.

845,024. SUMMER EMPLOYMENT DIRECTORY. Mynena Leith, d.b.a. National Directory Service. SN 265,832. Pub. 12–12–67. Filed 3–2–67.

845,025. THE BIBLE ADVOCATE. The General Conference of the Church of God (Seventh Day). SN 266,754. Pub. 12–12–67. Filed 3–15–67.

845,026. SITZMARK. Western Art, Inc. SN 269,947. Pub. 12–12–67. Filed 4–24–67.

845,027. MISCELLANEOUS DESIGN. Financial Services, Inc. SN 279,435. Pub. 12–12–67. Filed 8–31–67.

Class 39 — Clothing

844,787. (See Class 1 for this trademark.)

845,028. TOP SECRET. De Luxe Girdlecraft Co., Inc. SN 164,219. Pub. 12–12–67. Filed 3–8–63.

845,029. JOCKEY AND DESIGN. Cooper's, Incorporated. SN 234,804. Pub. 12–12–67. Filed 12–17–65.

845,030. PETITE ELEGANTS. Cater Frock Company. SN 238,607. Pub. 12–12–67. Filed 2–11–66.

845,031. PETER PAN SUN BLAZERS AND DESIGN. Peter Pan International, Inc., by assignment, merger and change of name from Peter Pan Swimwear International, Inc. SN 240,336. Pub. 12–12–67. Filed 3–7–66.

845,032. BRAVES. Atlanta Braves, Inc. SN 243,302. Pub. 12–12–67. Filed 4–13–66.

845,033. GLOVERALL. Gloverall Limited. SN 243,780. Pub. 12–12–67. Filed 4–19–66.

845,034. CONTINENTAL INSPIRATIONS AND DESIGN. Wembley, Inc. SN 244,784. Pub. 12–12–67. Filed 5–2–66.

845,035. LONDON PLACE. Paris Skirts Inc. SN 245,847. Pub. 12–12–67. Filed 5–17–66.

845,036. THIGH-TRIM. Lewel Manufacturing Co., Inc. SN 252,014. Pub. 12–12–67. Filed 8–9–66.

845,037. MINI-FLIRT. Teenform, Inc. SN 252,298. Pub. 12–12–67. Filed 8–12–66.

845,038. COUNT-TEN. Palmland Fashions, Inc. SN 253,547. Pub. 12–12–67. Filed 8–31–66.

845,039. LA CALZATURA CLASSICA ZENITH AND DESIGN. Calzaturificio Zenith Societa in Nome Collettivo di Esdra Bussoni & Figli. SN 254,668. Pub. 12–12–67. Filed 9–19–66.

845,040. PEPPER TREE. Oxford Industries, Inc., by change of name from Oxford Manufacturing Company. SN 256,229. Pub. 12–12–67. Filed 10–11–66.

845,041. TIJUANA GOLD. Kenrich Shoe Corporation. SN 257,282. Pub. 12–12–67. Filed 10–26–66.

845,042. "CUSHIES." Smart Products, Inc. SN 257,801. Pub. 12–12–67. Filed 11–2–66.

845,043. CHEATER SNEAK. Nuger-Ford Products Company, by change of name from Nuger Ford Rubber Products. SN 259,336. Pub. 12–12–67. Filed 11–23–66.

845,044. CAPPI ORIGINALS. Rosenbaum & Hochberg, Inc. SN 259,968. Pub. 12–12–67. Filed 12–2–66.

845,045. THE DOUBLE EAGLE. Wallach's Inc. SN 261,120. Pub. 10–17–67. Filed 12–19–66.

845,046. WE GIVE A HOOT. Pamela Martin, Inc. SN 261,224. Pub. 12–12–67. Filed 12–21–66.

845,047. JANE KING. Jolly Kids Togs, Inc. SN 261,850. Pub. 12–12–67. Filed 1–3–67.

845,048. GENTLEMEN OF GOTHAM. Chadbourn Gotham. Inc. SN 263,816. Pub. 12–12–67. Filed 2–2–67.

845,049. LADIES OF GOTHAM. Chadbourn Gotham, Inc. SN 263,893. Pub. 12–12–67. Filed 2–3–67.

845,050. CISSIE GOTHAM. Chadbourn Gotham, Inc. SN 263,894. Pub. 12–12–67. Filed 2–3–67.

845,051. TENDER FOOT. Kayser-Roth Corporation. SN 264,424. Pub. 12–12–67. Filed 2–10–67.

845,052. FUNDANGO! Teenform, Inc. SN 264,862. Pub. 12–12–67. Filed 2–16–67.

845,053. KIRACHI COORDINATES. Palm Beach Company. SN 265,730. Pub. 12–12–67. Filed 3–1–67.

845,054. SPECIAL REQUEST. Glamorise Foundations, Inc. SN 265,820. Pub. 12–12–67. Filed 3–2–67.

845,055. DURA-PRO. Desmond's Inc. SN 266,012. Pub. 12–12–67. Filed 3–6–67.

845,056. CENSORED. Kayser-Roth Corporation. SN 266,047. Pub. 12–12–67. Filed 3–6–67.

845,057. SWITCHMATES. Kayser-Roth Corporation. SN 266,048. Pub. 12–12–67. Filed 3–6–67.

845,058. MR. JAC AND DESIGN. Craftex Creations, Inc. SN 266,737. Pub. 12–12–67. Filed 3–15–67.

845,059. GOLDEN YEARS. Fit-Rite Pants Company, Inc. SN 266,747. Pub. 12–12–67. Filed 3–15–67.

845,060. GOLDEN AGE. Fit-Rite Pants Company, Inc. SN 266,748. Pub. 12–12–67. Filed 3–15–67.

845,061. ALDINE. Mavest, Inc. SN 267,438. Pub. 12–12–67. Filed 3–23–67.

845,062. BEFITTING HEEL AND DESIGN. Burlington Industries, Inc. SN 267,807. Pub. 12–12–67. Filed 3–29–67.

845,063. "±20." J. F. Hink & Son. SN 268,187. Pub. 12–12–67. Filed 4–3–67.

845,064. THE KNITTREE AND DESIGN. Mars Manufacturing Company, Inc. of Asheville, N.C. SN 269,996. Pub. 12–12–67. Filed 4–25–67.

845,065. TOP TOPS. Fairfield Knitwear, Inc. SN 275,196. Pub. 12–12–67. Filed 7–3–67.

845,066. SPECTRUMS. The United States Shoe Corporation. SN 276,507. Pub. 12–12–67. Filed 7–21–67.

845,067. GREY FRIARS. Blue Bell, Inc. SN 278,056. Pub. 12–12–67. Filed 8–11–67.

845,068. MELISSA FARR PETITES. Judy Wayne, Inc. SN 279,155. Pub. 12–12–67. Filed 8–28–67.

845,069. DAISY AND DESIGN. Sid Berk, Inc. SN 280,129. Pub. 12–12–67. Filed 9–12–67.

845,070. WEL-MOC. Blue Bell Boots, Inc. SN 281,340. Pub. 12–12–67. Filed 9–28–67.

Class 40 — Fancy Goods, Furnishings, and Notions

845,071. SWEDISH CROWN AND DESIGN. Swedish Crown Comb Co. A/B. SN 263,414. Pub. 12–12–67. Filed 1–26–67.

Class 41 — Canes, Parasols, and Umbrellas

845,072. MISS MOD ETC. AND DESIGN. Mr. Mod Shop, Inc. SN 249,045. Pub. 12–12–67. Filed 6–27–66.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

845,073. BOLIS. Ronebolis Ltd. SN 263,848. Pub. 12–12–67. Filed 2–2–67.

845,074. THALCO. United Merchants and Manufacturers, Inc. SN 272,902. Pub. 12–12–67. Filed 6–2–67.

845,075. CROSS-H. Howse, Mead & Sons, Inc. SN 279,437. Pub. 12–12–67. Filed 8–31–67.

Class 44—Dental, Medical, and Surgical Appliances

844,812. (See Class 6 for this trademark.)

845,002. (See Class 34 for this trademark.)

845,076. HY-TYME. Hy-Tyme, Inc. SN 251,631. Pub. 12–12–67. Filed 8–3–66.

845,077. DOPTONE. Smith Kline & French Laboratories. SN 260,090. Pub. 12–12–67. Filed 12–5–66.

845,078. ANESTHESCOPE. Minnesota Mining and Manufacturing Company, assignee of Cardiosonics Medical Instrumerts Corporation. SN 262,022. Pub. 12–12–67. Filed 1–6–67.

845,079. FAST-N-CLAMP. C. R. Bard, Inc. SN 262,757. Pub. 12–12–67. Filed 1–18–67.

845,080. KOTEX PLUS. Kimberly-Clark Corporation. SN 262,872. Pub. 12–12–67. Filed 1–19–67.

845,081. TC AND DESIGN. Telan Corporation. SN 276,392. Pub. 12–12–67. Filed 7–20–67.

845,082. PERMA-FILL. Joseph H. Schlesinger, d.b.a. Eagle Chemical Co. SN 280,640. Pub. 12–12–67. Filed 9–18–67.

Class 45—Soft Drinks and Carbonated Waters

845,083. SUNLOOK. O. R. Groves Limited. SN 238,872. Pub. 12–12–67. Filed 2–15–66.

845,084. AQUAN AND DESIGN. Quality Water, Inc. SN 268,072. Pub. 12–12–67. Filed 3–31–67.

Class 46—Foods and Ingredients of Foods

844,816. (See Class 6 for this trademark.)

844,817. (See Class 6 for this trademark.)

845,085. FISHER'S MR. TOPS AND DESIGN. Fisher Cheese Company. SN 218,758. Pub. 12–20–66. Filed 5–13–65.

845,086. VOGELER'S AND DESIGN. Vogeler, Inc. SN 235,243. Pub. 12–12–67. Filed 12–23–65.

845,087. VITARIPE. George E. Judd. SN 248,625. Pub. 12–12–67. Filed 6–21–66.

845,088. MISS MOD ETC. AND DESIGN. Mr. Mod Shop, Inc. SN 249,046. Pub. 12–12–67. Filed 6–27–66.

845,089. MR. MOD ETC. AND DESIGN. Mr. Mod Shop, Inc. SN 249,054. Pub. 12–12–67. Filed 6–27–66.

845,090. GOLDEN GOOSE BRAND. John Krauss, Incorporated. SN 250,583. Pub. 12–12–67. Filed 7–19–66.

845,091. CHICKEN (DESIGN). Ralston Purina Company, assignee of Chic-N-Krisp, Inc. SN 250,933. Pub. 12–12–67. Filed 7–25–66.

845,092. PIE FACE. Erwin Chambers Co. Ltd. SN 255,640. Pub. 12–12–67. Filed 10–3–66.

845,093. FRIBBLE. Friendly Ice Cream Corporation. SN 256,443. Pub. 12–12–67. Filed S.R. 10–14–66; Am. P.R. 10–11–67.

845,094. DE BETUWE. Koninklijke Maatschappij de Betuwe N.V. SN 256,452. Pub. 12–12–67. Filed 10–14–66.

845,095. STYLIZED BLUE BIRD (DESIGN). Pet Incorporated, d.b.a. Bluebird Potato Chip Co. SN 257,075. Pub. 12–12–67. Filed 10–24–66.

845,096. OZARK DAISIES AND DESIGN. Moark Productions, Inc. SN 257,791. Pub. 12–12–67. Filed 11–2–66.

845,097. TENDERLY TWISTED ETC. AND DESIGN. Schmidt Baking Co., Inc. SN 259,267. Pub. 12–12–67. Filed 11–22–66.

845,098. FURORE AND DESIGN. Nicolet-Krommenie N.V. SN 260,570. Pub. 12–12–67. Filed 12–12–66.

845,099. TRAPPEY'S. B. F. Trappey's Sons, Inc. SN 262,822. Pub. 12–12–67. Filed 1–18–67.

845,100. APPLE KART CRISP SCURICH ETC. AND DESIGN. Stephen Scurich Orchard, d.b.a. Stephen "Bob" Scurich. SN 263,406. Pub. 12–12–67. Filed 1–26–67.

845,101. PRUDENT. Milton Okin, d.b.a. Prudent Foods & Confections Co. SN 263,686. Pub. 12–12–67. Filed 1–31–67.

845,102 7. Ralston Purina Company. SN 264,243. Pub. 12–12–67. Filed 2–8–67.

845,103. HOUSE OF SESSIONS. Sessions Company, Inc., d.b.a. House of Sessions. SN 265,215. Pub. 12–12–67. Filed 2–21–67.

845,104. TWO OCEANS. The Eat-All Frozen Food Co., Inc., d.b.a. Two Oceans Co. SN 266,516. Pub. 12–12–67. Filed 3–13–67.

845,105. MISCELLANEOUS DESIGN. Vernon O. Aanenson, d.b.a. Old Dutch Foods. SN 266,841. Pub. 12–12–67. Filed 3–16–67.

845,106. BIB & RIB. Bib & Rib, Inc. SN 267,394. Pub. 12–12–67. Filed 3–23–67.

845,107. SHIELD LABEL. B. F. Trappey's Sons, Inc. SN 267,454. Pub. 12–12–67. Filed 3–23–67.

845,108. SHIELD LABEL AND DESIGN. B. F. Trappey's Sons, Inc. SN 267,455. Pub. 12–12–67. Filed 3–23–67.

845,109. ROULETTE. Eskimo Pie Corporation. SN 267,512. Pub. 12–12–67. Filed 3–24–67.

845,110. MINI-MOD. Eskimo Pie Corporation. SN 267,514. Pub. 12–12–67. Filed 3–24–67.

845,111. ESKIMO MINI-MOD. Eskimo Pie Corporation. SN 267,515. Pub. 12–12–67. Filed 3–24–67.

845,112. ESKIMO ROULETTE. Eskimo Pie Corporation. SN 267,516. Pub. 12–12–67. Filed 3–24–67.

845,113. MOD-POP. Eskimo Pie Corporation. SN 267,517. Pub. 12–12–67. Filed 3–24–67.

845,114. SATINA. SCM Corporation, assignee of The Glidden Company, d.b.a. Durkee Famous Foods. SN 267,521. Pub. 12–12–67. Filed 3–24–67.

845,115. HEARTY HOUSE AND DESIGN. Lamb-Weston, Inc. SN 267,529. Pub. 12–12–67. Filed 3–24–67.

845,116. BLOODY BULL. American Kitchen Products Company. SN 267,594. Pub. 12–12–67. Filed 3–27–67.

845,117. FOODPOWER. Central Soya Company, Inc. SN 267,724. Pub. 12–12–67. Filed 3–28–67.

845,118. 31. Baskin-Robbins Inc. SN 272,343. Pub. 12–12–67. Filed 5–25–67.

845,119. POMPEIAN. Laco Corp., assignee of Pompeian Olive Oil Corporation. SN 273,101. Pub. 12–12–67. Filed 6–5–67.

845,120. ASTRO-FRESH. Suffolk Farms Packing Co., Inc., d.b.a. Suffolk Farms Packing. SN 273,327. Pub. 12–12–67. Filed 6–7–67.

845,121. ASTRO-CRISP. Suffolk Farms Packing Co., Inc., d.b.a. Suffolk Farms Packing Co. SN 273,328. Pub. 12–12–67. Filed 6–7–67.

845,122. MCP ORANGE SHAKE AND DESIGN. Mutual Citrus Products Company. SN 277,108. Pub. 12–12–67. Filed 7–31–67.

845,123. DESIGN OF A FEMALE. Weight Watchers International, Inc. SN 278,560. Pub. 12–12–67. Filed 8–18–67.

845,124. WW IN FANCY SCRIPT. Weight Watchers International, Inc. SN 279,695. Pub. 12–12–67. Filed 9–5–67.

845,125. I.D. The Huntington Creek Corporation, d.b.a. Spring Garden Flavor Co. SN 280,131. Pub. 12–12–67. Filed 9–12–67.

845,126. SNOKIST AND DESIGN. Snokist Growers. SN 281,529. Pub. 12–12–67. Filed 10–2–67.

845,127. SPECIFY AND DESIGN. Fred G. Hilvert Company, Inc., Distributors, d.b.a. Fred G. Hilvert Co. SN 281,847. Pub. 12–12–67. Filed 10–5–67.

845,128. TRAK PAK. John Morrell & Co. SN 281,849. Pub. 12–12–67. Filed 10–5–67.

Class 47—Wines

845,129. SOLEIL BLANC. Affiliated Distillers Brands Corp. d.b.a. Dreyfus, Ashby & Co. SN 259,786. Pub. 12–12–67. Filed 12–1–66.

845,130. SOLEIL NOIR. Affiliated Distillers Brands Corp., d.b.a. Dreyfus, Ashby & Co. SN 259,787. Pub. 12–12–67. Filed 12–1–66.

845,131. RHEINSPIEL. Werner Motzel, d.b.a. Weingut Motzel, Weingrosskellerei. SN 261,992. Pub. 12–12–67. Filed 1–5–67.

845,132. MOTZELS KELLERBRUDER. Werner Motzel, d.b.a. Weingut Motzel, Weingrosskellerei. SN 261,993. Pub. 12–12–67. Filed 1–5–67.

Class 48—Malt Beverages and Liquors

845,133. GABLINGER'S. Rheingold Breweries, Inc., d.b.a. Forrest Brewing Co. SN 260,500. Pub. 12–12–67. Filed 12–12–66.

Class 50—Merchandise Not Otherwise Classified

844,801. (See Class 2 for this trademark.)

845,134. DEFENSTIK. Barry Fincham, d.b.a. Barry's Studio. SN 260,419. Pub. 12–12–67. Filed 12–9–66.

Class 51—Cosmetics and Toilet Preparations

844,968. (See Class 23 for this trademark.)

845,135. INKA. Inka Cosmetic G.m.b.H., assignee of Edith L. Molt, d.b.a. Inka Cosmetics. SN 195,692. Pub. 1–4–66. Filed 6–15–64.

845,136. BORAX-DENT AND DESIGN. Aesup Est., assignee of August H. Halbeck, d.b.a. Borax-Dent Co. SN 227,285. Pub. 6–7–66. Filed 9–7–65.

845,137. VIOSIL. Viobin Corporation. SN 247,168. Pub. 12–12–67. Filed 6–2–66.

845,138. BODY VELVET. Sarong, Inc. SN 249,076. Pub. 3–21–67. Filed 6–27–66.

845,139. M (DESIGN). Mayer Laboratories, Inc. SN 249,548. Pub. 12–12–67. Filed 7–5–66.

845,140. QUIXIT. Beauty Counselors, Inc. SN 251,877. Pub. 12–12–67. Filed 8–8–66.

845,141. MCM ETC. AND DESIGN. MCM Cosmetics Corp. SN 252,861. Pub. 12–12–67. Filed 8–22–66.

845,142. SMOOTH-GLO. Beauty Counselors, Inc. SN 253,623. Pub. 12–12–67. Filed 9–1–66.

845,143. SUNPLAY. Innoxa (England) Limited. SN 253,759. Pub. 12–12–67. Filed 9–2–66.

845,144. COVER GIRL "ICEBREAKERS." Noxell Corporation. SN 260,571. Pub. 12–12–67. Filed 12–12–66.

845,145. KOR-VAL. Spartans Industries, Inc. SN 260,776. Pub. 12–12–67. Filed 12–14–66.

845,146. TARTARLITHINE. Foremost-McKesson, Inc., by merger and change of name from McKesson & Robbins, Incorporated, d.b.a. McKesson Laboratories. SN 262,875. Pub. 12–12–67. Filed 1–19–67.

845,147. MIA. Moda Mia, Inc. SN 263,679. Pub. 12–12–67. Filed 1–31–67.

845,148. SPOAM. Bristol-Myers Company. SN 264,899. Pub. 12–12–67. Filed 2–17–67.

845,149. HOUSE OF RONDUS. George C. Miller, d.b.a. House of Rondus. SN 265,316. Pub. 12–12–67. Filed 2–23–67.

845,150. SETSATION. Turner Hall Corporation. SN 265,360. Pub. 12–12–67. Filed 2–23–67.

845,151. RAZOR'S EDGE. White Cross Stores, Inc. SN 265,453. Pub. 12–12–67. Filed 2–24–67.

845,152. GENERATION. Clairol Incorporated. MULTIPLE CLASS (Classes 51 and 52). SN 265,672. Pub. 12–12–67. Filed 3–1–67.

845,153. FROSTLINGS. Revlon, Inc. SN 267,666. Pub. 12–12–67. Filed 3–27–67.

845,154. HOLD ME TENDERLY, ETC. Robert J. Leigh, d.b.a. Fashion Fair Company. SN 267,891. Pub. 12–12–67. Filed 3–30–67.

845,155. PROTEGE. Protege Corporation. SN 273,725. Pub. 12–12–67. Filed 6–13–67.

845,156. ALKONIL. Protege Corporation. SN 273,726. Pub. 12–12–67. Filed 6–13–67.

845,157. R & M LOVELY LUSTER. Reid-Meredith, Inc. SN 281,422. Pub. 12–12–67. Filed 9–29–67.

Class 52—Detergents and Soaps

844,968. (See Class 23 for this trademark.)

845,152. (See Class 51 for this trademark.)

845,158. POSITIVE AND DESIGN. General Five Star Products, Inc. SN 252,091. Pub. 12–12–67. Filed 8–10–66.

845,159. DIRT-TERGENT. Gray Company, Inc. SN 253,523. Pub. 12–12–67. Filed 8–31–66.

845,160. DRANO AND DESIGN. The Drackett Company. SN 259,907. Pub. 12–12–67. Filed 12–2–66.

845,161. SPOAM. Bristol-Myers Company. SN 264,906. Pub. 12–12–67. Filed 2–17–67.

845,162. WINDEX. The Drackett Company. SN 266,019. Pub. 12–12–67. Filed 3–6–67.

845,163. TICKLE. Lagar Industries, Inc. SN 279,027. Pub. 12–12–67. Filed 8–25–67.

845,164. TOP WASH. The Procter & Gamble Company. SN 279,349. Pub. 12–12–67. Filed 8–30–67.

845,165. DEPEND-O. American Home Products Corporation. SN 280,837. Pub. 12–12–67. Filed 9–21–67.

Service Marks

Class 100—Miscellaneous

845,166. WESTAG. Arizona Agrochemical Corporation. SN 239,702. Pub. 12–12–67. Filed 2–28–66.

845,167. CHEF (DESIGN). Vince's Chefs, Inc. SN 244,279. Pub. 12–12–67. Filed 4–25–66.

845,168. SPORTSMANSHIP DEMANDS SAFE DRIVING. Sports Car Club of America, Incorporated. SN 246,614. Pub. 12–12–67. Filed 5–25–66.

845,169. UOP. Universal Oil Products Company. MULTIPLE CLASS (Classes 100 and 103). SN 253,813. Pub. 12–12–67. Filed 9–6–66.

845,170. FARRELL'S ICE CREAM PARLOUR AND DESIGN. Farrell's, Inc. SN 253,965. Pub. 12–12–67. Filed 9–7–66.

845,171. FI AND DESIGN. Gordon A. Friesen International, Inc. SN 255,704. Pub. 12–12–67. Filed 10–4–66.

845,172. HILTON. Hilton Hotels Corporation. SN 257,629. Pub. 12–12–67. Filed 10–31–66.

845,173. MISCELLANEOUS DESIGN. Flying Carpet Motor Inn, Inc. SN 257,951. Pub. 12–12–67. Filed 11–4–66.

845,174. LITTLE RED HEN AND DESIGN. Little Red Hen Country Chicken, Inc. SN 259,842. Pub. 12–12–67. Filed 12–1–66.

845,175. PIGALL'S. Pigall's French Restaurant, Inc. SN 260,449. Pub. 12–12–67. Filed 12–9–66.

845,176. S-T-A INC. AND DESIGN. Systems Technology Associates, Inc. SN 261,409. Pub. 12–12–67. Filed 12–23–66.

845,177. DERASPAN. The Dow Chemical Company. SN 263,255. Pub. 12–12–67. Filed 1–25–67.

845,178. JF AND DESIGN. John H. Frischkorn, Jr., Incorporated. SN 263,459. Pub. 12–12–67. Filed 1–27–67.

845,179. D AND DESIGN. Datronic Rental Corporation. SN 263,544. Pub. 12–12–67. Filed 1–30–67.

845,180. SANDCASTLE AND DESIGN. American Motor Inns of Sarasota, Inc. SN 265,595. Pub. 12–12–67. Filed 2–28–67.

Class 101 — Advertising and Business

845,181. K MART AND DESIGN. S. S. Kresge Company. SN 210,964. Pub. 11–8–66. Filed 1–29–65.

845,182. DISCOUNT TOWN. Cody's Cosmetics, Inc. SN 239,232. Pub. 12–12–67. Filed 2–21–66.

845,183. NATION WISE AUTO PARTS CENTERS AND DESIGN. Federal Auto Corporation. SN 248,317. Pub. 12–12–67. Filed 6–17–66.

845,184. COLLEGE TEMPS AND DESIGN. College Temps, Inc. SN 254,588. Pub. 12–12–67. Filed 9–16–66.

845,185. DESIGN OF SQUARE AND CIRCLE. The Goodchild Corporation. SN 254,928. Pub. 12–12–67. Filed 9–22–66.

845,186. DOUBLE BONUS BULLS-EYE. Adams, Martin & Nelson, Inc. SN 256,705. Pub. 12–12–67. Filed 10–19–66.

845,187. COUPON CLIPPERS CLUB. Adams, Martin & Nelson, Inc. SN 256,706. Pub. 12–12–67. Filed 10–19–66.

845,188. DUNNE'S INSURANCE REPORT ETC. AND DESIGN. The Dunne Press, Inc., d.b.a. Dunne's International Insurance Reports. SN 260,538. Pub. 12–12–67. Filed 12–12–66.

845,189. MF. Martin Fromm & Associates, Inc. SN 261,833. Pub. 12–12–67. Filed 1–3–67.

845,190. MC AND DESIGN. McCall Corporation. SN 261,867. Pub. 12–12–67. Filed 1–3–67.

845,191. NELSON AUCTION SERVICE AND DESIGN. Nelson Auction Service, Inc. SN 263,842. Pub. 12–12–67. Filed 2–2–67.

845,192. MISCELLANEOUS DESIGN. Robert Thomas Armstrong, Jr., d.b.a. Product Identification. SN 265,033. Pub. 12–12–67. Filed 2–20–67.

845,193. TARGET. Target Stores, Inc. SN 276,714. Pub. 12–12–67. Filed 7–24–67.

Class 102 — Insurance and Financial

845,194. STATESMAN. The Statesman Insurance Company, assignee of The State Automobile & Casualty Underwriters. SN 235,756. Pub. 12–12–67. Filed 11–22–65.

845,195. MINUTEMAN PROTECTION SINCE 1935 AND DESIGN. Archie Slawsby Agency, Inc. SN 236,927. Pub. 12–12–67. Filed 1–20–66.

845,196. SELECTIVE GROUP INVESTING AND DESIGN. Group Securities, Inc. SN 247,503. Pub. 12–12–67. Filed 6–7–66.

845,197. SAVE, DAVE. Robert Uchitelle, d.b.a. Midwestern Editorial Service. SN 247,981. Pub. 12–12–67. Filed 6–13–66.

845,198. MICRO-EYE AND DESIGN. Micro Eye. SN 253,042. Pub. 12–12–67. Filed 8–24–66.

845,199. AS AMERTOOL SERVICES AND DESIGN. Amertool Services, Inc. MULTIPLE CLASS (Classes 102 and 103). SN 253,201. Pub. 12–12–67. Filed 8–26–66.

Class 103 — Construction and Repair

845,169. (See Class 100 for this trademark.)

845,199. (See Class 102 for this trademark.)

Class 104 — Communication

845,200. MISCELLANEOUS DESIGN. Columbia Broadcasting System, Inc. SN 281,004. Pub. 12–12–67. Filed 9–25–67.

Class 105 — Transportation and Storage

845,201. TAG AIRLINES. The Miller Oil Company, d.b.a. Tag Airlines. SN 196,694. Pub. 12–12–67. Filed 6–29–64.

845,202. MODERN MOVING WITH OLD-FASHIONED CARE AND DESIGN. Global Van Lines, Inc. SN 234,602. Pub. 12–12–67. Filed 12–13–65.

845,203. BERGDORF GOODMAN. Bergdorf & Goodman Company. SN 269,394. Pub. 12–12–67. Filed 4–18–67.

845,204. SHASTA HUFFEN PUFF AND DESIGN. Shasta McCloud Steam Rail Tours, Inc. SN 279,152. Pub. 12–12–67. Filed 8–28–67.

Class 107 — Education and Entertainment

845,205. THE WORD—AND MUSIC. The Television, Radio and Film Commission of the Methodist Church. SN 234,781. Pub. 12–12–67. Filed 12–16–65.

845,206. KIDDIE A-GO-GO. Jack Mulqueen, d.b.a. M. Productions. SN 239,295. Pub. 12–12–67. Filed 2–21–66.

845,207. THE PARASITES. Seymour Super. SN 243,806. Pub. 12–12–67. Filed 4–19–66.

845,208. DANCING FIGURES (DESIGN). Arthur Murray, Inc. SN 253,161. Pub. 12–12–67. Filed 8–25–66.

845,209. THE RED DOGS. Red Dog, Inc. SN 254,719. Pub. 12–12–67. Filed 9–19–66.

845,210. LAWRENCE AND THE ARABIANS. Lawrence and the Arabians. SN 271,986. Pub. 12–12–67. Filed 5–22–67.

Collective Membership Mark

Class 200

845,211. CABIRI AND SPHINX DESIGN. The Cabiri International Past Potentates Association. SN 279,135. Pub. 12–12–67. Filed 8–28–67.

Certification Mark

Class A — Goods

845,212. CBM CERTIFIED AND DESIGN. Certified Ballast Manufacturers. SN 243,842. Pub. 12–12–67. Filed 4–20–66.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 2 — Receptacles

845,213. Record Service Center, Houston, Tex. SN 247,969. Filed P.R. 6–13–66; Am. S.R. 12–15–67.

FARREN

For Shipping and Storage Cartons for Tape Reels.
First use May 3, 1966.

Class 21 — Electrical Apparatus, Machines, and Supplies

845,214. Thermosen, Incorporated, Stamford, Conn. SN 260,370. Filed P.R. 12–8–66; Am. S.R. 11–16–67.

MULTIREED

For Electromagnetic Relays.
First use in or before December 1962.

845,215. El-Tronics, Inc., Warren, Pa. SN 263,548. Filed P.R. 1–30–67; Am. S.R. 11–13–67.

Candle - Flame

For Incandescent Lamps and Negative Glow Lamps.
First use Oct. 15, 1966.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

845,216. Chicago Specialty Manufacturing Co., Skokie, Ill. SN 201,660. Filed P.R. 9–11–64; Am. S.R. 11–7–66.

FAT TRAP

For Household Product Comprising a Hand-Held Skimming Device Which Is Immersed in a Container Having a Liquid or Fluid Therein and Pressed Downwardly for Forcing Certain of the Liquid or Fluid Through Said Device and Thereby Skimming Off the Matter Which Rises to the Top of the Liquid or Fluid in the Container.
First use Aug. 28, 1964.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

845,217. United States Rubber Company, New York, N.Y. SN 252,771. Filed P.R. 8–19–66; Am. S.R. 12–20–67.

CUSTOM STRIP

For Rubber in Strip Form for Use in Retreading Tires.
First use June 21, 1966.

845,218. United States Rubber Company, New York, N.Y. SN 252,772. Filed P.R. 8–19–66; Am. S.R. 12–20–67.

SUPER STRIP

For Rubber in Strip Form for Use in Retreading Tires.
First use June 16, 1966.

Class 38 — Prints and Publications

845,219. The New Yorker Magazine, Inc., New York, N.Y. SN 286,403. Filed 12–7–67.

A REPORTER AT LARGE

For Column in a Weekly Publication.
First use Feb. 21, 1925.

845,220. The New Yorker Magazine, Inc., New York, N.Y. SN 286,404. Filed 12–7–67.

THE TALK OF THE TOWN

For Column in a Weekly Publication.
First use Feb. 21, 1925.

845,221. The New Yorker Magazine, Inc., New York, N.Y. SN 286,606. Filed 12–11–67.

ON AND OFF THE AVENUE

For Column in a Weekly Publication.
First use Feb. 21, 1925.

845,222. The New Yorker Magazine, Inc., New York, N.Y. SN 286,607. Filed 12–11–67.

P R O F I L E S

For Column in a Weekly Publication.
First use Feb. 21, 1925.

845,223. The New Yorker Magazine, Inc., New York, N.Y. SN 286,608. Filed 12–11–67.

GOINGS ON ABOUT TOWN

For Column in a Weekly Publication.
First use Feb. 21, 1925.

TRADEMARK REGISTRATIONS RENEWED

30,835. FLINT EDGE. Cl. 23. 11–9–1897.
64,433. BORAX SOAP ETC. AND DESIGN. Cl. 52. 8–6–07.
66,395. ANGELUS. Cl. 46. 11–26–07.
67,119. STANLEY. Cl. 23. 1–14–08.
67,195. "LIGHTHOUSE" AND THE REPRESENTATION OF A LIGHTHOUSE. Cl. 46. 1–21–08.
68,118. TEETHINA. Cl. 18. 3–10–08.
69,328. ARGYROL. Cl. 18. 6–9–08.
69,377. OVOFERRIN. Cl. 18. 6–9–08.
231,645. BULLDOG (DESIGN). Cl. 19. 8–23–27.
232,268. BULLDOG. Cl. 19. 9–6–27.
234,521. HULA. Cl. 45. 11–1–27.
235,462. FORT HOWARD. Cl. 37. 11–22–27.
237,163. LILY. Cl. 43. 1–3–28.
238,661. "TUF-STUF" AND DESIGN. Cl. 14. 2–14–28.
242,165. DELTA CHI QUARTERLY. Cl. 38. 5–15–28.
242,637. AQUAROME. Cl. 6. 5–29–28.
242,638. COLOROME. Cl. 6. 5–29–28.
242,770. ZION NATIONAL PARK BLANKET. Cl. 42. 6–5–28.
243,133. VIKING. Cl. 32. 6–12–28.
432,524. JAC-O-NET. Cl. 39. 9–2–47.
433,625. DERMYCIN. Cl. 18. 10–21–47.
434,118. GREER HYDRAULICS AND DESIGN. Cl. 23. 11–11–47.
434,146. BRISK AND DESIGN. Cl. 45. 11–11–47.
435,272. BOAR'S HEAD. Cl. 46. 12–16–47.
435,544. WARCO. Cl. 52. 12–30–47.
435,602. PROSPECTOR. Cl. 42. 1–6–48.
435,620. MEKON. Cl. 1. 1–6–48.
435,761. TOLFIC. Cl. 18. 1–6–48.
435,782. AWARD. Cl. 51. 1–6–48.
436,109. O TEV. Cl. 51. 1–20–48.
436,204. ST. JOSEPH. Cl. 18. 1–27–48.
436,205. MUFTI. Cl. 6. 1–27–48.
436,208. CARDIS. Cl. 6. 1–27–48.
436,254. SUPPER CLUB. Cl. 46. 1–27–48.
436,425. MISCELLANEOUS DESIGN. Cl. 18. 2–10–48.
436,615. ZIPPO. Cl. 6. 2–17–48.
436,682. LIP-STAE. Cl. 51. 2–17–48.
437,443. KRAGEL. Cl. 46. 3–23–48.
437,813. DEW FLEX. Cl. 22. 3–30–48.
438,065. LUSTRAND. Cl. 1. 4–6–48.
438,070. JACK & JILL. Cl. 46. 4–6–48.
438,464. LADY BETTY. Cl. 39. 4–20–48.
438,540. SECURITY AND DESIGN. Cl. 46. 4–27–48.
438,692. SIGHT FEED ETC. AND DESIGN. Cl. 34. 5–11–48.
438,846. CHALLENGE. Cl. 23. 5–11–48.
438,847. DIAMOND. Cl. 23. 5–11–48.
438,934. "MIDGET" LOUVER. Cl. 34. 5–18–48.
439,361. BLUE SPOT. Cl. 13. 6–22–48.
500,111. FUNKAP AND DESIGN. Cl. 39. 4–20–48.
500,152. FLAMINGO. Cl. 40. 5–4–48.
500,163. ALLIANCE. Cl. 19. 5–4–48.
500,175. HI-RUN. Cl. 14. 5–11–48.
500,395. NARAKON. Cl. 18. 5–18–48.
500,461. KEM-BLO. Cl. 1. 6–1–48.
500,471. RELAX-O. Cl. 51. 6–1–48.
500,522. CLASSIC. Cl. 29. 6–1–48.
500,597. KING LEO. Cl. 46. 6–8–48.
500,598. 4L AND CIRCLE DESIGN. Cl. 42. 6–8–48.
500,599. FORRELL. Cl. 42. 6–8–48.
500,664. DYTRON. Cl. 6. 6–15–48.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

424,731. DARTHRONOL. Cl. 18. 10–22–46.
504,328. LACTENZ. Cl. 6. 11–30–48.
504,965. ADBILE. Cl. 6. 12–21–48.
504,966. APEXOL. Cl. 6. 12–21–48.
504,967. APOLARTHRON. Cl. 6. 12–21–48.
506,456. PECTOL. Cl. 6. 2–8–49.
582,639. AM PLUS. Cl. 18. 11–24–53.
777,139. LEOMEN. Cl. 51. 9–15–64.

Section 8

704,711. ROCK-N-ROOT. Cl. 45. 9–20–60.
707,594. PAIGE PETITE. Cl. 39. 11–22–60.
707,964. CMC CHAFFEE AND DESIGN. Cl. 12. 12–6–60.
709,123. TEKHARDENED. Cl. 44. 12–27–60.
711,369. SHOE SET-R. Cl. 26. 2–14–61.
711,641. COMPASS AND AUTO (DESIGN). Cl. 100. 2–21–61.
712,224. ACTION. Cl. 46. 3–7–61.

The following registrations issued Jan. 9, 1962

726,105. COOK-OUT. Cl. 1.
726,106. POLYHYCROP. Cl. 1.
726,107. POLYCROP. Cl. 1.
726,111. MAGNAFLORA ROSES. Cl. 1.
726,112. DEERELK BY FLYNNTAN AND DESIGN. Cl. 1.
726,117. TERAMORA. Cl. 2.
726,119. KITCH'NETTE. Cl. 4.
726,120. GENERAL. Cl. 5.
726,122. PAN-L-LIFE. Cl. 6.
726,125. MERCK AND DESIGN. Cl. 6.
726,127. PORTRADOL. Cl. 6.
726,132. TEX-STRAP. Cl. 7.
726,135. COLLECTOR'S ITEMS. Cl. 8.
726,136. SCI CERAMICS AND DESIGN. Cl. 8.
726,137. NELSON. Cl. 9.
726,146. KAMFLEX. Cl. 12.
726,154. TILT-MASTER. Cl. 12.
726,155. AVBOARD. Cl. 12.
726,156. TAPE O' SCREWS. Cl. 13.
726,158. ROYAL DRU. Cl. 13.
726,159. PRESTFLEX. Cl. 13.
726,166. SUPER SALE. Cl. 15.
726,168. TRIPLE KOTE. Cl. 16.
726,171. TIMEDS. Cl. 18.
726,172. NU-LIFE. Cl. 18.
726,174. SETROL. Cl. 18.
726,175. DEXTROID. Cl. 18.
726,176. RESPAX. Cl. 18.
726,178. SEDAPERSANTIN. Cl. 18.
726,181. BLEVIDON. Cl. 18.
726,183. BLOATEMUL. Cl. 18.
726,187. MENSAVITE. Cl. 18.
726,190. BULCOID. Cl. 18.
726,192. ATENSEN. Cl. 18.
726,194. POWER-BLOX. Cl. 19.
726,195. ALASKAN AIRE. Cl. 19.
726,196. AUTUMN AIRE. Cl. 19.
726,197. UTILICORK. Cl. 20.
726,199. PERSONAL PAGE. Cl. 21.
726,206. POOL ROOM AND DESIGN. Cl. 22.
726,207. ORANGE BLOSSOM. Cl. 22.
726,208. SINGING IN THE SHOWER. Cl. 22.
726,209. OPEN ROAD. Cl. 22.
726,210. FIGHTING LADY. Cl. 22.
726,211. TUMBLE BUM. Cl. 22.
726,212. SHMO. Cl. 22.
726,220. CENTER SINK. Cl. 23.
726,224. WICARIT. Cl. 23.
726,226. COFFEE CUB. Cl. 23.
726,227. HARTIG EXTRUDERS AND DESIGN. Cl. 23.
726,230. CESCO. Cl. 23.
726,231. CARPET-TENDER. Cl. 23.
726,239. PHOTOVERTER. Cl. 26.
726,245. QUEEN ANNE. Cl. 30.
726,246. LINCONITE. Cl. 30.
726,247. COLONIAL LACE. Cl. 30.
726,249. IONETTE. Cl. 31.
726,253. 1776 COLLECTION AND DESIGN. Cl. 32.

726,254. CASUALITE. Cl. 32.
726,258. BECKON-LYTE. Cl. 34.
726,259. BECKON-BEAM. Cl. 34.
726,262. LEWSCO. Cl. 35.
726,265. STAMP-TELLER. Cl. 37.
726,268. PERFAX. Cl. 37.
726,272. TO AND FRO. Cl. 37.
726,277. THORN McBRIDE. Cl. 38.
726,278. KEEPING TAB. Cl. 38.
726,282. CANCIONERO PICOT. Cl. 38.
726,285. STAMP WORLD. Cl. 38.
726,289. CATTLE CHATTER. Cl. 38.
726,291. THE NATIONAL BOWHUNTER. Cl. 38.
726,293. PANTASIA. Cl. 39.
726,294. FERRARI. Cl. 39.
726,295. LEON UNATIN ORIGINAL. Cl. 39.
726,299. VANALUX. Cl. 39.
726,303. PETITUFT. Cl. 42.
726,304. SPRUCE. Cl. 44.
726,305. ATCO AND DESIGN. Cl. 44.
726,308. "EPO-TEX." Cl. 44.
726,310. TRICK. Cl. 44.
726,311. SACRAMENTO SURVIVAL. Cl. 45.
726,312. TASTY MATES AND DESIGN. Cl. 45.
726,315. "A BIRD OF A TREAT!" AND DESIGN. Cl. 46.
726,323. JAM-B-ERRY. Cl. 46.
726,330. EL MITCO. Cl. 46.
726,342. CAPTURED BODY. Cl. 52.
726,348. GALLERY 3. Cl. 101.
726,355. ARRIS. Cl. 106.
726,356. TERRESTROL. Cl. 106.
726,357. AMERICAN MUSIC GUILD AND DESIGN. Cl. 200.
726,358. 5-IN-1. Cl. 2.
726,364. CHURCH ARTS. Cl. 12.
726,368. METAL AND DESIGN. Cl. 14.
726,372. LEV-R-VENT. Cl. 19.
726,373. MU CIRCUIT. Cl. 21.
726,375. MULTIPLE SPOT TAMPER AND DESIGN. Cl. 23.
726,376. SAVINGS BY THE YARD. Cl. 26.
726,377. BEDFORD. Cl. 26.
726,380. DSC AND DESIGN. Cl. 38.
726,381. NORFORD. Cl. 39.
726,382. "LIFE IN THE PALM OF YOUR HAND." Cl. 44.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

29,876. HUDSON BRAND AND DESIGN. Cl. 46. 4–20–1897. Hudson & Co. The Borden Company, New York, N.Y. Amended: In the statement, column 1, lines 9 through 22 are deleted and the drawing is amended to appear:

HUDSON BRAND

437,083. RP. Cl. 12. 3–9–48. H. H. Robertson Company, Pittsburgh, Pa. Amended: In the statement, column 1, line 5, after "Street", *now located at Two Gateway Center* is inserted, line 6, after "sylvania" *15222* is inserted and in lines 7 through 15, the description of goods is deleted and *metal floors, corrugated metal sheets for roofs, floors, and wall panels, and laminated metal sheets for use in the construction of buildings* is inserted.

437,084. RP AND DESIGN. Cl. 12. 3–9–48. H. H. Robertson Company, Pittsburgh, Pa. Amended: In the statement, column 1, line 5, after "Street", *now located at Two Gateway Center* is inserted, line 6 after "sylvania" *15222* is inserted and in lines 7 through column 2, line 1, the description of goods is deleted and *metal floors, corrugated metal sheets for roofs, floors, and wall panels, and laminated metal sheets for use in the construction of buildings* is inserted.

437,109. OCCASION. Cl. 6. 3–9–48. Lentheric, Incorporated. Helene Curtis Industries, Inc., Chicago, Ill. Amended: In the statement, column 1, line 6, "perfumes," is deleted and ", and cosmetic creams," is deleted, and the drawing is amended to appear:

OCCASION

442,273. NUPLA. Cl. 23. 3–22–49. New Plastic Corporation, Los Angeles, Calif. Corrected: In the statement, column 1, lines 2 and 3, "California" should be deleted and *Delaware* should be inserted.

620,777. IMPAX. Cl. 23. 2–7–56. New Plastic Corporation, Los Angeles, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Delaware* should be inserted.

622,110. NUPLAFLEX. Cl. 23. 2–28–56. New Plastic Corporation, Los Angeles, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Delaware* should be inserted.

628,215. NUPLA. Cl. 23. 6–5–56. New Plastic Corporation, Los Angeles, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Delaware* should be inserted.

725,375. BAN-LON AND DESIGN. Cl. 39. 12–19–61. Joseph Bancroft & Sons Co., Wilmington, Del. Amended: In the statement, column 2, lines 7 and 8 are deleted, and the drawing is amended to appear:



746,440. H-W MAGNAMIX. Cl. 12, 3–12–63. Harbison-Walker Refractories Company, Pittsburgh, Pa. Amended to appear:

MAGNAMIX

758,670. H-W HARMIX AL. Cl. 12. 10–22–63. Harbison-Walker Refractories Company, Pittsburgh, Pa. Amended to appear:

HARMIX AL

759,512. H-W HARMIX CU. Cl. 12. 11–5–63. Harbison-Walker Refractories Company, Pittsburgh, Pa. Amended to appear:

HARMIX CU

759,513. H-W HARMIX FE. Cl. 12. 11–5–63. Harbison-Walker Refractories Company, Pittsburgh, Pa. Amended to appear:

HARMIX FE

806,574. TEXDYE. Cl. 11. 4–5–66. Colonial Process Supply Co., Inc., East Rutherford, N.J. Corrected: In the statement, column 1, line 1, "New Jersey" should be deleted and *New York* should be inserted.

806,820. CINDERELLA. Cl. 107. 4–5–66. Cinderella Finishing School and Career College. Cinderella Career and Finishing Schools, Inc., Washington, D.C. Amended: In the

statement, column 2, lines 7 and 8, "fashion merchandising, and styling" is deleted.

828,481. MOBIL-FLEX. Cl. 21. 5–9–67. Magnatran Incorporated, Kearny, N.J. Amended to appear:

MOBILE-FLEX

835,464. NUPLOK. Cl. 23. 9–19–67. New Plastic Corporation, Los Angeles, Calif. In the statement, column 1, line 1, "California" should be deleted and *Delaware* should be inserted.

837,269. ISLAY MIST. Cl. 49. 10–17–67. D. Johnston & Company (Laphroaig) Limited, Isle of Islay, Scotland. Corrected: In the statement, column 1, line 1, "Johnson" should be deleted and *Johnston* should be inserted.

Erratum

The correction to Registration No. 834,167 in the OFFICIAL GAZETTE on December 12, 1967, having been in error, the same is hereby vacated and the Certificate of Registration is hereby restored to its original state.

INDEX OF REGISTRANTS

FEBRUARY 27, 1968

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

Aanenson, Vernon O., d.b.a. Old Dutch Foods, Minneapolis, Minn. 845,105, pub. 12–12–67. Cl. 46.
Abar Mfg. Co., Cleveland, Ohio. 726,304, canc. Cl. 44.
Abba-Fyrtornet Aktiebolag: *See*—
Rosenstein Brothers Inc.
Acorn Structures, Inc., Concord, Mass. 844,840, pub. 12–12–67. Cl. 12.
Adams, Elizabeth F., and Anthony W. Dupont, Jr., Bristol, R.I. 844,835, pub. 12–12–67. Cl. 8.
Adams, Martin & Nelson, Inc., Minneapolis, Minn. 845,186–7, pub. 12–12–67. Cl. 101.
Aesup Est., Vaduz, Liechtenstein, from August H. Halbeck, d.b.a. Borax-Dent Co., Coffeyville, Kans. 845,136, pub. 6–7–66. Cl. 51.
Affiliated Distillers Brands Corp., d.b.a. Dreyfus, Ashby & Co., New York, N.Y. 845,129–30, pub. 12–12–67. Cl. 47.
Air Master Corp., Philadelphia, Pa. 726,154, canc. Cl. 12.
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Alexander Doll Co., Inc., d.b.a. Madame Alexander, New York, N.Y. 844,953, pub. 12–12–67. Cl. 22.
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Allied Kid Co., Boston, Mass. 844,796, pub. 12–12–67. Cl. 1.
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American Furniture Co., The: *See*—
Skandia Furniture Co. of Rockford, Ill., The.
American Home Products Corp., New York, N.Y. 845,165, pub. 12–12–67. Cl. 52.
American Kitchen Products Co., Jersey City, N.J. 845,116, pub. 12–12–67. Cl. 46.
American Motor Inns of Sarasota, Inc., Sarasota, Fla. 845,180, pub. 12–12–67. Cl. 100.
American Music Guild, Inc., Washington, D.C. 726,357, canc. Cl. 200.
American Oil Co., The, Chicago, Ill. 844,867–8, pub. 12–12–67. Cl. 15.
American Photocopy Equipment Co., Evanston, Ill. 844,969, pub. 12–12–67. Cl. 26.
American Steel Foundries, to Amsted Industries Inc., Chicago, Ill. 500,163, ren. 2–27–68. Cl. 19.
American Tobacco Co., The, New York, N.Y. 844,877, pub. 12–12–67. Cl. 17.
Amertool Services, Inc., Cincinnati, Ohio. 845,199, pub. 12–12–67. Multiple Class (Classes 102 and 103).
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Antles, Lucille S., d.b.a. Antles Pollen Supplies, Wenatchee, Wash. 844,790, pub. 12–12–67. Cl. 1.
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Ardex Chemie G.m.b.H., Chemische Fabrik, Witten, Witten-Annen, Germany. 844,841, pub. 12–12–67. Cl. 12.
Arizona Agrochemical Corp., Phoenix, Ariz. 845,166, pub. 12–12–67. Cl. 100.
Armstrong, Robert T., Jr., d.b.a. Product Identification, Waukesha, Wis. 845,192, pub. 12–12–67. Cl. 101.
Asphalt Sealer Products Co., Inc., Columbus, Ohio. 844,967, pub. 12–12–67. Multiple Class (Classes 23 and 29).
Atco Surgical Supports, Inc., from The Akron Truss Co., Inc., Cuyahoga Falls, Ohio. 726,305, canc. Cl. 44.
Atkinson Milling Co., Minneapolis, Minn. 712,224, canc. Cl. 46.
Atlanta Braves, Inc., Atlanta, Ga. 845,032, pub. 12–12–67. Cl. 39.
Avco Corp., Nashville, Tenn. 726,155, canc. Cl. 12.
Balcar, Paris, France. 844,970, pub. 12–12–67. Cl. 26.
Bancroft, Joseph, & Sons Co., Wilmington, Del. 725,375. Am. 7(d). Cl. 39.
Bard, C. R., Inc., Murray Hill, N.J. 845,079, pub. 12–12–67. Cl. 44.
Barkelew Electric Mfg. Co., The, Middletown, Ohio. 844,913, pub. 12–12–67. Cl. 21.
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Baruda International Ltd., Gardena, Calif. 726,258–9, canc. Cl. 34.
Barwood Mfg. Corp., Everett, Mass. 844,855, pub. 12–12–67. Cl. 13.
Baskin-Robbins Inc., Burbank, Calif. 845,118, pub. 12–12–67. Cl. 46.
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Beede Electrical Instrument Co., Inc., Penacook, N.H. 845,019, pub. 12–12–67. Cl. 38.
Bender Electronics Corp., Maumee, Ohio. 844,914, pub. 12–12–67. Cl. 21.
Bennett Bros., Inc., New York, N.Y. 845,010, pub. 12–12–67. Cl. 37.
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Billboard Publishing Co., The, d.b.a. Watson-Guptill Publications, Cincinnati, Ohio. 845,021, pub. 12–12–67. Cl. 38.
Black Arrow Publishers, Inc., Norristown, Pa. 726,291, canc. Cl. 38.
Blue Bell Boots, Inc., Nashville, Tenn. 845,070, pub. 12–12–67. Cl. 39.
Blue Bell, Inc., Greensboro, N.C. 845,067, pub. 12–12–67. Cl. 39.
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Borg-Warner Corp., Chicago, Ill. 844,788, pub. 12–12–67. Multiple Class (Classes 1, 23, and 31).
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Brookfield Athletic Shoe Co., Inc., East Brookfield, Mass. 844,936, pub. 11–21–67. Cl. 22.
Brunswig Drug Co., El Segundo, Calif. 844,892, pub. 12–12–67. Cl. 18.
Budd Co., The, Philadelphia, Pa. 844,976, pub. 12–12–67. Cl. 26.
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Byrum Fashion Publications, Inc., Evanston, Ill. 845,020, pub. 12–12–67. Cl. 38.
Cabiri International Past Potentates, The, Oakland, Calif. 845,211, pub. 12–12–67. Cl. 200.
Caldwell Co., Inc., The, Rockford, Ill. 844,832, pub. 12–12–67. Cl. 7.
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Century Industries, Inc., Chicago, Ill. 845,001, pub. 12–12–67. Cl. 33.
Certified Ballast Manufacturers, Cleveland, Ohio. 845,212, pub. 12–12–67. Cl. A.
Certron Corp., Los Angeles, from Interstate Engineering Corp., Anaheim, Calif. 845,004, pub. 12–12–67. Cl. 36.
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Chadbourn Gotham, Inc., Charlotte, N.C. 845,048–50, pub. 12–12–67. Cl. 39.
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Challenge Machinery Co., The, Grand Haven, Mich. 438,846–7, ren. 2–27–68. Cl. 23.
Chal-Yon Corp., Ann Arbor, Mich. 433,625, ren. 2–27–68. Cl. 18.

Chambers, Paulin, Co., Ltd., Winnipeg, Manitoba, Canada. 845,092, pub. 12–12–67. Cl. 46.
Chemsearch Corp., Fort Collins, Colo. 844,870, pub. 5–23–67. Cl. 16.
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Chicago Specialty Mfg. Co., Skokie, Ill. 845,216. Cl. 23.
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Cochran Equipment & Service Co., Louisville, Ky. 726,230, canc. Cl. 23.
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Colgate-Palmolive-Peet Co., Jersey City, N.J., to Colgate-Palmolive Co., New York, N.Y. 436,109, ren. 2–27–68. Cl. 51.
College Temps, Inc., Bronx, N.Y. 845,184, pub. 12–12–67. Cl. 101.
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Columbia Broadcasting System, Inc., New York, N.Y. 845,200, pub. 12–12–67. Cl. 104.
Columbia Industries, Inc., San Antonio, Tex. 844,948, pub. 12–12–67. Cl. 22.
Commodore Corp., The, Omaha, Nebr. 844,898, pub. 12–12–67. Cl. 19.
Cooper's Inc., Kenosha, Wis. 845,029, pub. 12–12–67. Cl. 39.
Copley Press, Inc., The, Aurora, Ill. 726,277, canc. Cl. 38.
Copystatics Mfg. Corp., Miami Lakes, Fla. 844,985, pub. 12–12–67. Cl. 26.
Craftex Creations, Inc., New York, N.Y. 845,058, pub. 12–12–67. Cl. 39.
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Rasmussen, Orla E.
Darling, Wayne T., d.b.a. Lyle Printing & Publishing Co., Salem, Ohio. 845,017, pub. 12–12–67. Cl. 38.
Datronic Rental Corp., Chicago, Ill. 845,179, pub. 12–12–67. Cl. 100.
Delta Chi Fraternity, The, Iowa City, Iowa. 242,165, ren. 2–27–68. Cl. 38.
De Luxe Girdlecraft Co., Inc., New York, N.Y. 845,028, pub. 12–12–67. Cl. 39.
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Derby Sportswear, Inc., New York, N.Y. 726,293, canc. Cl. 39.
Desmond's Inc., Los Angeles, Calif. 845,055, pub. 12–12–67. Cl. 39.
Det Store Nordiske Telegraf-Selskab (Aktieselskab), Copenhagen, Denmark. 844,923–4, pub. 12–12–67. Cl. 21.
Diamond Alkali Co., Cleveland, Ohio. 844,826, pub. 12–12–67. Cl. 6.
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Dow Chemical Co., The, Midland, Mich. 845,177, pub. 12–12–67. Cl. 100.
Drackett Co., The, Cincinnati, Ohio. 845,160, pub. 12–12–67. Cl. 52.
Drackett Co., The, Cincinnati, Ohio. 845,162, pub. 12–12–67. Cl. 52.
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Dresser Industries, Inc., Dallas, Tex. 844,854, pub. 12–12–67. Cl. 13.
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Dunne Press, Inc., The, d.b.a. Dunne's International Insurance Reports, Louisville, Ky. 845,188. pub. 12–12–67. Cl. 101.
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General Tire & Rubber Co., The, Akron, Ohio. 844,938, pub. 12–12–67. Cl. 22.
General Waterproofing Corp., Warren, Ohio. 844,872, pub. 12–12–67. Cl. 16.

Gill, Thomas, Soap Co.: *See*—
Gill, Thomas, Soap Co., Inc.
Gill, Thomas, Soap Co., Inc., Brooklyn, to Thomas Gill Soap Co., White Plains, N.Y. 64,433, ren. 2–27–68. Cl. 52.
Gillette Co., The, Boston, Mass. 844,968, pub. 12–12–67. Multiple Class (Classes 23, 51, and 52).
Glamorise Foundations, Inc., New York, N.Y. 845,054, pub. 12–12–67. Cl. 39.
Glidden Co., The: *See*—
SCM Corp.
Global Van Lines, Inc., Anaheim, Calif. 845,202, pub. 12–12–67. Cl. 105.
Gloverall Ltd., London, England. 845,033, pub. 12–12–67. Cl. 39.
Goldner, Julius, d.b.a. Warwick Laboratories Co., to Warwick Laboratories Co., Inc., Brooklyn, N.Y. 435,544, ren. 2–27–68. Cl. 52.
Goldsmiths' Co. of Canada Ltd., The, Toronto, Ontario, Canada. 726,355, canc. Cl. 106.
Goodchild Corp., The, New York, N.Y. 845,185, pub. 12–12–67. Cl. 101.
Gordon-Ford Inc., Conshohocken, Pa. 726,381, canc. Cl. 39.
Graf, John, Co., to Graf's Beverages, Inc., Milwaukee, Wis. 234,521, ren. 2–27–68. Cl. 45.
Graf's Beverages, Inc.: *See*—
Graf, John, Co.
Gramercy Guild Group, Inc., Denver, Colo. 844,980, pub. 12–12–67. Cl. 26.
Gray Co., Inc., Minneapolis, Minn. 845,159, pub. 12–12–67. Cl. 52.
Great Lakes Paint & Varnish Co., Chicago, Ill. 726,168, canc. Cl. 16.
Greer Hydraulics Inc., Los Angeles, Calif. 434,118, ren. 2–27–68. Cl. 23.
Gregory Industries, Inc., Lorain, Ohio. 726,137, canc. Cl. 9.
Group Securities, Inc., Jersey City, N.J. 845,196, pub. 12–12–67. Cl. 102.
Groves, O. R., Ltd., London, England. 845,083, pub. 12–12–68. Cl. 45.
Gulf Oil Corp., Pittsburgh, Pa. 844,836, pub. 12–12–67. Cl. 10.
Gund Mfg. Co.: *See*—
Swedlin, J., Inc.
Gunzinger, E., & Co., Neuchatel, Switzerland. 844,986, pub. 12–12–67. Cl. 27.
Hairnet Corp. of America, New York, N.Y. 432,524, ren. 2–27–68. Cl. 39.
Halbeck, August H.: *See*—
Aesup, Est.
Hall, Sheldon M., d.b.a. Hy G Laboratories, Short Hills, N.J. 844 884, pub. 12–12–67. Cl. 18.
Hall, Turner, Corp., New York, N.Y. 845,150, pub. 12–12–67. Cl. 51.
Hanak, Richard J., Merion Station, Pa. 726,199, canc. Cl. 21.
Harbison-Walker Refractories Co., Pittsburgh, Pa. 746,440. Am. 7(d). Cl. 12.
Harbison-Walker Refractories Co., Pittsburgh, Pa. 758,670. Am. 7(d). Cl. 12.
Harbison-Walker Refractories Co., Pittsburgh, Pa. 759,512–3. Am. 7(d). Cl. 12.
Harms, Percy, Corp., Skokie, Ill. 844,829, pub. 12–12–67. Multiple Class (Classes 6 and 15).
Hartmann Mfg. Co.: *See*—
Koehring Co.
Harvey, William H., Co., Omaha, Nebr. 844,857–8, pub. 12–12–67. Cl. 13.
Hassenfeld Bros. Inc., Pawtucket, R.I. 844,954, pub. 12–12–67. Cl. 22.
Hedman Co., The, Chicago, Ill. 844,965, pub. 12–12–67. Cl. 23.
Herman, Irving, d.b.a. Herman's Quality Syrups, New York, N.Y. 704,711. canc. Cl. 45.
Herman's Quality Syrups: *See*—
Herman, Irving.
Heyman, Fannie R., New York, N.Y. 436,682, ren. 2–27–68. Cl. 51.
Higgins, Richard H., Hialeah, Fla. 844,929, pub. 12–12–67. Cl. 22.
Hilsinger Corp., The, Plainville, Mass. 844,982, pub. 12–12–67. Cl. 26.
Hilton Hotels Corp., Chicago, Ill. 845,172, pub. 12–12–67. Cl. 100.
Hilvert, Fred G., Co., Inc., Distributors, Palo Verde, Ariz. 845,127, pub. 12–12–67. Cl. 46.
Hines, Edward, Lumber Co., Chicago, Ill. 844,842, pub. 12–12–67. Cl. 12.
Hink, J. F., & Son, Berkeley, Calif. 845,063, pub. 12–12–67. Cl. 39.
House of Rondus: *See*—
Miller, George C.
Howse, Mead & Sons, Inc., New York, N.Y. 845,075, pub. 12–12–67. Cl. 42.
Hudson & Co., to The Borden Co., New York, N.Y. 29,876. Am. 7(d). Cl. 46.
Hudson Pulp & Paper Corp., New York, N.Y., from Standard International Corp., Holyoke, Mass. 843,005, pub. 9–13–66. Cl. 37.
Humboldt Livestock Auction, Inc., Humboldt, Iowa. 726,289, canc. Cl. 38.
Huntington Creek Corp., The, d.b.a. Spring Garden Flavor Co., New York, N.Y. 845,125, pub. 12–12–67. Cl. 46.
Hy G Laboratories: *See*—
Hall, Sheldon M.
Hydrometals, Inc., Chicago, Ill. 726,368, canc. Cl. 14.
Hy-Tyme, Inc., Park Ridge, Ill. 845,076, pub. 12–12–67. Cl. 44.
Ideal Toy Corp., Hollis, N.Y. 844,940, pub. 12–12–67. Cl. 22.
Industrial Electronic Engineers, Inc., Van Nuys, Calif. 844,919, pub. 10–24–67. Cl. 21.
Olivetti, Ing. C., & C., S.p.A., Ivrea, Italy. 844,978, pub. 12–12–67. Cl. 26.
Inka Cosmetics: *See*—
Inka Cosmetic G.m.b.H.
Inka Cosmetic G.m.b.H., Hannover, Germany, from Edith L. Molt, d.b.a. Inka Cosmetics, New York, N.Y. 845,135, pub. 1–4–66. Cl. 51.
Innoxa (England) Ltd., London, England. 845,143, pub. 12–12–67. Cl. 51.
Instituto Farmochimico Falorni, Florence, Italy. 844,881, pub. 12–12–67. Cl. 18.
International Latex Corp.: *See*—
Frederick, Purdue, Co., The.
International Motor Co., New York, N.Y., to Mack Trucks, Inc., Allentown, Pa. 231,645, ren. 2–27–68. Cl. 19.
International Motor Co., New York, N.Y., to Mack Trucks, Inc., Allentown, Pa. 232,268, ren. 2–27–68. Cl. 19.
International Resistance Co., Philadelphia, Pa. 726,373, canc. Cl. 21.
International Shoe Co., St. Louis, Mo. 726,294, canc. Cl. 39.
International Silver Co., The, Meriden, Conn. 844,988, pub. 8–1–67. Cl. 28.
International Vitamin Corp., now by change of name Ives-Cameron Co., Inc., to Ives Laboratories Inc., New York, N.Y. 435,761, ren. 2–27–68. Cl. 18.
Interstate Engineering Corp.: *See*—
Certron Corp.
Irwin, Neisler & Co., Decatur, Ill. 726,192, canc. Cl. 18.
Italsider S.p.A., Genoa, Italy. 844,862, pub. 12–12–67. Cl. 14.
Ives Laboratories Inc.: *See*—
International Vitamin Corp.
Ives-Cameron Co., Inc.: *See*—
International Vitamin Corp.
Jacoby-Bender, Inc., Woodside, N.Y. 844,804, pub. 12–12–67. Cl. 3.
Jay International Corp., The, Palatine, Ill. 844,921, pub. 12–12–67. Cl. 21.
Johnston, D., & Co. (Laphroaig) Ltd., Isle of Islay, Scotland. 837,269, cor. Cl. 49.
Johnson-Carper Furniture Co., Inc., Roanoke, Va. 726,253. canc. Cl. 32.
Johnson-March Corp., d.b.a. Triple E Co., Philadelphia, Pa. 844,791, pub. 12–12–67. Cl. 1.
Jolly Kids Togs, Inc., Chicago, Ill. 845,047, pub. 12–12–67. Cl. 39.
Joseloff, Stanley, Westport, Conn. 844,925, pub. 12–12–67. Cl. 22.
Judd, George E., Fort Myers, Fla. 845,087, pub. 12–12–67. Cl. 46.
Junior Food Products Co. Inc., Tyrone, Pa. 438,070, ren. 2–27–68. Cl. 46.
Kayser-Roth Corp., New York, N.Y. 845,051, pub. 12–12–67. Cl. 39.
Kayser-Roth Corp., New York, N.Y. 845,056–7, pub. 12–12–67. Cl. 39.
Kaz Mfg. Co., Inc., New York, N.Y. 845,002, pub. 7–20–65 Multiple Class (Classes 34 and 44).
Kearsbey & Mattison Co., Ambler, Pa. 726,146, canc. Cl. 12.
Kebek Industries, Inc., Knoxville, Tenn. 844,942, pub 12–12–67. Cl. 22.
Kelly Axe Mfg. Co., Alexandria, Ind., and New York, N.Y., to True Temper Corp., Cleveland, Ohio. 30,835, ren. 2–27–68 Cl. 23.
Kemble, Alma M., d.b.a. Kemble Lapidaries, Kenmore, N. Mex 844,994, pub. 12–12–67. Cl. 28.
Kemble Lapidaries: *See*—
Kemble, Alma M.
Kenrich Shoe Corp., Maysville, Ky. 845,041, pub. 12–12–67. Cl. 39.
Kentile Floors Inc., Brooklyn, N.Y. 844,910–11, pub. 12–12–67. Cl. 20.
Kershaw Mfg. Co., Inc., Montgomery, Ala. 726,375, canc. Cl. 23.
Keyes Fibre Co., Waterville, Maine. 844,800, pub. 12–12–67. Cl. 2.
Kimberly-Clark Corp., Neenah, Wis. 845,080, pub. 12–12–68. Cl. 44.
Kenney Co., The, Providence, R.I. 844,992, pub. 12–12–67. Cl. 28.
Klein, Max, Inc., Ferndale, Mich. 726,117, canc. Cl. 2.
Kleinwanzlebener Saatzucht Vorm Rabbethge & Giesecke Aktiengesellschaft, Einbeck, Hannover, Germany. 726,106–7, canc. Cl. 1.
Kloster Steel Corp., Chicago, Ill. 500,175, ren. 2–27–68. Cl. 14.
Knoll A.-G., Chemische Fabriken, Ludwigshafen, Rhine. Germany. 844,880, pub. 12–12–67. Cl. 18.
Koehring Co., Milwaukee, from Hartmann Mfg. Co., Racine, Wis. 844,960. pub. 1–11–66. Cl. 23.
Koninklijke Fabrieken Diepenbrock & Reigers N.V., Ulft, Netherlands. 726,158, canc. Cl. 13.
Koninklijke Maatschappij de Betuwe N.V., Tiel, Netherlands. 845,094. pub. 12–12–67. Cl. 46.
Kovar, John R., Mfg. Co., Inc., Anoka, Minn. 844,966, pub. 12–12–67. Cl. 23.
Kraft Foods Co., to National Dairy Products Corp., Chicago, Ill. 437,443, ren. 2–27–68. Cl. 46.
Krauss, John, Inc., Jamaica, N.Y. 845,090, pub. 12–12–67. Cl. 46.
Kreisler, Jacques, Mfg. Corp., North Bergen, N.J. 844,834, pub. 12–12–67. Cl. 8.
Kresge, S. S., Co., Detroit, Mich. 845,181, pub. 11–8–66. Cl. 101.
Laco Corp., from Pompeian Olive Oil Corp., Baltimore, Md. 845,119. pub. 12–12–67. Cl. 47.
Lagar Industries, Inc., Philadelphia, Pa. 845,163, pub. 12–12–67. Cl. 52.
Lakeland Nurseries Sales Corp., New York, N.Y. 726,111. canc. Cl. 1.
Lakeside Central Co., Chicago, Ill. 845,008, pub. 12–12–67. Cl. 37.

Lamb-Weston, Inc., Portland, Oreg. 845,115, pub. 12–12–67. Cl. 46.
Lawrence and the Arabians, Hyattsville, Md. 845,210, pub. 12–12–67. Cl. 107.
Leigh, Robert J., d.b.a. Fashion Fair Co., Arcadia, Calif. 845,154, pub. 12–12–67. Cl. 51.
Leisure Time Products, Inc., Nappanee, Ind. 844,903, pub. 12–12–67. Cl. 19.
Leith, Mynena, d.b.a. National Directory Service, Cincinnati, Ohio. 845,024, pub. 12–12–67. Cl. 38.
L'Electro-Refractaire, Paris, France. 844,838, pub. 12–12–67. Cl. 12.
Lentheric, Inc., to Helene Curtis Industries, Inc., Chicago, Ill. 437,109. Am. 7(d). Cl. 6.
Leomen Enterprises, Inc., New York, N.Y. 777,139, canc. Cl. 51.
Leventhal, Robert M., Los Angeles, Calif. 844,928, pub. 12–12–67. Cl. 22.
Leverage Tools, Inc., Hastings, Nebr. 844,962, pub. 12–12–67. Cl. 23.
Levinsohn Textile Co., to Levinsohn Textile Co., Inc., New York, N.Y. 500,598–9, ren. 2–27–68. Cl. 42.
Levinsohn Textile Co., Inc.: *See*— Levinsohn Textile Co.
Lewel Mfg. Co., Inc., New York, N.Y. 845,036, pub. 12–12–67. Cl. 39.
Lewis Supply Co. Inc., New York, N.Y. 726,262, canc. Cl. 35.
Lif-O-Gen, Inc., Norristown, Pa. 726,382, canc. Cl. 44.
Lilly, Eli, & Co., Indianapolis, Ind. 844,887, pub. 12–12–67. Cl. 18.
Lily Mill & Power Co., to Lily Mills Co., Shelby, N.C. 237,163, ren. 2–27–68. Cl. 43.
Lily Mills Co.: *See*— Lily Mill & Power Co.
Little Red Hen Country Chicken, Inc., Zion, Ill. 845,174, pub. 12–12–67. Cl. 100.
Lorillard, P., Co., New York, N.Y. 844,876, pub. 12–12–67. Cl. 17.
Loyal Gift Products Inc., New York, N.Y. 844,805, pub. 12–12–67. Cl. 3.
Lyle Printing & Publishing Co.: *See*— Darling, Wayne T.
M. Productions: *See*— Mulqueen, Jack.
MCM Cosmetics Corp., Great Neck, N.Y. 845,141, pub. 12–12–67. Cl. 51.
Mack Trucks, Inc.: *See*— International Motor Co.
Madame Alexander: *See*— Alexander Doll Co., Inc.
Magnatran Inc., Kearny, N.J. 828,481. Am. 7(d). Cl. 21.
Marcus & Wiesen, Inc., New York, N.Y. 438,464, ren. 2–27–68. Cl. 39.
Mars Mfg. Co., Inc., Asheville, N.C. 845,064, pub. 12–12–67. Cl. 39.
Martin, Pamela, Inc., Fall River, Mass. 845,046, pub. 12–12–67. Cl. 39.
Marx, Louis, & Co., Inc., New York, N.Y. 844,945–6, pub. 12–12–67. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 726,207–9, canc. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 844,956–7, pub. 12–12–67. Cl. 22.
Mavest, Inc., New York, N.Y. 845,061, pub. 12–12–67. Cl. 39.
Mayer Laboratories, Inc., San Rafael, Calif. 845,139, pub. 12–12–67. Cl. 51.
McCall Corp., New York, N.Y. 845,190, pub. 12–12–67. Cl. 101.
McCloud, Shasta, Steam Rail Tours, Inc., Livermore, Calif. 845,204, pub. 12–12–67. Cl. 105.
McKesson Laboratories: *See*— Foremost-McKesson, Inc.
McKesson & Robbins, Inc.: *See*— Foremost-McKesson, Inc.
McKusick, William, La Jolla, Calif. 844,931, pub. 12–12–67. Cl. 22.
Medalist Publications, Inc., Chicago, Ill. 845,016, pub. 12–12–67. Cl. 38.
Medical Supply Co., Rockford, Ill. 844,812, pub. 12–12–67. Multiple Class (Classes 6, 18, and 44).
Medicraft Pharmacal Co., Inc., Chicago, Ill. 726,171, canc. Cl. 18.
Merck & Co., Inc., Rahway, N.J. 726,125, canc. Cl. 6.
Merck & Co., Inc., Rahway, N.J. 844,886, pub. 12–12–67. Cl. 18.
Micro Eye, Grand Forks, N. Dak. 845,198, pub. 12–12–67. Cl. 102.
Midget Louver Co.: *See*— Scallon, Frank J.
Midland-Ross Corp., Cleveland, Ohio. 726,227, canc. Cl. 23.
Midlands Chemical Corp., Madison, S. Dak. 844,819, pub. 12–12–67. Cl. 6.
Midwestern Editorial Service: *See*— Uchitelle, Robert.
Miller, George C., d.b.a. House of Rondus, San Francisco, Calif. 845,149, pub. 12–12–67. Cl. 51.
Miller Oil Co., The, d.b.a. Tag Airlines, Toledo, Ohio. 845,201, pub. 12–12–67. Cl. 105.
Miller Spreader Co., The: *See*— Renner Co., The.
Milwaukee Faucets, Inc., Milwaukee, Wis. 844,860, pub. 12–12–67. Cl. 13.
Minette Mills, Inc., Grover, N.C. 726,303, canc. Cl. 42.
Minnesota Mining and Mfg. Co., St. Paul, Minn., from Cardiosonics Medical Instruments Corp., Cambridge, Mass. 845,078, pub. 12–12–67. Cl. 44.
Mr. Mod Shop, Inc., New Orleans, La. 845,072, pub. 12–12–67. Cl. 41.
Mr. Mod Shop, Inc., New Orleans, La. 845,088–9, pub. 12–12–67. Cl. 46.
Mitchell Co., The: *See*— Mitchell, Eldredge.
Mitchell, Eldredge, d.b.a. The Mitchell Co., Memphis, Tenn. 726,330, canc. Cl. 46.
Moark Productions, Inc., Neosho, Mo. 845,096, pub. 12–12–67. Cl. 46.
Moda Mia, Inc., New York, N.Y. 845,147, pub. 12–12–67. Cl. 51.
Modern Spacemaster Products, Inc., Great Neck, N.Y. 726,231, canc. Cl. 23.
Moffett, C. J., Medicine Co.: *See*— Gardner, Mary.
Molt, Edith L.: *See*— Inka Cosmetic G.m.b.H.
Monsanto Chemical Co., St. Louis, Mo. 438,065, ren. 2–27–68. Cl. 1.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 500,664, ren. 2–27–68. Cl. 6.
Monsanto Co.: *See*— Monsanto Chemical Co.
Morgan Development Laboratories, Inc., New Canaan, Conn. 726,265, canc. Cl. 37.
Morrell, John, & Co., Chicago, Ill. 845,128, pub. 12–12–67. Cl. 46.
Morris, Philip, Inc., New York, N.Y. 844,875, pub. 12–12–67. Cl. 17.
Moser Paper Co., Chicago, Ill. 844,809, pub. 12–12–67. Cl. 6.
Moss Co., The, to Sarah M. Smith, Rochester, N.Y. 436,425, ren. 2–27–68. Cl. 18.
Motsel, Werner, d.b.a. Weingut Motsel Weingrosskellerei, Gau-Algesheim, Rhine, Germany. 845,131–2, pub. 12–12–67. Cl. 47.
Mueller Brass Co., Port Huron, Mich. 238,661, ren. 2–28–68. Cl. 14.
Mulqueen, Jack, d.b.a. M. Productions, Palatine, Ill. 845,206, pub. 12–12–67. Cl. 107.
Murray, Arthur, Inc., New York, N.Y. 845,208, pub. 12–12–67. Cl. 107.
Mutual Citrus Products Co., Anaheim, Calif. 845,122, pub. 12–12–67. Cl. 46.
N.V. Lankhorst Touwfabrieken, Sneek, Netherlands. 844,830–1, pub. 12–12–67. Cl. 7.
N.V. Wallramit Hardmetaal Maatschappij, Maasluis, Netherlands. 726,224. canc. Cl. 23.
Naremco, Inc., Springfield, Mo. 844,885, pub. 12–12–67. Cl. 18.
Naremco, Inc., Springfield, Mo. 844,891, pub. 12–12–67. Cl. 18.
National Automotive Parts Association, Chicago, Ill. 844,917, pub. 12–12–67. Cl. 21.
National Dairy Products Corp.: *See*— Kraft Foods Co.
National Directory Service: *See*— Leith, Mynena.
National Distillers & Chemical Corp., New York, N.Y. 844,789, pub. 12–12–67. Cl. 1.
National Steel Corp., Pittsburgh, Pa. 844,863, pub. 12–12–67. Cl. 14.
Nelson Auction Service, Inc., Amarillo, Tex. 845,191, pub. 12–12–67. Cl. 101.
New Plastic Corp., Los Angeles, Calif. 442,273, cor. Cl. 23.
New Plastic Corp., Los Angeles, Calif. 620,777, cor. Cl. 23.
New Plastic Corp., Los Angeles, Calif. 622,110, cor. Cl. 23.
New Plastic Corp., Los Angeles, Calif. 628,215, cor. Cl. 23.
New Plastic Corp., Los Angeles, Calif. 835,404, cor. Cl. 23.
New Yorker Magazine, Inc., The, New York, N.Y. 845,219–23. Cl. 38.
Newell Mfg. Co., Freeport, Ill. 844,920, pub. 12–12–67. Cl. 21.
Nicholas International Ltd., Toronto, Ontario, Canada. 726,176, canc. Cl. 18.
Nicholas International Ltd., Toronto, Ontario, Canada. 726,183, canc. Cl. 18.
Nicholl Bros., Inc., Kansas City, Mo. 844,922, pub. 12–12–67. Cl. 21.
Nicolet-Krommenie N.V., Krommenie, Netherlands. 845,098, pub. 12–12–67. Cl. 46.
Norfolk Products Corp., Norfolk, Conn. 726,220, canc. Cl. 23.
Northern States Envelope Co., Inc., St. Paul, Minn. 726,272, canc. Cl. 37.
Northwest Interior Systems, Inc., Newport Beach, Calif. 844,999, pub. 12–12–67. Cl. 32.
Novo Industrial Corp., Chicago, Ill. 726,254, canc. Cl. 32.
Noxell Corp., Baltimore, Md. 845,144, pub. 12–12–67. Cl. 51.
Nu-Dent Porcelain Studio, Inc., New York, N.Y. 726,308, canc. Cl. 44.
Nuger Ford Rubber Products: *See*— Nuger-Ford Products Co.
Nuger-Ford Products Co., from Nuger Ford Rubber Products, Thompsonville, Conn. 845,043, pub. 12–12–67. Cl. 39.
Okin, Milton, d.b.a. Prudent Foods & Confections Co., Yonkers, N.Y. 845,101, pub. 12–12–67. Cl. 46.
Old Dutch Foods: *See*— Aanenson, Vernon O.
Olson Electronics, Inc., Akron, Ohio. 844,915, pub. 12–12–67. Multiple Class (Classes 21, 26, and 36).
O'Neal, Edwin W., Tulsa, Okla. 844,959, pub. 8–30–66. Cl. 23.
Oneida, Ltd., Oneida, N.Y. 844,990–1, pub. 12–12–67. Cl. 28.
Organic Products Co.: *See*— Walter, John C.
Organon Inc., West Orange, N.J. 844,894, pub. 12–12–67. Cl. 18.
Ott Chemical Co., The, Muskegon, Mich. 844,824, pub. 12–12–67. Cl. 6.
Owens Brush Co., Toledo, Ohio, to Chemway Corp., Wayne, N.J. 500 522, ren. 2–27–68. Cl. 29.
Oxford Industries, Inc., from Oxford Mfg. Co., Atlanta, Ga. 845,040, pub. 12–12–67. Cl. 39.
Oxford Mfg. Co.: *See*— Oxford Industries, Inc.
Palm Beach Co., Portland, Maine. 845,053, pub. 12–12–67. Cl. 39.

Palmland Fashions, Inc., Miami, Fla. 845,038, pub. 12–12–67. Cl. 39.
Panavision, Inc., Los Angeles, Calif. 845,014, pub. 12–12–67. Cl. 38.
Paris Skirts Inc., New York, N.Y. 845,035, pub. 12–12–67. Cl. 39.
Parker Bros., Inc., Salem, Mass. 844,952, pub. 12–12–67. Cl. 22.
Pendleton Woolen Mills, Portland, Oreg. 242,770, ren. 2–27–68. Cl. 42.
Peninsular Chemresearch, Inc., Gainesville, Fla. 844,821, pub. 12–12–67. Cl. 6.
Penn, John W., d.b.a. Penn Warehouse, South St. Paul, Minn. 726,194, canc. Cl. 19.
Penn Warehouse: *See*— Penn, John W.
Perry-Sherwood Corp., New York, N.Y. 726,268, canc. Cl. 37.
Pet Inc.: *See*— F & L Food Products Co.
Pet Inc., d.b.a. Bluebird Potato Chip Co., St. Louis, Mo. 845,095, pub. 12–12–67. Cl. 46.
Peter Pan International, Inc., from Peter Pan Swimwear International, Inc., New York, N.Y. 845,031, pub. 12–12–67. Cl. 39.
Peter Pan Swimwear International, Inc.: *See*— Peter Pan International, Inc.
Pfizer, Chas., & Co., Inc.: *See*— Roerig, J. B.
Pflueger, Corp., Akron, Ohio. 844,947, pub. 12–12–67. Cl. 22.
Phillips-Van Heusen Corp., New York, N.Y. 726,299, canc. Cl. 39.
Photochron Instruments, Inc., Westbury, N.Y. 726,239, canc. Cl. 26.
Physicians & Hospitals Supply Co., Inc., Minneapolis, Minn. 844,814, pub. 12–12–67. Multiple Class (Classes 6 and 26).
Physio-Control Corp., Seattle, Wash. 844,971, pub. 12–12–67. Cl. 26.
Picot Laboratories, Inc., Mount Vernon, N.Y. 726,282, canc. Cl. 38.
Pigall's French Restaurant, Inc., Cincinnati, Ohio. 845,175, pub. 12–12–67. Cl. 100.
Pinkerton Tobacco Co., The, Toledo, Ohio. 844,874, pub. 12–12–67. Cl. 17.
Pinta Products, Inc., Providence, R.I. 844,993, pub. 12–12–67. Cl. 28.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 845,018, pub. 12–12–67. Cl. 38.
Plough, Inc., Memphis, Tenn. 436,204–5, ren. 2–27–68. Cl. 18.
Pompeian Olive Oil Corp.: *See*— Lace Corp.
Pool Room, Inc., The, Fort Lauderdale, Fla. 726,206, canc. Cl. 22.
Presco Food Products, Inc.: *See*— Preservaline Mfg. Co., The.
Preservaline Mfg. Co., The, Brooklyn, N.Y., to Presco Food Products, Inc., Flemington, N.J. 435,272, ren. 2–27–68. Cl. 46.
Prestole Corp., Toledo, Ohio. 726,159, canc. Cl. 13.
Prince Gardner Co., Inc., St. Louis, Mo. 844,803, pub. 12–12–67. Cl. 3.
Procter & Gamble Co., The, Cincinnati, Ohio. 726,342, canc. Cl. 52.
Procter & Gamble Co., The, Cincinnati, Ohio. 845,164, pub. 12–12–67. Cl. 52.
Product Identification: *See*— Armstrong, Robert T., Jr.
Progressive Metal Equipment, Inc., d.b.a. Progressive Metal Equipment Inc., Progressive Metal Equip't Inc., and Progressive Metal Equipment Inc., Philadelphia, Pa. 844,851, pub. 12–12–67. Cl. 13.
Protege Corp., Skokie, Ill. 845,155–6, pub. 12–12–67. Cl. 51.
Prudent Foods & Confections Co.: *See*— Okin, Milton.
Putt Trac Golf Sales: *See*— Donaldson, James E.
Quality Water, Inc., Urbana, Ill. 845,084, pub. 12–12–67. Cl. 45.
Ralston Purina Co., St. Louis, from Chic-N-Krisp, Inc., Kansas City, Mo. 845,091, pub. 12–12–67. Cl. 46.
Ralston Purina Co., St. Louis, Mo. 845,102, pub. 12–12–67. Cl. 46.
Ranco Container Products Ltd., Burlington, Ontario, Canada. 844,802, pub. 12–12–67. Cl. 2.
Random Consumer Products Ltd., Toronto, Ontario, Canada. 844,932, pub. 12–12–67. Cl. 22.
Rasmussen, Orla E., d.b.a. Flora Danica Jewelry, Copenhagen-Valby, Denmark. 844,987, pub. 12–12–67. Cl. 28.
Rayne Corp., Santa Barbara, Calif., from Scotti Water Conditioning Co., Waxahachie, Tex. 844,997, pub. 12–12–67. Cl. 31.
Reach Geo. A., Co., The, Cincinnati, Ohio. 844,926, pub. 12–12–67. Cl. 22.
Record Service Center, Houston, Tex. 845 213. Cl. 2.
Red Dog, Inc., Lawrence, Kans. 843,209, pub. 12–12–67. Cl. 107.
Redman Industries, Inc., Dallas, Tex. 844,904–5, pub. 12–12–67. Cl. 19.
Reid-Meredith, Inc., Lawrence, Mass. 845,157, pub. 12–12–67. Cl. 51.
Relax-O Co., Chicago, Ill. 500 471, ren. 2–27–68. Cl. 51.
Remco Industries, Inc., Newark, N.J. 726,210–12, canc. Cl. 22.
Renner Co., The, d.b.a. The Miller Spreader Co., Youngstown, Ohio. 844,958. pub. 2–16–65. Cl. 23.
Reppel & Vollmann, Klerspe, Westphalia, Germany. 844,798, pub. 12–12–67. Cl. 2.
Revlon, Inc., New York. N.Y. 845,153. pub. 12–12–67. Cl. 51.
Rexall Drug & Chemical Co., d.b.a. Fiberfil, Los Angeles, Calif. 844,793, pub. 12–12–67. Cl. 1.
Rexarc, Inc.: *See*— Sight Feed Generator Co., The.
Rheingold Breweries, Inc., d.b.a. Forrest Brewing Co., Brooklyn, N.Y. 845,133, pub. 12–12–67. Cl. 48.
Riekes Crisa Corp., Laredo, Tex. 845,000, pub. 12–12–67. Cl. 33.
Robertson, H. H., Co., Pittsburgh, Pa. 437,083–4. Am. 7(d). Cl. 12.
Rocket Jewelry Box, Inc., Bronx, N.Y. 844,989, pub. 12–12–67. Cl. 28.
Rockwell, Leon G., d.b.a. Rockwell Specialties Co., Dearborn, Mich. 726,122, canc. Cl. 6.
Rockwell Specialties Co.: *See*— Rockwell, Leon G.
Rockwell-Standard Corp., Pittsburgh, Pa. 844,861, pub. 12–12–67. Cl. 13.
Roerig, J. B., Chicago, Ill., from Chas. Pfizer & Co., Inc., New York, N.Y. 424,731, canc. Cl. 18.
Roerig, J. B., & Co., Chicago, Ill. 504,328, canc. Cl. 6.
Roerig, J. B., & Co., Chicago, Ill. 504,965–7, canc. Cl. 6.
Roerig, J. B., & Co., Chicago, Ill. 506,456, canc. Cl. 6.
Roerig, J. B., & Co., Chicago, Ill., assor. to Chas. Pfizer & Co., Inc., New York, N.Y. 582,639, canc. Cl. 18.
Ronard Industries, Inc., South Bend, Ind. 844,852, pub. 12–12–67. Cl. 13.
Ronebolls Ltd., East Islip, N.Y. 845,073, pub. 12–12–67. Cl. 42.
Rosenbaum & Hochberg, Inc., New York, N.Y. 845,044, pub. 12–12–67. Cl. 39.
Rosenstein Brothers Inc., New York, N.Y., to Abba-Fyrtornet Aktiebolag, Stockholm, Sweden. 67,195, ren. 2–27–68. Cl. 46.
Rouke, William J., d.b.a. Enco Engineering Co., Detroit, Mich. 711,641, canc. Cl. 100.
Royal, H. M., Inc., Trenton, N.J. 844,820, pub. 12–12–67. Cl. 6.
Rubber House, Inc., The, Atlanta, Ga. 844,787, pub. 12–12–67. Multiple Class (Classes 1, 35, and 39).
Rudd-Melikian, Inc., Hatboro, Pa. 726,226, canc. Cl. 23.
Rueckheim Bros. & Eckstein, Chicago, Ill., to The Borden Co., New York, N.Y. 66,395, ren. 2–27–68. Cl. 46.
SCM Corp., New York, N.Y., from The Glidden Co., d.b.a. Durkee Famous Foods, Cleveland, Ohio. 845,114, pub. 12–12–67. Cl. 46.
Salem Paint Inc., Hackensack, N.J. 844,873, pub. 12–12–67. Cl. 16.
Sargent & Co., from Sargent & Co., New Haven, Conn. 844,850, pub. 12–12–67. Multiple Class (Classes 13 and 25).
Sarong, Inc., Dover, Del. 845,138, pub. 3–21–67. Cl. 51.
Scallon, Frank J., d.b.a. Midget Louver Co., Norwalk, Conn. 438 934, ren. 2–27–68. Cl. 34.
Schlesinger, Joseph H., d.b.a. Eagle Chemical Co., New York, N.Y. 845,082, pub. 12–12–67. Cl. 44.
Schmit Baking Co., Inc., Baltimore, Md. 845,097, pub. 12–12–67. Cl. 46.
Scholastic Magazines, Inc., New York, N.Y. 845,022, pub. 12–12–67. Cl. 38.
Scotti Water Conditioning Co.: *See*— Rayne Corp.
Scripto, Inc., Atlanta, Ga. 845,011, pub. 12–12–67. Cl. 37.
Scurich, Stephen Bob: *See*— Scurich, Stephen, Orchard.
Scurich, Stephen, Orchard, d.b.a. Stephen Bob Scurich, Watsonville, Calif. 845,110, pub. 12–12–67. Cl. 46.
Security Mills, Inc., Knoxville, Tenn. 438,540, ren. 2–27–68. Cl. 46.
Sessions Co., Inc., Enterprise, Ala. 845,103, pub. 12–12–67. Cl. 46.
Sexauer, J. A., Mfg. Co. Inc., White Plains, N.Y. 439,361, ren. 2–27–68. Cl. 13.
Seymour Super, Great Neck, N.Y. 845,207, pub. 12–12–67. Cl. 107.
Sheetmaster Corp., Boca Raton, Fla. 844,964, pub. 10–10–67. Cl. 23.
Shelby Corp., Shelby, Ohio. 844,844, pub. 12–12–67. Cl. 13.
Sherman, H. B., Mfg. Co., Battle Creek, Mich. 844,848–9, pub. 12–12–67. Cl. 13.
Showcase Programatic, Inc., New York, N.Y. 844,972, pub. 12–12–67. Cl. 26.
Sight Feed Generator Co., The, to Rexarc, Inc., West Alexandria Ohio. 438,092, ren. 2–27–68. Cl. 34.
Sikeston Ceramics, Inc., Sikeston, Mo. 726,136, canc. Cl. 8.
Sinclair-Koppers Co., Pittsburgh, Pa. 844,792, pub. 12–12–67. Cl. 1.
Skandia Furniture Co. of Rockford, Ill., The, Rockford, Ill., to The American Furniture Co., Batesville, Ind. 243,133, ren. 2–27–68. Cl. 32.
Slawsby, Archie, Agency, Inc., Nashua, N.H. 845,195, pub. 12–12–67. Cl. 102.
Smart Products, Inc., Atlanta, Ga. 845,042, pub. 12–12–67. Cl. 39.
Smith Kline & French Laboratories, Philadelphia, Pa. 845,077, pub. 12–12–67. Cl. 44.
Smith, Sarah M.: *See*— Moss Co., The.
Snokist Growers, Yakima, Wash. 845,126, pub. 12–12–67. Cl. 46.
Somerset Refinery, Inc., The, Somerset, Ky. 726,166, canc. Cl. 15.
Soss Mfg. Co., Detroit, Mich. 844 977, pub. 12–12–67. Cl. 26.
Southco, Inc., Lester, Pa. 844,859, pub. 12–12–67. Cl. 13.
Southern Fiber Glass Products, Inc., Sanford, Fla. 844,906–8, pub. 12–12–67. Cl. 19.
Southwest Forest Industries, Inc., Phoenix, Ariz. 845,007, pub. 12–12–67. Cl. 37.
Spartans Industries, Inc., New York, N.Y. 845,145, pub. 12–12–67. Cl. 51.
Sportartikelerzeugung: *See*— Fischer, Josef.

Sports Car Club of America, Inc., Westport, Conn. 845,168, pub. 12–12–67. Cl. 100.
Spring Garden Flavor Co.: *See*—
Huntington Creek Corp., The.
Stadler, George, d.b.a. Vulcan Photo Engraving Co., New York, N.Y. 844,983, pub. 12–12–67. Cl. 26.
Stamp World Inc., Brooklyn, N.Y. 726,285, canc. Cl. 38.
Standard Candy Co., Nashville, Tenn. 500,597, ren. 2–27–68. Cl. 46.
Standard International Corp.: *See*—
Hudson Pulp & Paper Corp.
Standard Milling Co., Kansas City, Mo. 844,797, pub. 12–12–67. Cl. 1.
Standard Packaging Corp., New York, N.Y. 845,012, pub. 12–12–67. Cl. 37.
Stanfield, S. Sharpe, d.b.a. S. Sharpe Stanfield & Associates, New Orleans, La. 726,364, canc. Cl. 12.
Stanfield, S. Sharpe, & Associates: *See*—
Stanfield, S. Sharpe.
Stanley Rule & Level Co., to The Stanley Works, New Britain, Conn. 67,119, ren. 2–27–68. Cl. 23.
Stanley Works, The: *See*—
Stanley Rule & Level Co.
Stant Mfg. Co., Inc., Connersville, Ind. 726,372, canc. Cl. 19.
Star Valley Lumber Co., Afton, Wyo. 844,839, pub. 12–12–67. Cl. 12.
Starr Pharmacal Co., Los Angeles, Calif. 726,175, canc. Cl. 18.
State Automobile & Casualty Underwriters, The: *See*—
Statesman Insurance Co., The.
Statesman Insurance Co., The, Indianapolis, Ind., from The State Automobile & Casualty Underwriters, Des Moines, Iowa. 845,194, pub. 12–12–67. Cl. 102.
Statistical Tabulating Corp., Chicago, Ill. 726,278, canc. Cl. 38.
Stauffer Chemical Co., New York, N.Y. 844,912, pub. 10–10–67. Cl. 20.
Stein, A., & Co.: *See*—
Stein, A., & Co., Inc.
Stein, A., & Co., Inc., Wilmington, Del., from A. Stein & Co., Chicago, Ill. 726,135, canc. Cl. 8.
Sternco Industries, Inc., Harrison, N.J. 844,801, pub. 12–12–67. Multiple Class (Classes 2 and 50).
Stetson China Co., Lincoln, Ill. 726,245–7, canc. Cl. 30.
Strauss Stores Corp., Maspeth, N.Y. 844,869, pub. 12–12–67. Cl. 15.
Studley Paper Co., Inc., Far Rockaway, N.Y. 844,799, pub. 12–12–67. Cl. 2.
Suffolk Farms Packing: *See*—
Suffolk Farms Packing Co., Inc.
Suffolk Farms Packing Co., Inc., d.b.a. Suffolk Farms Packing, Chelsea, Mass. 845,120–1, pub. 12–12–67. Cl. 46.
Sulzer Brothers Ltd., Winterthur, Switzerland. 844,918, pub. 12–12–67. Cl. 21.
Sumitomo Metal Industries, Ltd., Osaka, Japan. 844,899, pub. 12–12–67. Cl. 19.
Sun Chemical Corp., New York, N.Y., to The Western Petrochemical Corp., Chanute, Kans. 436,208, ren. 2–27–68. Cl. 6.
Sutone Corp., Los Angeles, Calif. 726,195–6, canc. Cl. 19.
Swedish Crown Comb Co. A/B, Goteborg, Sweden. 845,071, pub. 12–12–67. Cl. 40.
Swedlin, J., Inc., d.b.a. Gund Mfg. Co., Brooklyn, N.Y. 844,939, pub. 12–12–67. Cl. 22.
Swedlin, J., Inc., d.b.a. Gund Mfg. Co., Brooklyn, N.Y. 844,949–51, pub. 12–12–67. Cl. 22.
Systems Technology Associates, Inc., McLean, Va. 845,176, pub. 12–12–67. Cl. 100.
Tag Airlines: *See*—
Miller Oil Co., The.
Target Stores, Inc., Minneapolis, Minn. 845,193, pub. 12–12–67. Cl. 101.
Tasty Mates Co., Camden, N.J. 726,312, canc. Cl. 45.
Taylor Plastics, Inc., Howell, Mich. 844,845, pub. 12–12–67. Cl. 13.
Technic, Inc., Cranston, R.I. 844,811, pub. 12–12–67. Cl. 6.
Teena Paige Fashions, Inc., New York, N.Y. 707,594, canc. Cl. 39.
Teenform, Inc., New York, N.Y. 845,037, pub. 12–12–67. Cl. 39.
Teenform, Inc., New York, N.Y. 845,052, pub. 12–12–67. Cl. 39.
Telan Corp., Denver, Colo. 845,081, pub. 12–12–67. Cl. 44.
Television, Radio & Film Commission of The Methodist Church, The, Nashville, Tenn. 845,205, pub. 12–12–67. Cl. 107.
Testing Systems, Inc., Glenside, Pa. 844,828, pub. 12–12–67. Multiple Class (Classes 6 and 26).
Texas Pharmacal Co., San Antonio, Tex. 844,888, pub. 12–12–67. Cl. 18.
Texas Pharmacal Co., San Antonio, Tex. 844,893, pub. 12–12–67. Cl. 18.
Texlon Corp., Dallas, Tex. 726,132, canc. Cl. 7.
Textron, Inc., Bridgeport, Conn. 844,974, pub. 12–12–67. Cl. 26.
Thermosen, Inc., Stamford, Conn. 845,214. Cl. 21.
Thiokol Chemical Corp., Bristol, Pa. 844,979, pub. 12–12–67. Cl. 26.
Thomae, Dr. Karl, G.m.b.H., Biberach an der Riss, Germany. 726,178, canc. Cl. 18.
Thompson-Hayward Chemical Co., Kansas City, Kans. 844,823, pub. 12–12–67. Cl. 6.
Tideland Signal Corp., Houston, Tex. 844,975, pub. 12–12–67. Cl. 26.
Tompkins Industries, Orange, Calif. 844,856, pub. 12–12–67. Cl. 13.
Tracor Inc., Austin, Tex. 845,023, pub. 12–12–67. Cl. 38.
Trappey's, B. F., Sons, Inc., New Iberia, La. 845,099, pub. 12–12–67. Cl. 46.
Trappey's, B. F., Sons, Inc., New Iberia, La. 845,107–8, pub. 12–12–67. Cl. 46.
Trimac Engineering, Inc., Salem, Mass. 844,916, pub. 12–12–67. Cl. 21.
Triple E Co.: *See*—
Johnson-March Corp.
True Temper Corp.: *See*—
Kelly Axe Mfg. Co.
Turtle Wax, Inc., Chicago, Ill. 726,119, canc. Cl. 4.
Uchitelle, Robert, d.b.a. Midwestern Editorial Service, Evanston, Ill. 845,197, pub. 12–12–67. Cl. 102.
Unatin, Leon, and Muriel Unatin, Las Vegas, Nev. 726,295, canc. Cl. 39.
Union Steel Chest Corp., Le Roy, N.Y. 844,935, pub. 12–12–67. Cl. 22.
Uniroyal, Inc.: *See*—
United States Rubber Co.
United Merchants and Mfg., Inc., New York, N.Y. 845,074, pub. 12–12–67. Cl. 42.
United States Rubber Co., New York, N.Y. 845,217–8. Cl. 35.
United States Rubber Co., to Uniroyal, Inc., New York, N.Y. 500,461, ren. 2–27–68. Cl. 1.
United States Shoe Corp., The, Cincinnati, Ohio. 845,066, pub. 12–12–67. Cl. 39.
United States Steel Corp., Pittsburgh, Pa. 844,827, pub. 12–12–67. Cl. 6.
Universal Oil Products Co., Des Plaines, Ill. 845,169, pub. 12–12–67. Multiple Class (Classes 100 and 103).
Vac-Hyd Processing Corp., Detroit, Mich. 844,815, pub. 8–29–67. Cl. 6.
Vance Publishing Corp., Chicago, Ill. 726,380, canc. Cl. 38.
Verschingel, Joseph G., d.b.a. Electrical Machinery Co., Mosier, Oreg. 844,901, pub. 12–12–67. Cl. 19.
Veterinary Research Institute, from Veterinary Supply Depot Inc., Dallas, Tex. 844,882–3, pub. 11–14–67. Cl. 18.
Veterinary Supply Depot Inc.: *See*—
Veterinary Research Institute.
Village Bath Products, Inc., Minnetonka, Minn. 844,865, pub. 12–12–67. Cl. 15.
Vince's Chefs, Inc., Calumet City, Ill. 845,167, pub. 12–12–67. Cl. 100.
Viobin Corp., Monticello, Ill. 845,137, pub. 12–12–67. Cl. 51.
Vitarine Co., Inc., The, New York, N.Y. 726,187, canc. Cl. 18.
Vogeler, Inc., Philadelphia, Pa. 845,086, pub. 12–12–67. Cl. 46.
Vornado, Inc., Garfield, N.J. 844,933–4, pub. 12–12–67. Cl. 22.
Vulcan Photo Engraving Co.: *See*—
Stadler, George.
Wallach's Inc., Long Island City, N.Y. 845,045, pub. 10–17–67. Cl. 39.
Walter, John C., d.b.a. Organic Products Co., Irving, Tex. 844,837, pub. 10–17–67. Cl. 11.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 844,879, pub. 11–1–66. Cl. 18.
Warwick Laboratories Co.: *See*—
Goldner, Julius.
Warwick Laboratories Co., Inc.: *See*—
Goldner, Julius.
Warwick Wax Co., Inc., New York, N.Y., to The Western Petrochemical Corp., Chanute, Kans. 435,620, ren. 2–27–68. Cl. 1.
Water Treatment Corp. of America, Portland, Oreg. 844,810, pub. 12–12–67. Cl. 6.
Watson-Guptill Publications: *See*—
Billboard Publishing Co., The.
Wayne, Judy, Inc., New York, N.Y. 845,068, pub. 12–12–67. Cl. 39.
Weight Watchers International, Inc., Forest Hills, N.Y. 845,123–4, pub. 12–12–67. Cl. 46.
Weingut Motzel Weingrosskellerei: *See*—
Werner Motzel.
Wembley, Inc., New Orleans, La. 845,034, pub. 12–12–67. Cl. 39.
West Virginia Pulp and Paper Co., New York, N.Y. 845,009, pub. 12–12–67. Cl. 37.
Western Art, Inc., Colorado Springs, Colo. 845,026, pub. 12–12–67. Cl. 38.
Western Kraft Corp., Portland, Oreg. 945,006, pub. 10–17–67. Cl. 37.
Western Petrochemical Corp., The: *See*—
Warwick Wax Co., Inc.
Sun Chemical Corp.
Western Research & Scientific Labs., Inc.: *See*—
Western Research & Scientific Laboratories, Inc.
Western Research & Scentific Laboratories, Inc., d.b.a. Western Research & Scientific Labs., Inc., Berkeley, Calif. 844,786, pub. 12–12–67. Cl. 1.
Wheatley, Frank, Industries, Inc., Tulsa, Okla. 844,998, pub. 12–12–67. Cl. 31.
White Cross Stores, Inc., Monroeville, Pa. 845,151, pub. 12–12–67. Cl. 51.
Whitford Chemical Corp., West Chester, Pa. 844,818, pub. 12–12–67. Cl. 6.
Winans, Robert F., Doylestown, Pa. 844,833, pub. 12–12–67. Cl. 8.
Windle, W. W., Co., Millbury, Mass. 844,902, pub. 12–12–67. Cl. 19.
Wine-Art Sales Ltd., Vancouver, British Columbia, Canada. 844,816–7, pub. 12–12–67. Multiple Class (Classes 6 and 46).
Wilson Sporting Goods Co., from Wilson Sporting Goods Co., River Grove, Ill. 844,943, pub. 12–12–67. Cl. 22.
Woodward Industries, Inc., Atlanta, Ga. 844,984, pub. 12–12–67. Cl. 26.
Yardsticks, Inc., Oklahoma City, Okla. 726,376, canc. Cl. 26.
Zippo Mfg. Co., Bradford, Pa. 436,615, ren. 2–27–68. Cl. 6.

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